

CITY OF MIDLAND, TEXAS
AGENDA FOR CITY COUNCIL MEETING
September 12, 2023 - 10:00 AM
300 North Loraine
Midland, Texas
Council Chamber - City Hall



A quorum of the City Council intends to be physically present at the aforementioned location.

The City Council may discuss, consider, and take action on any item listed on this agenda.

OPENING ITEMS

1. Invocation – Pastor Robb Foreman, Homeline Baptist Church
2. Pledge of Allegiance

PRESENTATIONS

3. Presentation of special events, organizations, individuals, or periods of time including, but not limited to:
 - 3a. Presentation of Proclamation for “Hunger Action Month”
 - 3b. Presentation of Proclamation for “National Surgical Technologists Week”
 - 3c. Presentation of Proclamation for “National Literacy Month”

CONSENT AGENDA

4. MOTION APPROVING THE FOLLOWING MINUTES:
 - 4a. REGULAR SESSION OF AUGUST 22, 2023
 - 4b. REGULAR SESSION OF AUGUST 29, 2023 – ADOPT BUDGET & TAX RATE
5. 2023-113 – RESOLUTION AWARDED A CONTRACT FOR THE BRIARWOOD WATER AND WASTEWATER UTILITY EXPANSION PROJECT TO TEC EXCAVATION, INC., FOR AN AMOUNT OF \$4,321,723.00; APPROVING \$432,172.30 FOR CONTINGENCIES; AND TRANSFERRING AND APPROPRIATING FUNDS **(DISTRICT 4) (GENERAL SERVICES)**
6. 2023-114 – RESOLUTION APPROVING A CONTRACT WITH NOUVEAU TECHNOLOGY
PACKET

SERVICES, LP, THROUGH THE INTERLOCAL PURCHASING SYSTEM, FOR THE PURCHASE AND INSTALLATION OF A SOUND SYSTEM AT MOMENTUM BANK BALLPARK FOR A TOTAL COST OF \$805,760.00; APPROVING \$80,576.00 FOR PROJECT RELATED COSTS; AND APPROPRIATING FUNDS FOR SAID PROJECT **(DISTRICT 4) (GENERAL SERVICES)**

7. 2023-115 – RESOLUTION AWARDDING A CONTRACT FOR THE NORTH CITIZEN COLLECTION STATION PROJECT AND THE WEST CITIZEN COLLECTION STATION PROJECT TO ONYX GENERAL CONTRACTORS, LLC, FOR A COST OF \$6,422,091.20; AND TRANSFERRING AND APPROPRIATING FUNDS **(DISTRICT: ALL) (GENERAL SERVICES)**
8. 104-2023 – MOTION APPROPRIATING THE SUM OF \$2,500,000.00 FROM THE FISCAL YEAR 2023 GENERAL FUND OPERATING BUDGET (001041) TO THE PUBLIC SAFETY FACILITY IMPROVEMENT PROJECT **(DISTRICT: NONE) (GENERAL SERVICES)**
9. 2023-116 – RESOLUTION AUTHORIZING THE PURCHASE OF AN ESTIMATED ANNUAL SUPPLY OF CHEMICALS NEEDED FOR THE TREATMENT OF DRINKING WATER FOR FISCAL YEAR 2024 FROM MULTIPLE BIDDERS, FOR A TOTAL COST OF \$3,464,789.00 **(DISTRICT: ALL) (GENERAL SERVICES)**
10. 2023-117 – RESOLUTION AUTHORIZING THE EXECUTION OF A CONTRACT WITH JONES BROS DIRT & PAVING CONTRACTORS, INC., IN THE AMOUNT OF \$2,500,553.50 FOR THE MAF TAXIWAY “E” RECONSTRUCTION PROJECT AT MIDLAND INTERNATIONAL AIR & SPACE PORT; AND APPROPRIATING FUNDS FOR SAID PROJECT **(DISTRICT 4) (AIRPORTS)**
11. 105-2023 – MOTION AUTHORIZING THE EXECUTION OF AMENDMENT NO. 8 TO THE PROFESSIONAL SERVICES AGREEMENT DATED MARCH 23, 2021, BETWEEN THE CITY OF MIDLAND, TEXAS, AND PARKHILL, SMITH & COOPER, INC., DBA PARKHILL; SAID AMENDMENT PROVIDING FOR (I) THE AIR CARRIER RUNWAYS AND TAXIWAYS PCI SURVEY AND GEOTECHNICAL TESTING PROJECT AND (II) THE INCREASED SCOPE OF THE AIRFIELD STORM SEWER SYSTEM PROJECT TO INCLUDE THE LOCATION OF SUBSURFACE UTILITY CABLES; APPROPRIATING \$378,250.00 FOR SAID AIR CARRIER RUNWAYS AND TAXIWAYS PCI SURVEY AND GEOTECHNICAL TESTING PROJECT; AND APPROPRIATING \$500,000.00 FOR THE AIRFIELD STORM SEWER SYSTEM PROJECT **(DISTRICT 4) (AIRPORTS)**
12. 106-2023 – MOTION AUTHORIZING THE MAYOR, CITY MANAGER, AND CITY ATTORNEY TO EXECUTE FEDERAL AVIATION ADMINISTRATION GRANT NO. 70 IN ORDER TO RECEIVE GRANT FUNDS FOR THE FOLLOWING PROJECTS: (I) NW BASIN WILDLIFE IMPROVEMENTS PROJECT; (II) RECONSTRUCT TAXIWAY E, WEST OF TAXIWAY A PROJECT; AND (III) AIR CARRIER RUNWAYS AND TAXIWAYS PCI SURVEY AND GEOTECHNICAL TESTING PROJECT **(DISTRICT 4) (AIRPORTS)**
13. 2023-118 – RESOLUTION AUTHORIZING THE EXECUTION OF A CONTRACT WITH

BOLER EQUIPMENT SERVICE, INC., IN THE AMOUNT OF \$1,698,086.50 FOR THE MAF NORTHWEST BASIN IMPROVEMENTS PROJECT AT MIDLAND INTERNATIONAL AIR & SPACE PORT; AND APPROPRIATING FUNDS FOR SAID PROJECT **(DISTRICT 4) (AIRPORTS)**

14. 107-2023 – MOTION AUTHORIZING THE EXECUTION OF A NON-FEDERAL REIMBURSABLE AGREEMENT BETWEEN THE CITY OF MIDLAND, TEXAS, AND THE DEPARTMENT OF TRANSPORTATION FEDERAL AVIATION ADMINISTRATION FOR CERTAIN SERVICES RELATED TO THE AIRFIELD DRAINAGE PROJECT AT MIDLAND INTERNATIONAL AIR & SPACE PORT; AND APPROPRIATING \$145,188.37 FOR SAID PROJECT **(DISTRICT 4) (AIRPORTS)**
15. 108-2023 – MOTION AUTHORIZING THE ACCEPTANCE OF GRANT FUNDS FROM THE U.S. COMMITTEE FOR REFUGEES AND IMMIGRANTS IN THE AMOUNT OF \$600,065.00 TO ASSIST THE CITY OF MIDLAND HEALTH SERVICES DIVISION WITH THE FUNDING AND DELIVERY OF REFUGEE IMMUNIZATION SERVICES; AUTHORIZING THE CITY MANAGER OR HIS DESIGNEE TO EXECUTE ALL NECESSARY ACCEPTANCE DOCUMENTS; AND AUTHORIZING AND DIRECTING THE CITY TREASURER TO DEPOSIT SAID GRANT FUNDS INTO THE GENERAL FUND **(DISTRICT: ALL) (COMMUNITY SERVICES)**
16. 109-2023 – MOTION APPROVING WITH STAFF'S RECOMMENDED CONDITIONS, A PROPOSED PRELIMINARY PLAT OF GRASSLAND ESTATES, SECTION 25, BEING A RESIDENTIAL REPLAT OF LOT 1, BLOCK 11, GRASSLAND ESTATES, SECTION 7, CITY AND COUNTY OF MIDLAND, TEXAS. (GENERALLY LOCATED ON THE SOUTHEAST CORNER OF THE INTERSECTION OF CROWLEY BOULEVARD AND WEST WADLEY AVENUE) **(DISTRICT 4) (DEVELOPMENT SERVICES)**
17. 110-2023 – MOTION AUTHORIZING THE EXECUTION OF A RIGHT-OF-WAY LICENSE (23-329-040) WITH ENTERPRISE NAVITAS MIDSTREAM MIDLAND BASIN LLC REGARDING CITY-OWNED PROPERTY DESCRIBED AS SECTIONS 13 AND 24, BLOCK 37, T-3-S, T&P RR CO. SURVEY, MIDLAND COUNTY, TEXAS **(DISTRICT: NONE) (UTILITIES)**
18. 111-2023 – MOTION AUTHORIZING THE EXECUTION OF A RIGHT-OF-WAY LICENSE (23-329-045) WITH PIONEER NATURAL RESOURCES USA, INC., REGARDING CITY-OWNED PROPERTY DESCRIBED AS SECTION 1, BLOCK X, HP HILLIARD SURVEY, MIDLAND COUNTY, TEXAS **(DISTRICT 1) (UTILITIES)**
19. 112-2023 – MOTION AUTHORIZING THE EXECUTION OF A LEASE AGREEMENT WITH NEW CINGULAR WIRELESS PCS, LLC REGARDING CITY-OWNED PROPERTY LOCATED AT 4203 SHELL AVENUE, MIDLAND, TEXAS 79707 **(DISTRICT 4) (UTILITIES)**

SECOND READINGS

20. 10434 – AN ORDINANCE ALTERING PRIMA FACIE SPEED LIMITS ALONG CERTAIN STREETS IN THE CITY; AUTHORIZING INSTALLATION OF APPROPRIATE SIGNS AND MARKINGS; REPEALING ORDINANCE NO. 10283; CONTAINING A CUMULATIVE CLAUSE; CONTAINING A SAVINGS AND SEVERABILITY CLAUSE; PROVIDING FOR A MAXIMUM PENALTY OR FINE OF TWO HUNDRED DOLLARS (\$200.00); AND ORDERING PUBLICATION **(DISTRICT 1) (ENGINEERING SERVICES)** (FIRST READING HELD AUGUST 22, 2023)

PUBLIC HEARINGS

The City Council will hold public hearings on the following items:

21. 10435 – AN ORDINANCE GRANTING A SPECIAL EXCEPTION FOR A 0.32-ACRE TRACT OF LAND, BEING THE NORTH 100 FEET OF THE NORTHWEST QUARTER OF BLOCK 17, HOMESTEAD ADDITION, CITY AND COUNTY OF MIDLAND, TEXAS (GENERALLY LOCATED AT THE SOUTHEAST CORNER OF THE INTERSECTION OF NORTH FORT WORTH STREET AND EAST KANSAS AVENUE), BY PERMITTING A REDUCED MINIMUM LOT WIDTH IN THE EVENT THAT THE ZONING DISTRICT MAP OF THE CITY OF MIDLAND IS AMENDED TO REZONE THE PROPERTY FROM C, COMMERCIAL DISTRICT TO SF-3, SINGLE-FAMILY DWELLING DISTRICT; CONTAINING A CUMULATIVE CLAUSE; CONTAINING A SAVINGS AND SEVERABILITY CLAUSE; PROVIDING FOR A MAXIMUM PENALTY OR FINE OF TWO THOUSAND DOLLARS (\$2,000.00); ORDERING RECORDATION BY THE CITY SECRETARY IN THE DEED RECORDS OF MIDLAND COUNTY, TEXAS; AND ORDERING PUBLICATION **(DISTRICT 2) (DEVELOPMENT SERVICES)**
22. 10436 – AN ORDINANCE AMENDING THE ZONING DISTRICT MAP OF THE CITY OF MIDLAND TO REZONE A 0.32-ACRE TRACT OF LAND, BEING THE NORTH 100 FEET OF THE NORTHWEST QUARTER OF BLOCK 17, HOMESTEAD ADDITION, CITY AND COUNTY OF MIDLAND, TEXAS, FROM C, COMMERCIAL DISTRICT TO SF-3, SINGLE-FAMILY DWELLING DISTRICT (GENERALLY LOCATED AT THE SOUTHEAST CORNER OF THE INTERSECTION OF NORTH FORT WORTH STREET AND EAST KANSAS AVENUE); CONTAINING A CUMULATIVE CLAUSE; CONTAINING A SAVINGS AND SEVERABILITY CLAUSE; PROVIDING FOR A MAXIMUM PENALTY OR FINE OF TWO THOUSAND DOLLARS (\$2,000.00); AND ORDERING PUBLICATION **(DISTRICT 2) (DEVELOPMENT SERVICES)**
23. 10437 – AN ORDINANCE GRANTING A SPECIAL EXCEPTION FOR LOT 2, BLOCK 3, MELODY ACRES, SECTION 4, CITY AND COUNTY OF MIDLAND, TEXAS (GENERALLY LOCATED ON THE NORTH SIDE OF TANFORAN AVENUE, APPROXIMATELY 200 FEET EAST OF ORIOLE DRIVE), BY PERMITTING A REDUCED MINIMUM LOT AREA; CONTAINING A CUMULATIVE CLAUSE; CONTAINING A SAVINGS AND SEVERABILITY CLAUSE; PROVIDING FOR A MAXIMUM PENALTY OR FINE OF TWO THOUSAND DOLLARS (\$2,000.00); ORDERING RECORDATION BY THE CITY SECRETARY IN THE DEED RECORDS OF MIDLAND COUNTY, TEXAS; AND ORDERING PUBLICATION **(DISTRICT 4) (DEVELOPMENT SERVICES)**
24. 10438 – AN ORDINANCE GRANTING A SPECIAL EXCEPTION FOR BLOCKS 202 AND
PACKET

203, SOUTHERN ADDITION, CITY AND COUNTY OF MIDLAND, TEXAS (GENERALLY LOCATED AT THE SOUTHEAST CORNER OF THE INTERSECTION OF SOUTH COLORADO STREET AND WEST DAKOTA AVENUE), BY PERMITTING A REDUCED MINIMUM SEPARATION OF ACCESSORY BUILDINGS FROM THE PRINCIPAL BUILDING; CONTAINING A CUMULATIVE CLAUSE; CONTAINING A SAVINGS AND SEVERABILITY CLAUSE; PROVIDING FOR A MAXIMUM PENALTY OR FINE OF TWO THOUSAND DOLLARS (\$2,000.00); ORDERING RECORDATION BY THE CITY SECRETARY IN THE DEED RECORDS OF MIDLAND COUNTY, TEXAS; AND ORDERING PUBLICATION **(DISTRICT 2) (DEVELOPMENT SERVICES)**

25. 10439 – AN ORDINANCE EXTENDING THE BOUNDARIES OF THE CITY OF MIDLAND, TEXAS, BY ADDING THERETO A CERTAIN AREA ADJOINING THE PRESENT CITY LIMITS, BEING A 0.448-ACRE TRACT OF LAND AND A 6.292-ACRE TRACT OF LAND, BOTH OUT OF SECTION 35, BLOCK 40, T-1-S, T&P RR. CO. SURVEY, MIDLAND COUNTY, TEXAS; THE 0.448-ACRE TRACT BEING GENERALLY LOCATED NORTH OF STATE HIGHWAY 191, APPROXIMATELY 490 FEET WEST OF STATE HIGHWAY 158; THE 6.292-ACRE TRACT BEING GENERALLY LOCATED WEST OF STATE HIGHWAY 158, APPROXIMATELY 540 FEET NORTH OF STATE HIGHWAY 191; ORDERING PUBLICATION; AND ORDERING RECORDATION BY THE CITY SECRETARY **(DISTRICT: NONE) (DEVELOPMENT SERVICES)**
26. 10440 – AN ORDINANCE ESTABLISHING THE INITIAL ZONING CLASSIFICATION OF THE AREA INDICATED AS BEING A 0.448-ACRE TRACT OF LAND AND A 6.292-ACRE TRACT OF LAND, BOTH OUT OF SECTION 35, BLOCK 40, T-1-S, T&P RR. CO. SURVEY, MIDLAND COUNTY, TEXAS, AS AN RR, REGIONAL RETAIL DISTRICT; THE 0.448-ACRE TRACT BEING GENERALLY LOCATED NORTH OF STATE HIGHWAY 191, APPROXIMATELY 490 FEET WEST OF STATE HIGHWAY 158; THE 6.292-ACRE TRACT BEING GENERALLY LOCATED WEST OF STATE HIGHWAY 158, APPROXIMATELY 540 FEET NORTH OF STATE HIGHWAY 191; CONTAINING A CUMULATIVE CLAUSE; CONTAINING A SAVINGS AND SEVERABILITY CLAUSE; PROVIDING FOR A MAXIMUM PENALTY OR FINE OF TWO THOUSAND DOLLARS (\$2,000.00); AND ORDERING PUBLICATION **(DISTRICT: NONE) (DEVELOPMENT SERVICES)**
27. 2023-119 – RESOLUTION AUTHORIZING THE TEMPORARY USE OF LAND FOR A PUBLICATION LAUNCH PARTY ON LOT 2, BLOCK 2, CORPORATE PLAZA ADDITION, SECTION 21, CITY AND COUNTY OF MIDLAND, TEXAS (GENERALLY LOCATED AT THE NORTHWEST CORNER OF THE INTERSECTION OF NORTH EDWARDS STREET AND FIESTA AVENUE) SUBJECT TO CERTAIN SPECIAL CONDITIONS AND RESTRICTIONS **(DISTRICT 2) (DEVELOPMENT SERVICES)**
28. 10441 – AN ORDINANCE CALLING A PUBLIC HEARING TO BE HELD JOINTLY BY THE CITY COUNCIL AND THE PLANNING AND ZONING COMMISSION TO CONSIDER THE ADOPTION OF AN ORDINANCE AMENDING TITLE XI, “PLANNING AND DEVELOPMENT” BY ADDING CHAPTER 1A, “CENTENNIAL ENTERTAINMENT OVERLAY DISTRICT” SO AS TO ESTABLISH AN OVERLAY ZONING DISTRICT AND PROVISIONS RELATED TO LAND USE AND DEVELOPMENT WITHIN SAID OVERLAY

ZONING DISTRICT AND TO AMEND THE ZONING MAP ACCORDINGLY; PRESCRIBING THE TYPE OF NOTICE TO BE GIVEN OF THE TIME AND PLACE OF THE JOINT PUBLIC HEARING; AND CONTAINING A SAVINGS AND SEVERABILITY CLAUSE
(DISTRICT: ALL) (DEVELOPMENT SERVICES)

MISCELLANEOUS

29. MOTION MAKING APPOINTMENTS TO VARIOUS BOARDS AND COMMISSIONS
(DISTRICT: ALL) (CITY SECRETARY)

PUBLIC COMMENT

30. Receive public comments where individuals may address the City Council on City related issues and projects not on the present agenda. Any deliberation of or decision by the City Council regarding the item being discussed shall be limited to a motion to place the item on the agenda for a subsequent meeting. (Please limit comments to three minutes or less.)

EXECUTIVE SESSION

31. Pursuant to Texas Government Code § 551.101, the City Council will hold an Executive Session, which is closed to the public, to discuss the following matters as permitted under the following sections of the Texas Government Code:
- a. Section 551.071, Consultation with Attorney
 - a.1. Discuss matters in which the duty of the attorney to the governmental body under the Texas Disciplinary Rules of Professional Conduct of the State Bar of Texas clearly conflicts with Chapter 551 of the Texas Government Code.
 - b. Section 551.087, Deliberate Economic Development Negotiations
 - b.1. Discuss business prospects that the City seeks to have locate, stay, or expand in or near the City of Midland, Texas, and discuss possible incentives.

Respectfully Submitted,

Tommy Gonzalez
City Manager

MEETING ASSISTANCE INFORMATION: The Midland City Hall and Council Chamber are wheelchair accessible. If you need special assistance to participate in this meeting, please contact the City Secretary's Office at (432) 685-7430. Notification 48 hours prior to the meeting will enable the City to make reasonable arrangements to ensure accessibility to this meeting.

**MIDLAND CITY COUNCIL
MINUTES
August 22, 2023**



The City Council convened in regular session in the Council Chamber, City Hall, Midland, Texas, at 10:00 a.m., August 22, 2023.

Council Members present: Amy Stretcher Burkes, Dan Corrales, Robin Poole, Lori Blong, Scott Dufford, Jack Ladd, John Norman

Council Members absent: None

Staff members present: City Manager Tommy Gonzalez, City Attorney John Ohnemiller, Deputy City Manager Morris Williams Jr., Assistant City Manager Tina Jauz

The meeting was called to order at 10:00 a.m.

OPENING ITEMS

1. Invocation – Pastor Roy Smith, Tru-Lite Christian Fellowship Church
2. Pledge of Allegiance

PRESENTATIONS

3. Presentation of special events, organizations, individuals, or periods of time including, but not limited to:
 - 3a. Presentation of Proclamation for “Walk to End Alzheimer’s Day”
 - 3b. Presentation of One-Stop Shop; Open for Business.

Deputy City Manager Morris Williams gave a brief overview of the opening of the One-Stop Shop and the services provided to customers.

- 3c. Presentation regarding pothole repairs on City of Midland Parks parking lots.

Engineering Director Jose Ortiz gave a brief overview of the success of the pothole repairs throughout the City of Midland Parks parking lots.

CONSENT AGENDA

4. MOTION APPROVING THE FOLLOWING MINUTES:

4a. REGULAR SESSION OF AUGUST 8, 2023

- 6. 2023-107 – RESOLUTION APPROVING THE PURCHASE OF A DODGE RAM 5500 POTHOLE PATCHER FROM PB LOADER, INC., THROUGH SOURCEWELL, FOR A TOTAL COST OF \$214,950.23; AND RESCINDING RESOLUTION NO. 2022-008 (DISTRICT: NONE) (GENERAL SERVICES)**
- 8. 104-2023 – MOTION AUTHORIZING THE CITY MANAGER OR THE CITY MANAGER'S DESIGNEE TO ADVERTISE A REQUEST FOR PROPOSALS FOR CONSTRUCTION MANAGER-AT-RISK SERVICES ASSOCIATED WITH THE DOUG RUSSELL BATH HOUSE PROJECT AND TO NEGOTIATE A PROFESSIONAL SERVICES AGREEMENT FOR SAID SERVICES; PROVIDED, HOWEVER, THAT SAID AGREEMENT SHALL NOT BECOME EFFECTIVE UNTIL APPROVED BY THE CITY COUNCIL (DISTRICT 3) (GENERAL SERVICES)**
- 9. 2023-108 – RESOLUTION APPROVING A CONTRACT WITH SPORTS FIELD SOLUTIONS, THROUGH BUYBOARD, FOR THE RENOVATION OF THE INFIELD AT MOMENTUM BANK BALLPARK FOR A TOTAL COST OF \$161,215.35; APPROVING \$16,122.00 FOR PROJECT RELATED COSTS; AND APPROPRIATING FUNDS FOR SAID CONTRACT (DISTRICT 4) (GENERAL SERVICES)**
- 10. 2023-109 – RESOLUTION AUTHORIZING THE EXECUTION OF A PROFESSIONAL SERVICES AGREEMENT WITH PARKHILL, SMITH & COOPER, INC., D/B/A PARKHILL FOR ON-CALL SUPERVISORY CONTROL AND DATA ACQUISITION SUPPORT SERVICES AND AUTOMATED INTEGRATION SERVICES FOR A COST NOT TO EXCEED \$125,000.00 (DISTRICT: NONE) (GENERAL SERVICES)**
- 11. 105-2023 – MOTION AUTHORIZING THE CITY MANAGER OR THE CITY MANAGER'S DESIGNEE TO ADVERTISE A REQUEST FOR QUALIFICATIONS FOR PROFESSIONAL LANDSCAPE, ARCHITECTURAL, AND ENGINEERING SERVICES ASSOCIATED WITH THE RENOVATION AND CONSTRUCTION OF CERTAIN SPORTS FIELDS, PARKING IMPROVEMENTS, AMPHITHEATER, AND RELATED IMPROVEMENTS AT BEAL PARK, AND TO NEGOTIATE A PROFESSIONAL SERVICES AGREEMENT FOR SAID SERVICES; PROVIDED, HOWEVER, THAT SAID AGREEMENT SHALL NOT BECOME EFFECTIVE UNTIL APPROVED BY THE CITY COUNCIL (DISTRICT 4) (GENERAL SERVICES)**
- 12. 106-2023 – MOTION AUTHORIZING THE EXECUTION OF AN AGREEMENT WITH COMMEMORATIVE AIR FORCE, INC., TO PROVIDE FOR THE 2023 AIRSHO AT MIDLAND INTERNATIONAL AIR & SPACE PORT (DISTRICT 4) (AIRPORTS)**
- 13. 2023-110 – RESOLUTION APPROVING AN ECONOMIC DEVELOPMENT AGREEMENT**

BETWEEN THE MIDLAND DEVELOPMENT CORPORATION AND MIDLAND COLLEGE FOR THE SUPPORT AND EXPANSION OF THE MIDLAND COLLEGE TRANSPORTATION TRAINING PROGRAM, AS AUTHORIZED BY CHAPTER 501 OF THE TEXAS LOCAL GOVERNMENT CODE **(DISTRICT: ALL) (CITY MANAGER)**

14. 107-2023 – MOTION APPROVING AN INTERLOCAL AGREEMENT BETWEEN THE MIDLAND DEVELOPMENT CORPORATION AND THE UNIVERSITY OF TEXAS OF THE PERMIAN BASIN TO ADVERTISE AND PUBLICIZE THE CITY OF MIDLAND FOR THE PURPOSE OF DEVELOPING NEW AND EXPANDED BUSINESS ENTERPRISES **(DISTRICT: ALL) (CITY MANAGER)**
15. 2023-111 – RESOLUTION OF THE CITY COUNCIL OF THE CITY OF MIDLAND, TEXAS, APPROVING A NEGOTIATED SETTLEMENT BETWEEN THE EXECUTIVE COMMITTEE OF CITIES SERVED BY ATMOS WEST TEXAS (“CITIES”) AND ATMOS ENERGY CORP., WEST TEXAS DIVISION (THE “COMPANY”) REGARDING THE COMPANY’S 2023 RATE REVIEW MECHANISM FILING; DECLARING EXISTING RATES TO BE UNREASONABLE; ADOPTING TARIFFS THAT REFLECT RATE ADJUSTMENTS CONSISTENT WITH THE NEGOTIATED SETTLEMENT; FINDING THE RATES TO BE SET BY THE SETTLEMENT TARIFFS TO BE JUST AND REASONABLE AND IN THE PUBLIC INTEREST; APPROVING AN ATTACHMENT ESTABLISHING A BENCHMARK FOR PENSIONS AND RETIREE MEDICAL BENEFITS; REQUIRING THE COMPANY TO REIMBURSE CITIES’ REASONABLE RATEMAKING EXPENSES; DETERMINING THAT THIS RESOLUTION WAS PASSED IN ACCORDANCE WITH THE REQUIREMENTS OF THE TEXAS OPEN MEETINGS ACT; ADOPTING A SAVINGS CLAUSE; DECLARING AN EFFECTIVE DATE; AND AUTHORIZING AND DIRECTING THE CITY SECRETARY TO DELIVER THIS RESOLUTION TO THE COMPANY AND CITIES’ LEGAL COUNSEL **(DISTRICT: ALL) (CITY MANAGER)**
16. 108-2023 – MOTION APPROVING WITH STAFF’S RECOMMENDED CONDITIONS A PROPOSED PRELIMINARY PLAT OF EL ALAMO, SECTION 4, BEING A 201.12-ACRE TRACT OF LAND OUT OF THE NORTHWEST QUARTER OF SECTION 9, BLOCK 38, T-1-S, T&P RR CO. SURVEY, MARTIN COUNTY, TEXAS (GENERALLY LOCATED ON THE SOUTH SIDE OF CROWNRISE DRIVE, APPROXIMATELY 3,210 FEET EAST OF ELKINS ROAD) **(DISTRICT: NONE) (DEVELOPMENT SERVICES)**
17. 109-2023 – MOTION APPROVING WITH STAFF’S RECOMMENDED CONDITIONS A PROPOSED PRELIMINARY PLAT OF HANNAH ADDITION, SECTION 5, BEING A 30.67-ACRE TRACT OF LAND OUT OF THE SOUTHEAST PART OF SECTION 13, BLOCK 40, T-2-S, T&P RR CO. SURVEY, MIDLAND COUNTY, TEXAS (GENERALLY LOCATED ON THE EAST SIDE OF SOUTH COUNTY ROAD 1232 (ANTELOPE TRAIL), APPROXIMATELY 270 FEET SOUTH OF WEST COUNTY ROAD 126) **(DISTRICT: NONE) (DEVELOPMENT SERVICES)**
18. 110-2023 – MOTION APPROVING WITH STAFF’S RECOMMENDED CONDITIONS A PROPOSED PRELIMINARY PLAT OF WEST END ADDITION, SECTION 30, BEING A REPLAT OF LOTS 1-3, BLOCK 75, WEST END ADDITION, AND A 0.069-ACRE PORTION OF VACATED ALLEY RIGHT-OF-WAY LOCATED ADJACENT TO LOTS 1-3

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4a.3

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AND LOTS 6-8, BLOCK 75, WEST END ADDITION, CITY AND COUNTY OF MIDLAND, TEXAS (GENERALLY LOCATED ON THE SOUTHEAST CORNER OF ANDREWS HIGHWAY AND WEST TEXAS AVENUE) **(DISTRICT 3) (DEVELOPMENT SERVICES)**

19. 111-2023 – MOTION AUTHORIZING THE EXECUTION OF A RIGHT-OF-WAY LICENSE (23-329-042) WITH MIDLAND - PETRO D.C. PARTNERS LLC, REGARDING CITY-OWNED PROPERTY DESCRIBED AS SECTIONS 5 AND 44, BLOCK 38, T-1-S AND SECTION 1, BLOCK 39, T-2-S, T&P RR CO. SURVEY, MIDLAND COUNTY, TEXAS **(DISTRICT: NONE) (UTILITIES)**
20. 112-2023 – MOTION AUTHORIZING THE EXECUTION OF A RIGHT-OF-WAY LICENSE AMENDMENT (23-329-043) WITH ENTERPRISE NAVITAS PIPELINE TEXAS LLC, REGARDING CITY-OWNED PROPERTY DESCRIBED AS SECTION 30, BLOCK 36, T-3-S, T&P RR CO. SURVEY, MIDLAND COUNTY, TEXAS **(DISTRICT: NONE) (UTILITIES)**

Dan Corrales moved to approve Consent Agenda items 4 – 20, excluding items 5 and 7; seconded by Robin Poole.

The motion passed by the following vote:

AYE: Stretcher Burkes, Corrales, Poole, Blong, Dufford, Norman

NAY: None

ABSTAIN: None

ABSENT: Ladd

The following item(s) were pulled from consent agenda and considered individually.

5. 102-2023 – MOTION APPROPRIATING AND TRANSFERRING THE SUM OF \$20,179,582.68 FROM THE GENERAL FUND TO THE PARKS OIL AND GAS SPECIAL PURPOSE FUND (DISTRICT: NONE) (FINANCE)

Mayor Blong reported they would like to allocate \$2,000,000.00 from the General Fund to the Parks Maintenance Stabilization Fund. Staff is to report back with a proposal for a specific dollar amount based on operation and maintenance for the current assets owned and for future projects.

Dan Corrales moved to approve Motion No. 102-2023 by amending this item to transfer \$18,179,582.68 from the General Fund to the Parks Oil and Gas Special Purpose Fund and appropriating and transferring the sum of \$2,000,000.00 from the General Fund to the Parks Maintenance Special Purpose Fund; seconded by Amy Stretcher Burkes.

The motion passed by the following vote:

AYE: Stretcher Burkes, Corrales, Poole, Blong, Dufford, Norman

NAY: None

ABSTAIN: None

ABSENT: Ladd

7. 103-2023 – MOTION APPROVING PLANS AND SPECIFICATIONS FOR THE MIDLAND MANHOLE REHABILITATION PROJECT, SAID SPECIFICATIONS BEING ON FILE IN
PACKET

4a.4

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THE CITY SECRETARY'S OFFICE REFERENCED BY THE NUMBER AND DATE OF THIS MOTION; AND AUTHORIZING THE CITY MANAGER OR THE CITY MANAGER'S DESIGNEE TO ADVERTISE FOR COMPETITIVE BIDS FOR SAID PROJECT PURSUANT TO THE STATUTES OF THE STATE OF TEXAS FOR ACCOMPLISHING THE WORK SET FORTH IN SAID PLANS AND SPECIFICATIONS **(DISTRICT: NONE) (GENERAL SERVICES)**

Utilities Director Carl Craig gave a brief overview of the manhole issues the city has had. This project will help find and fix the concrete manholes located in the draws. Once the concrete manholes are fixed, brick will be fixed next. Two million dollars will be spent per year to complete the project.

Dan Corrales moved to approve Motion No. 103-2023; seconded by John Norman.

The motion passed by the following vote:

AYE: Stretcher Burkes, Corrales, Poole, Blong, Dufford, Norman

NAY: None

ABSTAIN: None

ABSENT: Ladd

SECOND READINGS

21. 10428 – AN ORDINANCE AMENDING THE ZONING DISTRICT MAP OF THE CITY OF MIDLAND TO REZONE LOT 1, BLOCK 45, FAIRMONT PARK ADDITION, SECTION 10, CITY AND COUNTY OF MIDLAND, TEXAS, FROM PD, PLANNED DEVELOPMENT DISTRICT FOR A SHOPPING CENTER TO AN AMENDED PD, PLANNED DEVELOPMENT DISTRICT FOR A SHOPPING CENTER (GENERALLY LOCATED ON THE WEST SIDE OF NORTH MIDLAND DRIVE, APPROXIMATELY 1,335 FEET SOUTH OF WEST LOOP 250 FRONTAGE ROAD); CONTAINING A CUMULATIVE CLAUSE; CONTAINING A SAVINGS AND SEVERABILITY CLAUSE; PROVIDING FOR A MAXIMUM PENALTY OR FINE OF TWO THOUSAND DOLLARS (\$2,000.00); AND ORDERING PUBLICATION **(DISTRICT 1) (DEVELOPMENT SERVICES)** (FIRST READING HELD AUGUST 8, 2023)

Deputy City Secretary Jan Hamilton read the caption of Ordinance No. 10428.

Dan Corrales moved to approve the second and final reading of Ordinance No. 10428; seconded by John Norman.

The motion passed by the following vote:

AYE: Stretcher Burkes, Corrales, Poole, Blong, Norman

NAY: None

ABSTAIN: None

ABSENT: Dufford, Ladd

22. 10429 – AN ORDINANCE AMENDING THE ZONING DISTRICT MAP OF THE CITY OF MIDLAND TO REZONE LOT 2, BLOCK 2, WEST 191 INDUSTRIAL PARK, SECTION 3, CITY AND COUNTY OF MIDLAND, TEXAS, FROM RR, REGIONAL RETAIL DISTRICT TO LI, LIGHT INDUSTRIAL DISTRICT (GENERALLY LOCATED ON THE NORTH SIDE OF
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STATE HIGHWAY 191, APPROXIMATELY 685 FEET EAST OF FARM TO MARKET ROAD 1788); CONTAINING A CUMULATIVE CLAUSE; CONTAINING A SAVINGS AND SEVERABILITY CLAUSE; PROVIDING FOR A MAXIMUM PENALTY OR FINE OF TWO THOUSAND DOLLARS (\$2,000.00); AND ORDERING PUBLICATION **(DISTRICT 4) (DEVELOPMENT SERVICES)** (FIRST READING HELD AUGUST 8, 2023)

Deputy City Secretary Jan Hamilton read the caption of Ordinance No. 10429.

Dan Corrales moved to approve the second and final reading of Ordinance No. 10429; seconded by John Norman.

The motion passed by the following vote:

AYE: Stretcher Burkes, Corrales, Poole, Blong, Norman

NAY: None

ABSTAIN: None

ABSENT: Dufford, Ladd

23. 10430 – AN ORDINANCE AMENDING TITLE I, “ADMINISTRATIVE”, CHAPTER 12, “RECORDS MANAGEMENT POLICY”, SECTION 4, “RECORDS MANAGEMENT OFFICER” OF THE CITY CODE OF MIDLAND, TEXAS, SO AS TO DESIGNATE THE CITY’S RECORDS MANAGER AS THE CITY’S RECORDS MANAGEMENT OFFICER; CONTAINING A CUMULATIVE CLAUSE; CONTAINING A SAVINGS AND SEVERABILITY CLAUSE; AND ORDERING PUBLICATION **(DISTRICT: NONE) (CITY SECRETARY’S OFFICE)** (FIRST READING HELD AUGUST 8, 2023)

Deputy City Secretary Jan Hamilton read the caption of Ordinance No. 10430.

Dan Corrales moved to approve the second and final reading of Ordinance No. 10430; seconded by Amy Stretcher Burkes.

The motion passed by the following vote:

AYE: Stretcher Burkes, Corrales, Poole, Blong, Dufford, Norman

NAY: None

ABSTAIN: None

ABSENT: Ladd

24. 10431 – AN ORDINANCE RELEASING THE CITY OF MIDLAND’S EXTRATERRITORIAL JURISDICTION THAT WAS ACQUIRED FROM AN ANNEXATION COMMENCED AFTER JANUARY 1, 2023; CONTAINING A SAVINGS AND SEVERABILITY CLAUSE; PROVIDING AN EFFECTIVE DATE OF SEPTEMBER 1, 2023; AND ORDERING PUBLICATION **(DISTRICT: NONE) (DEVELOPMENT SERVICES)** (FIRST READING HELD AUGUST 8, 2023)

Deputy City Secretary Jan Hamilton read the caption of Ordinance No. 10431.

Dan Corrales moved to approve the second and final reading of Ordinance No. 10431; seconded by Robin Poole.

The motion passed by the following vote:

PACKET

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September 12, 2023

MINUTES

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August 22, 2023

AYE: Stretcher Burkes, Corrales, Poole, Blong, Dufford, Norman
NAY: None
ABSTAIN: None
ABSENT: Ladd

PUBLIC HEARINGS

The City Council will hold public hearings on the following items:

25. 10432 – GATHER PUBLIC INPUT ON THE PROPOSED 2023-2024 BUDGET; AND CONSIDER AN ORDINANCE OF THE CITY OF MIDLAND PROVIDING FUNDS FOR THE FISCAL YEAR BEGINNING OCTOBER 1, 2023, AND ENDING SEPTEMBER 30, 2024, BY APPROVING THE BUDGET FOR SAID PERIOD AND APPROPRIATING AND SETTING ASIDE THE NECESSARY FUNDS OUT OF THE GENERAL AND OTHER REVENUES AND UNAPPROPRIATED FUND BALANCE OF THE CITY OF MIDLAND FOR SAID FISCAL YEAR FOR THE MAINTENANCE AND OPERATION OF THE VARIOUS DEPARTMENTS AND FOR VARIOUS ACTIVITIES AND IMPROVEMENTS TO THE CITY; AND ORDERING PUBLICATION **(DISTRICT: NONE) (FINANCE)**

Deputy City Secretary Jan Hamilton read the caption of Ordinance No. 10434.

Finance Director Christy Weakland gave an overview of the 2024 City of Midland budget. Ms. Weakland reviewed the maintenance of streets, parks and city facilities, operational revenue/operating expenses, the General Fund balance over the past 10 years and Parks, Oil and Gas funds. Ms. Weakland gave an example of what citizens would pay at the 2024 proposed tax rate of .353162.

The 2022-2023 property tax rates were compared and Ms. Weakland reported on the effects of choosing different rates.

Council shared their thoughts, concerns and had their questions answered regarding the budget information shared by Ms. Weakland.

Dan Corrales moved to approve the first of two readings of Ordinance No. 10432 by approving the proposed 2023-2024 budget as proposed including certain supplementals; seconded by John Norman.

The motion passed by the following vote:

AYE: Stretcher Burkes, Corrales, Poole, Blong, Dufford, Ladd, Norman
NAY: None
ABSTAIN: None
ABSENT: None

26. 10433 – TAX RATE INCREASE FOR FISCAL YEAR 2023-2024; AN ORDINANCE FIXING THE TAX LEVY FOR THE CITY OF MIDLAND, TEXAS, FOR THE FISCAL YEAR BEGINNING ON OCTOBER 1, 2023, AND ENDING ON SEPTEMBER 30, 2024 **(DISTRICT: NONE) (FINANCE)**

Deputy City Secretary Jan Hamilton read the caption of Ordinance No. 10433.

Mayor Blong opened the public hearing at 11:47 a.m.

Mayor Blong and the City Council asked questions with regard to changing the rate.

Savannah Minor, PO Box 7978, spoke on concerns she has regarding traffic problems on N. Godfrey Street and Tarleton Street. Both of these streets are near schools, have a lack of stop signs and need slower speed limits.

There being no one else wishing to speak, the public hearing was closed at 12:05 p.m.

Scott Dufford moved moved to approve the first of two readings of Ordinance No. 10433 and moved that the property tax rate be increased by the adoption of a tax rate of 0.353162, which is effectively a 7.44 percent increase in the tax rate; seconded by John Norman.

The motion passed by the following vote:

AYE: Stretcher Burkes, Blong, Dufford, Ladd, Norman

NAY: Corrales, Poole

ABSTAIN: None

ABSENT: None

MISCELLANEOUS

27. 10434 – AN ORDINANCE ALTERING PRIMA FACIE SPEED LIMITS ALONG CERTAIN STREETS IN THE CITY; AUTHORIZING INSTALLATION OF APPROPRIATE SIGNS AND MARKINGS; REPEALING ORDINANCE NO. 10283; CONTAINING A CUMULATIVE CLAUSE; CONTAINING A SAVINGS AND SEVERABILITY CLAUSE; PROVIDING FOR A MAXIMUM PENALTY OR FINE OF TWO HUNDRED DOLLARS (\$200.00); AND ORDERING PUBLICATION **(DISTRICT 1) (ENGINEERING SERVICES)**

Deputy City Secretary Jan Hamilton read the caption of Ordinance No. 10434.

Robin Poole moved to approve the first of two readings of Ordinance No. 10434; seconded by John Norman.

The motion passed by the following vote:

AYE: Stretcher Burkes, Corrales, Poole, Blong, Dufford, Norman

NAY: None

ABSTAIN: None

ABSENT: Ladd

PUBLIC COMMENT

28. Receive public comments where individuals may address the City Council on City related issues and projects not on the present agenda. Any deliberation of or decision by the City Council regarding the item being discussed shall be limited to a motion to place the item on the agenda for a subsequent meeting. (Please limit comments to three minutes or less.)

All the business at hand having been completed, the meeting adjourned at 12:17 p.m.

PASSED AND APPROVED September 12, 2023.

Lori Blong, Mayor

ATTEST:

Marcia Bentley-German
City Governance Officer/City Secretary

DRAFT

**MIDLAND CITY COUNCIL
MINUTES
August 29, 2023**



The City Council convened in regular session in the Council Chamber, City Hall, Midland, Texas, at 10:00 a.m., August 29, 2023.

Council Members present: Amy Stretcher Burkes, Dan Corrales, Robin Poole, Lori Blong, Scott Dufford, Jack Ladd, John Norman

Council Members absent: None

Staff members present: City Manager Tommy Gonzalez, City Attorney John Ohnemiller, Deputy City Manager Morris Williams Jr., Assistant City Manager Tina Jauz

The meeting was called to order at 10:00 a.m.

BUDGET AND TAX RATE

1. 10432 – AN ORDINANCE OF THE CITY OF MIDLAND PROVIDING FUNDS FOR THE FISCAL YEAR BEGINNING OCTOBER 1, 2023, AND ENDING SEPTEMBER 30, 2024, BY APPROVING THE BUDGET FOR SAID PERIOD AND APPROPRIATING AND SETTING ASIDE THE NECESSARY FUNDS OUT OF THE GENERAL AND OTHER REVENUES AND UNAPPROPRIATED FUND BALANCE OF THE CITY OF MIDLAND FOR SAID FISCAL YEAR FOR THE MAINTENANCE AND OPERATION OF THE VARIOUS DEPARTMENTS AND FOR VARIOUS ACTIVITIES AND IMPROVEMENTS TO THE CITY; AND ORDERING PUBLICATION **(DISTRICT: NONE) (FINANCE)** FIRST READING HELD AUGUST 22, 2023

Finance Director Christy Weakland gave an overview of the second and final reading of the 2024 FY Budget. Ms. Weakland provided information on the FY 2024 Proposed Tax Rate of 0.353162 which is .18 cents lower than the adopted rate in FY 2023. Ms. Weakland reviewed how compounding would affect the City and how every ½ penny decreased, loses about 1 million dollars in funding.

Dan Corrales moved to approve the second and final reading of Ordinance No. 10432; seconded by John Norman.

The motion passed by the following vote:

AYE: Stretcher Burkes, Corrales, Poole, Blong, Dufford, Ladd, Norman

NAY: None

PACKET

4b.1

September 12, 2023

MINUTES

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August 29, 2023

ABSTAIN: None
ABSENT: None

2. 2023-112 – RESOLUTION RATIFYING THE PROPERTY TAX REVENUE INCREASE REFLECTED IN THE FISCAL YEAR 2023-2024 BUDGET **(DISTRICT: NONE) (FINANCE)**

Finance Director Christy Weakland gave a brief overview of the item noting this is a required vote to acknowledge and authorize the property tax revenue increase for the FY 2023-2024.

Dan Corrales moved to approve Resolution No. 2023-112; seconded by Scott Dufford.

The motion passed by the following vote:

AYE: Stretcher Burkes, Corrales, Poole, Blong, Dufford, Ladd, Norman

NAY: None

ABSTAIN: None

ABSENT: None

3. 10433 – AN ORDINANCE FIXING THE TAX LEVY FOR THE CITY OF MIDLAND, TEXAS, FOR THE FISCAL YEAR BEGINNING ON OCTOBER 1, 2023, AND ENDING ON SEPTEMBER 30, 2024 **(DISTRICT: NONE) (FINANCE)** FIRST READING HELD AUGUST 22, 2023

Amy Stretcher Burkes moved to approve the second and final reading of Ordinance No. 10433 and moved that the property tax rate be increased by the adoption of a tax rate of 0.350662 which is effectively a 6.68 percent increase in the tax rate; seconded by Scott Dufford.

The motion passed by the following vote:

AYE: Stretcher Burkes, Blong, Dufford, Ladd, Norman

NAY: Corrales, Poole

ABSTAIN: None

ABSENT: None

All the business at hand having been completed, the meeting adjourned at 10:35 a.m.

PASSED AND APPROVED September 12, 2023.

Lori Blong, Mayor

ATTEST:

Marcia Bentley-German
City Governance Officer/City Secretary



City Council Meeting

Item Number: 5
Meeting Date: September 12, 2023
To: City Council / City Manager
From: Erika Martinez, Manager, Purchasing
Subject: RESOLUTION AWARDING A CONTRACT FOR THE BRIARWOOD WATER AND WASTEWATER UTILITY EXPANSION PROJECT TO TEC EXCAVATION, INC., FOR AN AMOUNT OF \$4,321,723.00; APPROVING \$432,172.30 FOR CONTINGENCIES; AND TRANSFERRING AND APPROPRIATING FUNDS (DISTRICT 4) (GENERAL SERVICES)

Purpose:

Resolution awarding a contract for the Briarwood Water and Wastewater Utility Extension Project for the Utilities Department to TEC Excavation, Inc. of Midland, Texas for a \$4,321,723.00; approving \$432,172.30 for contingencies; for a total cost of \$4,753,895.30.

Recommended City Council Action:

Approve

Fiscal Impact:

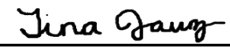
\$4,753,895.30 will be appropriated from the Water and Sewer Fund unappropriated fund balance and will be transferred and appropriated to a project in the Water & Sewer Capital Projects Fund.

Staff is also recommending transferring \$7,100,000 from the 2022-2023 General Fund operating budget into a project for the paving of Briarwood Ave.

Discussion:

The City Manager approved plans and specifications and authorized advertisement for bids for the Briarwood Water and Wastewater Utility Extension Project for the Utilities Department. The bid request was sent to thirty-five (35) companies. We received a sole bid. Staff recommends awarding a contract to TEC Excavation, Inc. The project timeline is projected at 330 calendar days. Please see the attached memo from Carl Craig, Utilities Director, for more information.

Therefore, please consider a resolution awarding a contract for the Briarwood Water and Wastewater Utility Extension Project for the Utilities Department to TEC Excavation, Inc. of Midland, Texas for a \$4,321,723.00 approving \$432,172.30 for contingencies; for a total cost of \$4,753,895.30.



City Manager's Office



INTEROFFICE MEMORANDUM

TO: Erika Martinez, Purchasing Manager

FROM: Carl Craig, PE, Utilities Director

SUBJECT: Consider a resolution awarding a construction contract for the Briarwood Ave Wastewater Main Replacement to TEC Construction and appropriating funds

DATE: September 12, 2023

Parkhill Engineering under the Engineering on-call program prepared plans and specifications for the Briarwood wastewater main extension project. The project will extend the wastewater main from Golden Gate Dr to HWY 158..

Bid notifications were sent to 35 companies and 3 contractors attended the non-mandatory pre-bid conference.

One bid was received from TEC excavation at \$4,321,723.00. Based on a review by the consultant engineer the project costs fall in line with recently bid projects. The project cost is set at \$4,753,895.30, which includes a 10% contingency for the project.

Staff recommends a resolution for approval for bid award and authorization of funds from Utility unallocated funds.

Staff also recommends approval to move funds from the engineering services transportation operating budget (001085-57005) in the amount of \$7,100,000.00 into a project fund for the paving of Briarwood Ave.

RESOLUTION NO. _____

**RESOLUTION AWARDDING A CONTRACT FOR THE
BRIARWOOD WATER AND WASTEWATER UTILITY
EXPANSION PROJECT TO TEC EXCAVATION, INC.,
FOR AN AMOUNT OF \$4,321,723.00; APPROVING
\$432,172.30 FOR CONTINGENCIES; AND
TRANSFERRING AND APPROPRIATING FUNDS**

WHEREAS, the City Manager approved plans and specifications and authorized the advertisement for bids for the Briarwood Water and Wastewater Utility Extension Project; and

WHEREAS, bids were opened on August 23, 2023, with the sole bid being submitted by TEC Excavation, Inc., as shown on the bid tabulation attached hereto as Exhibit “A” and incorporated herein for all purposes; and

WHEREAS, the City Council finds the amount proposed by TEC Excavation, Inc., to be fair and reasonable; and

WHEREAS, the City Council finds it to be in the public interest to award a contract to TEC Excavation, Inc., for the Briarwood Water and Wastewater Utility Extension Project;

NOW, THEREFORE, BE IT RESOLVED BY THE CITY COUNCIL OF THE CITY OF MIDLAND, TEXAS:

SECTION ONE. That the City Manager and City Secretary are hereby authorized and directed to execute and attest, respectively, on behalf of the City of Midland, a contract with TEC Excavation, Inc., for the Briarwood Water and Wastewater Utility Extension Project for an amount of \$4,321,723.00. Said contract to be kept on file in the office of the City Secretary, referenced by the date and number of this Resolution.

SECTION TWO. That the sum of \$432,172.30 for contingencies is hereby approved for said contract.

SECTION THREE. That \$4,753,895.30 will be appropriated from the Water and Sewer Fund unappropriated fund balance and will be transferred and appropriated to a project in the Water & Sewer Capital Projects Fund.

SECTION FOUR. That the City Comptroller is hereby authorized and directed to pay TEC Excavation, Inc., pursuant to the terms of said contract upon receipt of proper invoices or statements approved by the City Manager.

SECTION FIVE. That \$7,100,000.00 shall be transferred from the 2022-2023 General Fund operating budget into a project fund for the paving of Briarwood Avenue.

On motion of Council member _____, seconded by Council member _____, the above and foregoing resolution was adopted by the City Council of the City of Midland at a regular meeting on the _____ day of _____, A.D., 2023, by the following vote:

Council members voting "AYE":

Council members voting "NAY":

Lori Merritt Blong, Mayor

ATTEST:

Marcia Bentley-German, City Secretary

RECOMMENDED AND APPROVED:

Tommy Gonzalez, City Manager

APPROVED AS TO CONTENT
AND COMPLETENESS:

Regina Stephenson, General Services Director

APPROVED ONLY AS TO FORM:

John Ohnemiller, City Attorney

August 25, 2023

Mr. Carl Craigo, PE
Director of Utilities
City of Midland
300 N. Lorraine
Midland, Texas 79701

Re: City of Midland Briarwood Water and Wastewater Utility Expansion
Recommendation for Award of Construction Contract

Dear Mr. Craigo:

We reviewed the Bid from TEC Excavation for the noted Project, received August 23, 2024, and determined it was submitted in accordance with guidelines established in the Bid documents as well as procedures adopted by City of Midland. All items were tabulated properly and are consistent with figures recorded during the Bid Opening. Enclosed is a detailed Bid Tabulation for reference.

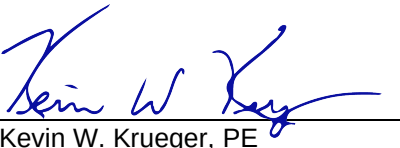
We recommend the Construction Contract for the City of Midland Briarwood Water and Wastewater Utility Expansion project be awarded to TEC Excavation, Inc., including all Base Bid Proposal items for **total Contract amount of \$4,321,723.00.**

For anything further, please contact me directly.

Sincerely,

PARKHILL

By



Kevin W. Krueger, PE
Senior Project Manager

KWK/kg
Encl

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CITY OF MIDLAND BRIARWOOD WATER AND WASTEWATER UTILITY EXPANSION

MIDLAND, TEXAS

August 23, 2023

2:00 PM

BASE BID				TEC EXCAVATION, INC. PO BOX 80455 MIDLAND, TEXAS 79708	
Item No.	Description	Quantity	Unit	Unit Price	Amount
GENERAL					
1	Mobilization/Demobilization (Max. 5%)	1	LS	\$175,400.50	\$175,400.50
2	Asphalt Paving Removal and Replacement	305	LS	\$295.00	\$89,975.00
3	Concrete Paving Removal and Replacement	93	EA	\$125.00	\$11,625.00
4	Trench Safety, Including Plan (Water & Wastewater)	13,401	EA	\$5.00	\$67,005.00
5	Remove and Replace Mailbox	1	LS	\$400.00	\$400.00
6	Stormwater Pollution Prevention Plan and Erosion Control	1	LF	\$59,000.00	\$59,000.00
7	Traffic Control	1	EA	\$10,000.00	\$10,000.00
WASTEWATER					
8	18" ASTM F679 PS 115 Wastewater Main	3,918	LF	\$225.00	\$881,550.00
9	24" ASTM F679 PS 115 Wastewater Main	4,713	LF	\$280.00	\$1,319,640.00
10	24" ASTM D2241 PS 160 Wastewater Main	194	LF	\$261.00	\$50,634.00
11	4' Dia. FRP MH (0-6' Depth)	18	EA	\$7,500.00	\$135,000.00
12	4' Dia. FRP MH Extra Depth	50	VF	\$730.00	\$36,500.00
13	Warning Tape and Tracer Wire	8,885	LF	\$0.30	\$2,665.50
14	30" Steel Encasement for 18" WW Main	210	LF	\$335.00	\$70,350.00
15	36" Steel Encasement for 24" WW Main	315	LF	\$420.00	\$132,300.00
16	Connect to Existing WW Main	1	EA	\$4,600.00	\$4,600.00
17	Sewer Stubout with Plug	1	EA	\$710.00	\$710.00
WATER					
18	6" C900 PVC DR 18 Water Main	356	LF	\$52.00	\$18,512.00
19	12" C900 PVC DR 18 Water Main	320	LF	\$94.00	\$30,080.00
20	16" C900 PVC DR 18 Water Main	3,840	LF	\$192.00	\$737,280.00
21	Ductile Iron Fittings	5	TON	\$11,500.00	\$57,500.00
22	16" x 6" Tapping Sleeve	1	EA	\$7,500.00	\$7,500.00
23	6" Gate Valve and Box	14	EA	\$2,000.00	\$28,000.00
24	12" Gate Valve and Box	7	EA	\$4,900.00	\$34,300.00
25	16" Horizontal Gate Valve and Vault	6	EA	\$28,200.00	\$169,200.00
26	3" Combination Air Valve and Vault	1	EA	\$21,300.00	\$21,300.00
27	Fire Hydrant Assembly	15	EA	\$6,800.00	\$102,000.00
28	Cap 6" Main	1	EA	\$900.00	\$900.00
29	Cap 8" Main	3	EA	\$970.00	\$2,910.00
30	Cap 12" Main	6	EA	\$1,130.00	\$6,780.00
31	Cap 16" Main	2	EA	\$1,700.00	\$3,400.00
32	Warning Tape and Tracer Wire	4,516	LF	\$0.25	\$1,129.00
33	Connect to Existing 8" Water Main	1	EA	\$4,000.00	\$4,000.00
34	Connect to Existing 16" Water Main	2	EA	\$5,000.00	\$10,000.00
35	12" Steel Encasement for 6" Water Main	60	LF	\$172.00	\$10,320.00
36	20" Steel Encasement for 12" Water Main	20	LF	\$260.00	\$5,200.00
37	30" Steel Encasement for 16" Water Main	50	LF	\$330.00	\$16,500.00
38	Remove and Relocate Existing Fire Hydrant	1	EA	\$3,600.00	\$3,600.00
39	Abandon Existing Water Mains	3,957	LF	\$1.00	\$3,957.00
TOTAL					\$4,321,723.00

August 25, 2023

Mr. Carl Craigo, PE
Director of Utilities
City of Midland
300 N. Lorraine
Midland, Texas 79701

Re: City of Midland Briarwood Water and Wastewater Utility Expansion
Recommendation for Award of Construction Contract

Dear Mr. Craigo:

We reviewed the Bid from TEC Excavation for the noted Project, received August 23, 2024, and determined it was submitted in accordance with guidelines established in the Bid documents as well as procedures adopted by City of Midland. All items were tabulated properly and are consistent with figures recorded during the Bid Opening. Enclosed is a detailed Bid Tabulation for reference.

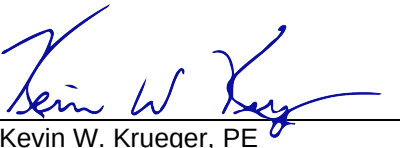
We recommend the Construction Contract for the City of Midland Briarwood Water and Wastewater Utility Expansion project be awarded to TEC Excavation, Inc., including all Base Bid Proposal items for **total Contract amount of \$4,321,723.00.**

For anything further, please contact me directly.

Sincerely,

PARKHILL

By



Kevin W. Krueger, PE
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Encl

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MIDLAND, TEXAS

August 23, 2023

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PROJECT MANUAL

CITY OF MIDLAND

Briarwood Water and Wastewater Utility Extension



July | 2023

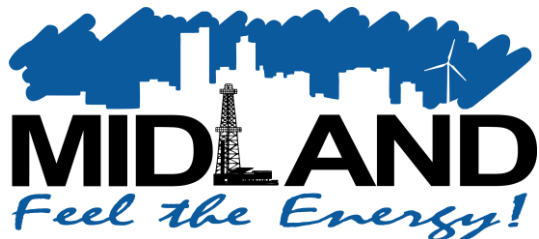
Parkhill Project # 4011622

City of Midland Project #22004219

PROJECT MANUAL

CITY OF MIDLAND

Briarwood Water and Wastewater Utility Extension



July | 2023

Parkhill Project # 4011622

City of Midland Project #22004219

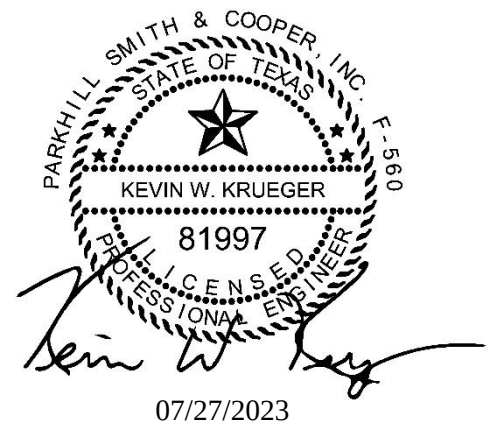


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Not Used

ADVERTISEMENT

**CITY OF MIDLAND
BRIARWOOD WATER AND WASTEWATER
UTILITY EXTENSION
BID PACKAGE
REQUEST FOR BIDS**

The City of Midland (Owner) has issued a Request for Bids (RFB) in order to evaluate pricing and qualifications of a contractor to construct the following Project:

**City of Midland, Texas
Briarwood Water and Wastewater Utility Extension
Bid Package**

Bidders shall deliver sealed Bids to the Owner at the following address:

**City of Midland
Office of the City Secretary
300 N. Loraine, 3rd Floor
Midland, Texas 79701**

Bids must be received at the designated location no later than August 23, 2023, at 2:00 p.m., at which time Bids will be opened and read. Project consists of the extension of an 24-inch gravity wastewater main and associated appurtenances from Golden Gate Avenue approximately 8,900 feet west to Highway 158, and the extension of 16-inch water main and associated appurtenances from near North County Road 1248 approximately 3,800 feet west to Trobaugh Boulevard.

Bid Documents may be obtained from the Engineer by emailing bids@parkhill.com, or from Civcast at www.civcastusa.com. Bidders may examine the Bid Documents at the Engineer's Office, Parkhill, 1700 W. Wall Street, Midland, Texas, Monday through Friday between the hours of 8:00 a.m. and 5:00 p.m. Neither Owner nor Engineer will be responsible for full or partial sets of Bidding Documents, including addenda, if any, obtained from sources other than the Issuing Office. It is the Bidder's sole responsibility to ensure all addenda have been received prior to submitting a Bid.

A pre-bid conference for the Project will be held on August 16, 2023 at 3:00 p.m. at 1700 West Wall Street, Suite 100, Midland, Texas 79701. Attendance at the pre-bid conference is encouraged but not required.

For all further requirements regarding submittal, qualifications, procedures, and contract award, refer to the RFB.

The City of Midland reserves the right to reject any or all Bids or to waive any informalities in the Bids.

Date Issued:	<u>TBD</u>
By:	<u>Carl Craigo, PE</u>
Title:	<u>Director of Utilities</u>

NOTICE TO BIDDERS

IF THIS PURCHASE REQUIRES A CONTRACT, THE ATTACHED **CONTRACT AND INSURANCE REQUIREMENTS ARE NON-NEGOTIABLE**. MODIFICATIONS BY BIDDER/COMPANY OF ANY MATERIAL TERM(S) TO THE CONTRACT DOCUMENTS WILL BE DEEMED A NON-RESPONSIVE BID. NON-RESPONSIVE BIDS WILL BE REJECTED. BIDDER/COMPANY MUST BE WILLING TO SIGN THE CONTRACT AS IS AND WITHOUT MODIFICATIONS, PROVIDE PROPERLY EXECUTED BONDS (IF APPLICABLE) AND PROVIDE INSURANCE SPECIFICALLY AS REQUIRED WITHIN THE CONTRACT DOCUMENTS **WITHIN 21 DAYS** OF THE DATE OF THE TRANSMITTAL LETTER.

IF THE SELECTED BIDDER/COMPANY CANNOT MEET THE ABOVE REQUIREMENTS, THEN **THE CITY RESERVES THE RIGHT TO AWARD THIS PURCHASE TO ANOTHER BIDDER**.

IMPORTANT NOTICE – IF THE CONTRACT DOCUMENTS REQUIRE WORKER’S COMPENSATION INSURANCE, BIDDER/COMPANY MUST CARRY WORKER’S COMPENSATION INSURANCE TO BE ELIGIBLE FOR THIS CONTRACT. IF YOU CANNOT PROVIDE WORKER’S COMPENSATION INSURANCE AS REQUIRED BY STATE OF TEXAS STATUTE, WE RESPECTFULLY REQUEST THAT YOU “NO BID” THIS WORK.

COMPLIANCE: Company agrees that it shall comply with Texas Government Code Section 2252.908, et seq., as amended. Company agrees that it shall comply with Texas Local Government Code Section 176.006, et seq., as amended. For further instructions on how to comply with Texas Government Code Section 2252.908 and Texas Local Government Code Section 176.006,

please go to https://www.ethics.state.tx.us/whatsnew/elf_info_form1295.htm
and https://www.ethics.state.tx.us/filinginfo/conflict_forms.htm.

ANY VENDOR WHO FAILS TO COMPLY WITH THE TERMS OF THE
AWARD **MAY BE DECLARED AN IRRESPONSIBLE VENDOR.** BIDS
SUBMITTED BY SAID VENDOR SHALL NOT BE CONSIDERED AGAIN FOR
A MINIMUM PERIOD OF SIX MONTHS AS DETERMINED BY THE CITY
MANAGER.

CITY OF MIDLAND
BRIARWOOD UTILITY EXTENSIONS - PHASE 2
BID PACKAGE
PRICE BID SHEET

Bidder must completely fill out and provide pricing for all items and sections of the Price Bid Sheet below.

Item No.	Description	Unit	Estimated Quantity	Bid Unit Price	Total Bid Price
General					
1	Mobilization/Demobilization (Max. 5%)	LS	1	\$ 175,400.50	\$ 175,400.50
2	Asphalt Paving Removal and Replacement	SY	305	\$ 295.00	\$ 89,975.00
3	Concrete Paving Removal and Replacement	SY	93	\$ 125.00	\$ 11,625.00
4	Trench Safety, Including Plan (Water & Wastewater)	LF	13,401	\$ 5.00	\$ 67,005.00
5	Remove and Replace Mailbox	EA	1	\$ 400.00	\$ 400.00
6	Stormwater Pollution Prevention Plan and Erosion Control	LS	1	\$ 59,000.00	\$ 59,000.00
7	Traffic Control	LS	1	\$ 10,000.00	\$ 10,000.00
Wastewater					
8	18" ASTM F679 PS 115 Wastewater Main	LF	3,918	\$ 225.00	\$ 881,550.00
9	24" ASTM F679 PS 115 Wastewater Main	LF	4,713	\$ 280.00	\$ 1,319,640.00
10	24" ASTM D2241 PS 160 Wastewater Main	LF	194	261.00	50,634.00
11	4' Dia. FRP MH (0-6' Depth)	EA	18	\$ 7,500.00	\$ 135,000.00
12	4' Dia. FRP MH Extra Depth	VF	50	\$ 730.00	\$ 36,500.00
13	Warning Tape and Tracer Wire	LF	8,885	\$ 0.30	\$ 2,665.50
14	30" Steel Encasement for 18" WW Main	LF	210	\$ 335.00	\$ 70,350.00
15	36" Steel Encasement for 24" WW Main	LF	315	\$ 420.00	\$ 132,300.00
16	Connect to Existing WW Main	EA	1	\$ 4,600.00	\$ 4,600.00
17	Abandon Existing WW Mains	LF	0	\$	\$
18	Sewer Stubout with Plug	EA	1	\$ 710.00	\$ 710.00
Water					
19	6" C900 PVC DR 18 Water Main	LF	356	\$ 52.00	\$ 18,512.00
20	12" C900 PVC DR 18 Water Main	LF	320	\$ 94.00	\$ 30,080.00
21	16" C900 PVC DR 18 Water Main	LF	3,840	\$ 192.00	\$ 737,280.00
22	Ductile Iron Fittings	TON	5	\$ 11,500.00	\$ 57,500.00
23	16" x 6" Tapping Sleeve	EA	1	\$ 7,500.00	\$ 7,500.00
24	6" Gate Valve and Box	EA	14	\$ 2,000.00	\$ 28,000.00
25	12" Gate Valve and Box	EA	7	\$ 4,900.00	\$ 34,300.00
26	16" Horizontal Gate Valve and Vault	EA	6	\$ 28,200.00	\$ 169,200.00
27	3" Combination Air Valve and Vault	EA	1	\$ 21,300.00	\$ 21,300.00
28	Fire Hydrant Assembly	EA	15	\$ 6,800.00	\$ 102,000.00
29	Cap 6" Main	EA	1	\$ 900.00	\$ 900.00
30	Cap 8" Main	EA	3	\$ 970.00	\$ 2,910.00
31	Cap 12" Main	EA	6	\$ 1,130.00	\$ 6,780.00

32	Cap 16" Main	EA	2	\$ 1,700.00	\$ 3,400.00
33	Warning Tape and Tracer Wire	LF	4,516	\$ 0.25	\$ 1,129.00
34	Connect to Existing 8" Water Main	EA	1	\$ 4,000.00	\$ 4,000.00
35	Connect to Existing 16" Water Main	EA	2	\$ 5,000.00	\$ 10,000.00
36	12" Steel Encasement for 6" Water Main	LF	60	\$ 172.00	\$ 10,320.00
37	20" Steel Encasement for 12" Water Main	LF	20	\$ 260.00	\$ 5,200.00
38	30" Steel Encasement for 16" Water Main	LF	50	\$ 330.00	\$ 16,500.00
39	Remove and Relocate Existing Fire Hydrant	EA	1	\$3,600.00	\$ 3,600.00
40	Abandon Existing Water Mains	LF	3,957	\$1.00	\$3,957.00
Note: Items 8-12, 14 & 15 (if steel casing used), 19-28, 36-38 (if steel casing used) are eligible for payment of materials.					
TOTAL BASE BID:					4,321,723.00

QUALIFICATIONS STATEMENT

ARTICLE 1—GENERAL INFORMATION

12.01 Provide contact information for the Business:

Legal Name of Business:	TEC EXCAVATION, INC.		
Corporate Office			
Name:	ERIC CLUTTER	Phone number:	940-521-6933
Title:	VICE-PRESIDENT	Email address:	eclutter@tecexcavation.com
Business address of corporate office:	P.O. BOX 80455		
	MIDLAND, TX 79708		
Local Office			
Name:	ERIC CLUTTER	Phone number:	940-521-6933
Title:	VICE-PRESIDENT	Email address:	eclutter@tecexcavation.com
Business address of local office:	P.O. BOX 80455		
	MIDLAND, TX 79708		

12.02 Provide information on the Business's organizational structure:

Form of Business:	☐ Sole Proprietorship ☐ Partnership ☒ Corporation		
☐ Limited Liability Company ☐ Joint Venture comprised of the following companies:			
1.			
2.			
3.			
Provide a separate Qualification Statement for each Joint Venturer.			
Date Business was formed:	9/1/2001	State in which Business was formed:	TX
Is this Business authorized to operate in the Project location?		☒ Yes ☐ No ☐ Pending	

12.03 Identify all businesses that own Business in whole or in part (25% or greater), or that are wholly or partly (25% or greater) owned by Business:

Name of business:	N/A	Affiliation:	
Address:			
Name of business:		Affiliation:	
Address:			
Name of business:		Affiliation:	
Address:			

Type text here

12.04 Provide information regarding the Business's officers, partners, and limits of authority.

Name:	ERIC CLUTTER	Title:	VICE-PRESIDENT
Authorized to sign contracts:	☒ Yes ☐ No	Limit of Authority:	\$ 100%
Name:	TWYLA CLUTTER	Title:	PRESIDENT
Authorized to sign contracts:	☒ Yes ☐ No	Limit of Authority:	\$ 100%
Name:	TERRY CLUTTER	Title:	SECRETARY/TREASURER
Authorized to sign contracts:	☒ Yes ☐ No	Limit of Authority:	\$ 100%
Name:		Title:	

ARTICLE 2—LICENSING

2.01 Provide information regarding licensure for Business:

Name of License:	SEE ATTACHED		
Licensing Agency:			
License No:		Expiration Date:	
Name of License:			
Licensing Agency:			
License No:		Expiration Date:	

ARTICLE 3—DIVERSE BUSINESS CERTIFICATIONS

3.01 Provide information regarding Business's Diverse Business Certification, if any. Provide evidence of current certification.

Certification	Certifying Agency	Certification Date
☐ Disadvantaged Business Enterprise		
☐ Minority Business Enterprise		
☒ Woman-Owned Business Enterprise	STATE OF TEXAS	9/22/22
☐ Small Business Enterprise		
☐ Disabled Business Enterprise		
☐ Veteran-Owned Business Enterprise		
☐ Service-Disabled Veteran-Owned Business		
☐ HUBZone Business (Historically Underutilized) Business		
☐ Other		
☐ None		

ARTICLE 4—SAFETY

4.01 Provide information regarding Business's safety organization and safety performance.

Name of Business's Safety Officer:	TYLER CLUTTER	
Safety Certifications		
Certification Name	Issuing Agency	Expiration
MULTIPLE OSHA 10 HR COURSES	NUCA	N/A

4.02 Provide Worker's Compensation Insurance Experience Modification Rate (EMR), Total Recordable Frequency Rate (TRFR) for incidents, and Total Number of Recorded Manhours (MH) for the last 3 years and the EMR, TRFR, and MH history for the last 3 years of any proposed Subcontractor(s) that will provide Work valued at 10% or more of the Contract Price. Provide documentation of the EMR history for Business and Subcontractor(s).

Year									
Company	EMR	TRFR	MH	EMR	TRFR	MH	EMR	TRFR	MH
SEE ATTACHED									

ARTICLE 5—FINANCIAL

5.01 Provide information regarding the Business's financial stability. Provide the most recent audited financial statement, and if such audited financial statement is not current, also provide the most current financial statement.

Financial Institution:	SEE ATTACHED		
Business address:			
Date of Business's most recent financial statement:		☐ Attached	
Date of Business's most recent audited financial statement:		☐ Attached	
Financial indicators from the most recent financial statement			
Contractor's Current Ratio (Current Assets ÷ Current Liabilities)			
Contractor's Quick Ratio ((Cash and Cash Equivalents + Accounts Receivable + Short Term Investments) ÷ Current Liabilities)			

ARTICLE 6—SURETY INFORMATION

6.01 Provide information regarding the surety company that will issue required bonds on behalf of the Business, including but not limited to performance and payment bonds.

Surety Name:	MERCHANTS BONDING CO.		
Surety is a corporation organized and existing under the laws of the state of:	IOWA		
Is surety authorized to provide surety bonds in the Project location?	☒ Yes ☐ No		
Is surety listed in "Companies Holding Certificates of Authority as Acceptable Sureties on Federal Bonds and as Acceptable Reinsuring Companies" published in Department Circular 570 (as amended) by the Bureau of the Fiscal Service, U.S. Department of the Treasury?			
☐ Yes ☐ No			
Mailing Address (principal place of business):	AGENT KEVIN DUNN		
	10210 FRANKFORD STE. 420		
	LUBBOCK, TX 79424		
Physical Address (principal place of business):			
Phone (main):	806-789-BOND	Phone (claims):	806-789-BOND

ARTICLE 7—INSURANCE

- 7.01 Provide information regarding Business's insurance company(s), including but not limited to its Commercial General Liability carrier. Provide information for each provider.

Name of insurance provider, and type of policy (CLE, auto, etc.):			
Insurance Provider		Type of Policy (Coverage Provided)	
INSURANCE CERTIFICATE ATTACHED PROVIDING SAID DOCUMENTATION			
Are providers licensed or authorized to issue policies in the Project location?		☐ Yes ☐ No	
Does provider have an A.M. Best Rating of A-VII or better?		☐ Yes ☐ No	
Mailing Address (principal place of business):			
Physical Address (principal place of business):			
Phone (main):		Phone (claims):	

ARTICLE 8—CONSTRUCTION EXPERIENCE

- 8.01 Provide information that will identify the overall size and capacity of the Business.

Average number of current full-time employees:	35
Estimate of revenue for the current year:	2 MILLION
Estimate of revenue for the previous year:	7 MILLION

8.02 Provide information regarding the Business's previous contracting experience.

Years of experience with projects like the proposed project: 22			
As a general contractor:	22	As a joint venturer:	
Has Business, or a predecessor in interest, or an affiliate identified in Paragraph 1.03:			
Been disqualified as a Bidder by any local, state, or federal agency within the last 5 years? ☐ Yes ☒ No			
Been barred from contracting by any local, state, or federal agency within the last 5 years? ☐ Yes ☒ No			
Been released from a Bid in the past 5 years? ☐ Yes ☒ No			
Defaulted on a project or failed to complete any contract awarded to it? ☐ Yes ☒ No			
Refused to construct or refused to provide materials defined in the contract documents or in a change order? ☐ Yes ☒ No			
Been a party to any currently pending litigation or arbitration? ☐ Yes ☒ No			
Provide full details in a separate attachment if the response to any of these questions is Yes.			

8.03 List all projects currently under contract in Schedule A and provide indicated information.

8.04 List a minimum of three and a maximum of six projects completed in the last 5 years in Schedule B and provide indicated information to demonstrate the Business's experience with projects similar in type and cost of construction.

8.05 In Schedule C, provide information on key individuals whom Business intends to assign to the Project. Provide resumes for those individuals included in Schedule C. Key individuals include the Project Manager, Project Superintendent, Quality Manager, and Safety Manager. Resumes may be provided for Business's key leaders as well.

ARTICLE 9—REQUIRED ATTACHMENTS

9.01 Provide the following information with the Statement of Qualifications:

- A. If Business is a Joint Venture, separate Qualifications Statements for each Joint Venturer, as required in Paragraph 1.02.
- B. Diverse Business Certifications if required by Paragraph 3.01.
- C. Certification of Business's safety performance if required by Paragraph 4.02.
- D. Financial statements as required by Paragraph 5.01.
- E. Attachments providing additional information as required by Paragraph 8.02.
- F. Schedule A (Current Projects) as required by Paragraph 8.03.
- G. Schedule B (Previous Experience with Similar Projects) as required by Paragraph 8.04.
- H. Schedule C (Key Individuals) and resumes for the key individuals listed, as required by Paragraph 8.05.
- I. Additional items as pertinent.

This Statement of Qualifications is offered by:

Business: TEC EXCAVATION, INC.

By: ERIC CLUTTER (typed or printed name of organization)

(individual's signature)

Name: ERIC CLUTTER

(typed or printed)

Title: VICE-PRESIDENT

(typed or printed)

Date: ~~8/23/23~~ 8/23/23

(date signed)

(If Business is a corporation, a partnership, or a joint venture, attach evidence of authority to sign.)

Attest: Jayla Clutter (individual's signature)

Name: Jayla Clutter (typed or printed)

Title: Pres. (typed or printed)

Address for giving notices:

P.O. BOX 80455 MIDLAND, TX 79708

Designated Representative:

Name: ERIC CLUTTER

(typed or printed)

Title: VICE-PRESIDENT

(typed or printed)

Address:

P.O. BOX 80455 MIDLAND, TX 79708

Phone: 940-521-6933

Email: eclutter@tecexcavation.com

40	Abandon Existing Water Mains	LF	3,957	\$	\$
Note: Items 8-12, 14 & 15 (if steel casing used), 19-28, 36-38 (if steel casing used) are eligible for payment of materials.					
TOTAL BASE BID:					

***Maximum allowable Bid Time for Substantial Completion is as follows: 330 days.**

TIME OF THE ESSENCE

All time limits for Milestones (phases), Substantial Completion, completion, and readiness for final payment, as stated in the Contract Documents, are of the essence of Contract.

CONTRACT TIMES AND MILESTONES (PHASES): DAYS

All work substantially completed within 330 days after Contract Times commenced to run as provided in General Conditions, completed and ready for final payment per General Conditions, within 30 days after Contract Times commenced to run.

MILESTONES

Phase 1: All Water Improvements work included in this contract shall be completed no later than 180 calendar days following notice to proceed effective date. The Wastewater Improvements from Station 1+50 to 2+50 shall be completed no later than 180 calendar days following notice to proceed effective date.

Phase 2: The remaining contract work shall be completed per time limits stated in contract documents.

LIQUIDATED DAMAGES

Contractor and Owner recognize time is of the essence as stated in Article 4.01 and Owner will suffer financial and other losses if Work not completed and Milestones not achieved within times specified in Article 4.02, plus any extensions thereof allowed per Contract. Parties also recognize delays, expense, and difficulties involved in proving in a legal or arbitration proceeding, actual loss suffered by Owner if Work not completed on time. Accordingly, instead of requiring any such proof, Owner and Contractor agree as liquidated damages for delay (but not as a penalty):

Milestone Completion: Contractor pays to Owner \$2000 for each day that expires after time (as duly adjusted pursuant to Contract) specified in Article 4.02.A. for Milestone Completion until Work is complete.

Substantial Completion: Contractor pays Owner \$2000 for each day that expires after time (as duly adjusted pursuant to Contract) specified in Article 4.02.A for Substantial Completion until Work is substantially complete.

Completion of Remaining Work: After Substantial Completion, if Contractor neglects, refuses, or fails to complete remaining Work within Contract Time (as duly adjusted pursuant to Contract) for completion and readiness for final payment, Contractor pays Owner \$1000 for each day that expires until Work completed and ready for final payment.

Liquidated damages for failing to timely attain Substantial Completion and final completion are not additive and not imposed concurrently.

Bidder agrees that the Work will be substantially complete, as provided in the General Conditions, within the lesser of the number of calendar days specified above and completed and ready for final payment in accordance with the General Conditions within 60 calendar days after the date that substantial completion is reached.

Respectfully Submitted (Bidder): TEC Excavation Inc

SUBMITTED on Aug 23, 2023.

State Contractor License No. W00027888, W00025723. (If applicable)

1. The undersigned Bidder proposes and agrees, if this Bid is accepted, to enter into an Agreement with Owner in the form included in the RFB to perform and furnish all Work as specified or indicated in the RFB for the prices and within the times indicated in this Bid and in accordance with the other terms and conditions of the RFB.
2. Bidder accepts all of the terms and conditions of the RFB, including without limitation those dealing with the disposition of Bid security. The Bid will remain subject to acceptance for 60 days after the Bid opening, or for such longer period of time that Bidder may agree to in writing upon request of Owner.
3. In submitting this Bid, Bidder represents, as set forth in the Agreement, that:
 - A. Bidder has examined and carefully studied the Bid Documents, the other related data identified in the Bid Documents, and the following Addenda, receipt of all which is hereby acknowledged.

<u>Addendum No.</u>	<u>Addendum Date</u>
<u>1</u>	<u>8/18/23</u>
<u>2</u>	<u>8/22/23</u>
<u> </u>	<u> </u>

- B. Bidder is qualified to do business in the state where the Project is located as required by laws, rules, and regulations or, if allowed by statute, covenants to obtain such qualification prior to contract award.
 - C. The Bidder shall provide values for specific performance parameters for the equipment being proposed. The Bidder understands and agrees that the values stated in this Section for the associated performance parameters will be compared to the performance standards required in the equipment specifications. Bidders understand and agree to guarantee the performance values stated herein for the equipment proposed in accordance with the guidelines specified herein.
 - D. Bidder understands and agrees that this Bid shall form the basis for an agreement with the Owner. Therefore, the undersigned agrees to enter into an agreement to perform and furnish all Work as specified or indicated in these Specifications for the amount indicated in this Bid and in accordance with the other terms and conditions of these Contract Documents.

- E. Bidder accepts all of the terms and conditions of these Contract Documents including, without limitation, those dealing with the disposition of Bid security, required bonds, and the liquidated damages that may be imposed. This Bid shall remain subject to acceptance for a period of 60 days after the day of Bid opening. The Bidder shall sign and submit the Agreement with the bonds and other required documents within 10 days after the receipt of Notice of Award from the Owner.
 - F. Bidder has given Engineer written notice of all conflicts, errors, ambiguities, or discrepancies that Bidder has discovered in the Bid Documents, and the written resolution thereof by Engineer is acceptable to Bidder.
 - G. The Bid Documents are generally sufficient to indicate and convey understanding of all terms and conditions for the performance of the Work for which this Bid is submitted.
- 5. Bidder further represents that this Bid is genuine and not made in the interest of or on behalf of any undisclosed individual or entity and is not submitted in conformity with any agreement or rules of any group, association, organization or corporation; Bidder has not directly or indirectly induced or solicited any other Bidder to submit a false or sham Bid; Bidder has not solicited or induced any individual or entity to refrain from proposing; and Bidder has not sought by collusion to obtain for itself any advantage over any other Bidder or over Owner.
 - 6. Bidder will complete the Work in accordance with the Contract Documents for the prices proposed in the Price Bid Sheet.
 - 7. Bidder accepts the provisions of the Agreement as to liquidated damages in the event of failure to complete the Work within the Contract Times specified.
 - 8. The following documents are attached to and made a condition of this Bid:
 - A. Non-Collusion Affidavit of Prime Bidder;
 - B. Debarment / Suspension Certification.
 - 9. The Bidder is required to include in this Bid their proposed construction schedule.

ADDENDUM NO: 01

TO: ALL PLANHOLDERS

FROM: Kevin Krueger, PE

PROJECT NAME: City of Midland Briarwood Water and Wastewater
Utility Expansion

PROJECT NO.: 0.40116.22

DATE: August 18, 2023

Attention of all Prospective Proposers/Plan Holders is directed to the following modifications to the referenced Drawings and Project Manual. This Addendum becomes a part of the Contract Documents and modifies the original Contract Documents dated July 2023 as noted below:

This Addendum consists of 3 pages, attached Price Bid Sheet, attached Section 33 05 73, attached sheets nos. G-001, C-106, C-108, C-202, C-206, and the attached Pre-Bid Meeting Minutes with Sign-In Sheet.

I. CHANGES TO ADVERTISEMENT

1. NONE

II. CHANGES TO DIVISION 00 – PROCUREMENT AND CONTRACTING REQUIREMENTS:

1. PRICE BID SHEET
 - a. REMOVE and REPLACE the Price Bid Sheet in its entirety as attached to this Addendum.
2. TABLE OF CONTENTS
 - a. ADD Section 33 05 73 Polymer Concrete Manhole under Division 33.

III. CHANGES TO DIVISION 01 – GENERAL REQUIREMENTS:

1. NONE

IV. CHANGES TO DIVISIONS 02 THROUGH 48 (TECHNICAL SPECIFICATIONS):

1. SECTION 33 05 73 – POLYMER CONCRETE MANHOLE
 - a. ADD Section in its entirety as attached to this Addendum.

V. CHANGES TO DRAWINGS:

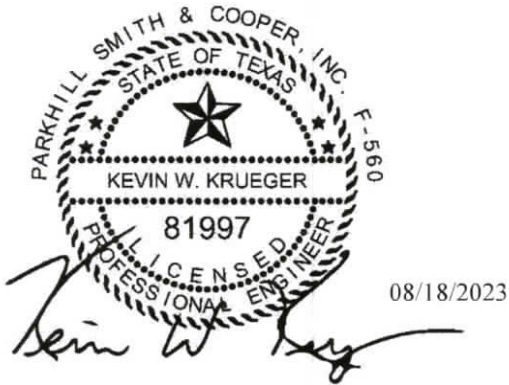
1. SHEET G-001 – COVER SHEET AND INDEX
 - a. REMOVE and REPLACE Sheet G-001 in its entirety as attached to this Addendum.

2. SHEET C-106 – 24" WASTEWATER MAIN PLAN AND PROFILE STA 30+00 TO STA 36+00
 - a. REMOVE and REPLACE Sheet C-106 in its entirety as attached to this Addendum.
3. SHEET C-108 – 24" WASTEWATER MAIN PLAN AND PROFILE STA 42+00 TO STA 48+00
 - a. REMOVE and REPLACE Sheet C-108 in its entirety as attached to this Addendum.
4. SHEET C-202 – 16" WATER MAIN PLAN AND PROFILE STA 7+00 TO STA 14+00
 - a. REMOVE and REPLACE Sheet C-202 in its entirety as attached to this Addendum.
5. SHEET C-206 – 16" WATER MAIN PLAN AND PROFILE STA 35+00 TO STA 38+52.50
 - a. REMOVE and REPLACE Sheet C-206 in its entirety as attached to this Addendum.

VI. QUESTION AND ANSWER

1. QUESTIONS RECEIVED ON CIVCAST:
 - a. Q: Can you confirm what time the bids are due? CivCast states 3:00 pm, but the project manual states 2:00 pm.
A: 2:00 PM, Local Time. The [CivCast] Project Summary page has been updated.
 - b. Q: Is geotech data available in the Specs?
A: There is no Geotechnical report.
 - c. Q: Is FRP pipe an option or strictly limited to PVC?
A: FRP is not an option for this Project.
 - d. Q: It has been our experience that 24" D2241 160# is a rare product. Will an alternate of 24" C900 DR25 CIOD pressure rated 165 be allowed? It is typically more readily available.
A: 24" C900 DR 25 **green colored** pipe is an acceptable alternative to 24" D2241 SDR 26.
 - e. Q: Bid Item 27 – Calls for 2" Combination Air Valve. The specs call out 3" Air Valve. Which is required? Also, I found only 1 Air Valve on the plans. Bid Item 27 call out 2 ea. What are the locations of the Air Valves?
A: One (1) 3" Combination Air Valve is required. Location of air valve is correct in drawings. Bid Sheet updates will be addressed in addendum.
 - f. Q: Would you please post the Pre-Bid Sign in Sheet?
A: See Addendum 1.
 - g. Q: Will the City accept polymer concrete manholes in lieu of fiberglass manholes? This will drastically speed up material procurement times and safeguard challenging glassing repairs that could arise in the future due to the proximity of the structures location related to the new westbound lane.
A: Yes. Refer to Addendum 1 new specification Section 33 05 73.
 - h. Q: What level of coordination is expected between the "utility" contractor and "road" contractor? Not knowing when the "road" project will bid/be awarded/started leaves the Utility contractor in a bit of a quandry as we're being asked to coordination with another in the future but, we don't know exactly the level of effort / required coordination we're "signing up" for.
A: See specification 01 10 00 Section 1.4 Work by Owner or Others along with other information provided in contract documents.

END OF ADDENDUM NO. 01



Respectfully submitted,

PARKHILL

By: Kevin W. Krueger

Receipt of this addendum shall be acknowledged by the Bidder, below and on the bid Proposal. This entire addendum, or a copy thereof, shall be attached to the bid Proposal submitted.

ACKNOWLEDGED:

#1

By: Margie Clutter

ADDENDUM NO: 02

TO: ALL PLANHOLDERS

FROM: Kevin Krueger, PE

PROJECT NAME: City of Midland Briarwood Water and Wastewater
Utility Expansion

PROJECT NO.: 0.40116.22

DATE: August 22, 2023

Attention of all Prospective Proposers/Plan Holders is directed to the following modifications to the referenced Drawings and Project Manual. This Addendum becomes a part of the Contract Documents and modifies the original Contract Documents dated July 2023 as noted below:

This Addendum consists of 3 pages and the attached Table of Contents and Special Provisions.

I. CHANGES TO PRIOR ADDENDA

1. NONE

II. CHANGES TO ADVERTISEMENT

1. NONE

III. CHANGES TO DIVISION 00 – PROCUREMENT AND CONTRACTING REQUIREMENTS:

1. TABLE OF CONTENTS
 - a. REMOVE and REPLACE Table of Contents as attached to this Addendum.
2. SPECIAL PROVISIONS (Water Utilities)
 - a. REMOVE and REPLACE Special Provisions in its entirety as attached to this Addendum.

IV. CHANGES TO DIVISION 01 – GENERAL REQUIREMENTS:

1. NONE

V. CHANGES TO DIVISIONS 02 THROUGH 48 (TECHNICAL SPECIFICATIONS):

1. NONE

VI. CHANGES TO DRAWINGS:

1. NONE

VII. QUESTION AND ANSWER

1. ADDITIONAL QUESTIONS RECEIVED ON CIVCAST:

- a. Q: Please provide clarification on the age, pipe material, and contents of the existing parallel water lines. Is one transmission potable and one transmission raw water? Are the bury depths different.
A: See Addendum 001, Pre-Bid Meeting Agenda Minutes, Section VII. Open Question and Answer, B. Questions Received Today.
36" Water Main shown on Sheets C-101, 102, 103 and 104 is concrete pipe installed in 1994 according to the City's GIS data.
- b. Q: Please confirm the awarded Contractor will not be held liable in the event the old existing DIP raw water line cracks/breaks/i.e. is damaged due to typical "work activities" related to adjacent sanitary sewer installation?
A: Contractor's responsibility to protect existing utilities is addressed in many locations of the contract documents including but not limited to:
- General Notes 1, 2, 3, 4, 12, 20, 21, and 32 of Sheet G-003.
 - Special Provisions (Water Utilities), Section 3 "Examination of Site".
 - EJCDC C-700 Section 5.05 "Underground Facilities", Section 7.13 "Safety and Protection".
 - 01 10 00 Summary, Section 1.5 "Contractor's Use of Site and Premises".
 - 03 05 07 Trenchless Installation of Utility Piping, Section 1.1 (A)(5).
 - 33 31 00 Sanitary Sewerage Piping, Section 3.1(D)(3).
- c. Q: Please confirm that, in the event the existing water line/s become day-lighted due typical "work activities" related to installing the proposed sewer the Contractor will be reimbursed for additional Work related to protecting and re-bedding the water line/s should they become exposed?
A: Bidders shall consider how their planned construction methods will impact nearby utilities. Steel casing shown on plans can be installed by open cut or by boring. Owners of utilities impacted by construction activities should be contacted prior to construction for coordination and crossing requirements. Coordination and construction costs related to impacted utilities shall be included in bid items. See Special Provisions (Water Utilities), Section 3 "Examination of Site" and see answer to Question [b].
- d. Q: Regarding concrete replacement, the plans indicate only "ditch" replacement will be paid; will overruns be allowed if the contractor is asked to replace a full panel or back to the nearest joint?
A: Contractor shall protect existing asphalt and concrete to prevent damage, Owner is not responsible for payment of asphalt or concrete damaged by construction activities beyond the removal limits shown on the drawings.
Any asphalt or concrete repairs beyond the limits shown on the drawings shall only be paid if work is first requested by the Owner in writing. Contractor is not eligible for payment of any extra work unless first obtaining prior written authorization from the Owner. Payment will be at the unit prices bid.

- e. Q: In the pre-bid meeting it was asked if spoil could be placed over the existing water lines and the answer was "no", they're too old and critical of lines to have burden placed on them. Knowing this, will the City coordinate with property owners to grant additional temp. easement to the north of the proposed utility to make up for "loosing" half of the easement for staging of spoil?
A: Contractor shall base bid prices on allowable workspace as shown and described in the contract documents. No additional workspace is anticipated to be provided by the Owner. See General Notes 34 and 48 on Sheet G-003.
- f. Q: Can any materials be staged over the existing water lines? pipe? MHs? embedment? other materials? equipment?
A: See answer to Question [e]. See General Notes 34 and 48 on Sheet G-003.
- g. Q: Please confirm the "steel casing" callouts in the plans refer to open-cut casing and not "casing by other than open-cut".
A: Construction means and methods are the Contractor's responsibility. If Contractor chooses to install casing using boring, then those pertinent specifications apply.
- h. Q: Can "Golden Gate" be permanently closed while laying in the street or does one lane have to been kept open.
A: At least one lane of traffic will need to remain open at all times.
- i. The existing 16" WL shown on sheet C105 with the "abandoned" hatching, was this line abandoned in place or abandoned w/void fill (i.e., filled with grout or similar medium)?
A: See Sheets C-201 through C-206 for 16" Water Line Plans. Hatching denotes lines that are either to be 'abandoned' per General Notes 51 on Sheet G-003 or 'abandoned and removed' as a part of this contract.
See Special Provisions (Water Utilities), Section 3 "Examination of Site".

END OF ADDENDUM NO. 02



08/22/2023

Respectfully submitted,

PARKHILL

By: Kevin W. Krueger

Receipt of this addendum shall be acknowledged by the Bidder, below and on the bid Proposal. This entire addendum, or a copy thereof, shall be attached to the bid Proposal submitted.

ACKNOWLEDGED:

#2

By: Angela Clutter

PACKET

5.34

September 12, 2023



TEC EXCAVATION, INC.

P.O. Box 80455
MIDLAND, TX 79708

PH. 432-682-2619
FAX 432-684-1151

August 23, 2023

**Joshua Ferguson
City of Midland
300 N. Loraine
Midland, TX 79701**

Project: BRIARWOOD WATER & SEWER UTILITY EXPANSION

Josh,

As per conditions of the Contract, TEC Excavation, Inc. is currently contracted with Jessie Montez to meet TCEQ requirements on the above-mentioned project.

Jessie Montez
TCEQ Class A Water Operator Licensing Number: W00027888
TCEQ Class C Wastewater Operator Licensing Number: WW0025723

Eric Clutter, Vice-President
TEC Excavation, Inc.

Texas Historically Underutilized Business (HUB) Certificate



Certificate/MD Number: 1522374490300
Approval Date: September 22, 2022
Scheduled Expiration Date: September 22, 2026

The Texas Comptroller of Public Accounts (CPA), hereby certifies that

Tec Excavation, Inc.

has successfully met the established requirements of the State of Texas Historically Underutilized Business (HUB) Program to be recognized as a HUB. This certificate printed **September 22, 2022**, supersedes any registration and certificate previously issued by the HUB Program. If there are any changes regarding the information (i.e., business structure, ownership, day to day management, operational control, business location) provided in the submission of the business; application for registration/certification as a HUB, you must immediately (within 30 days of such changes) notify the HUB Program in writing. The CPA reserves the right to conduct a compliance review at any time to confirm HUB eligibility. HUB certification may be suspended or revoked upon findings of ineligibility.

*Statewide HUB Program
Statewide Procurement Division*

Note: In order for State agencies and institutions of higher education (universities) to be credited for utilizing this business as a HUB, they must award payment under the Certificate/MD Number identified above. Agencies, universities and prime contractors are encouraged to verify the company's HUB certification prior to issuing a notice of award by accessing the Internet (<https://mycpa.cpa.state.tx.us/tpasscmbisearch/index.jsp>) or by contacting the HUB Program at 512-463-5872 or toll-free in Texas at 1-888-863-5881.



WORKERS COMPENSATION EXPERIENCE RATING

Risk Name: TEC EXCAVATION INC

Risk ID: 420876963

Rating Effective Date: 05/10/2022

Production Date: 12/14/2021

State: TEXAS

State	Wt	Exp Excess Losses	Expected Losses	Exp Prim Losses	Act Exc Losses	Ballast	Act Inc Losses	Act Prim Losses
TX-A	.10	37,402	53,392	15,990	0	29,400	814	814
(A) Wt	(B) Exp Excess Losses (D - E)	(D) Expected Losses	(E) Exp Prim Losses	(F) Act Exc Losses (H - I)	(G) Ballast	(H) Act Inc Losses	(I) Act Prim Losses	
.10	37,402	53,392	15,990	0	29,400	244	244	
Primary Losses		Stabilizing Value		Ratable Excess		Totals		
Actual	(I) 244	$C * (1 - A) + G$ 63,062		(A) * (F) 0		(J) 63,306		
Expected	(E) 15,990	$C * (1 - A) + G$ 63,062		(A) * (C) 3,740		(K) 82,792		
ARAP		FLARAP		SARAP		MAARAP		Exp Mod
Factors						(J) / (K)		.76

RATING REFLECTS A DECREASE OF 70% MEDICAL ONLY PRIMARY AND EXCESS LOSS DOLLARS WHERE ERA IS APPLIED.

Carrier: 29939-000 Policy: 0001116944

Eff-Date: 05-10-2021 Exp-Date: 05-10-2022

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WORKERS COMPENSATION EXPERIENCE RATING

Risk Name: TEC EXCAVATION INC

Risk ID: 420876963

Rating Effective Date: 05/10/2022

Production Date: 12/14/2021

State: TEXAS

42-TEXAS

Firm ID: A Firm Name: TEC EXCAVATION INC

Carrier: 29939 Policy No. 0001116944 Eff Date: 05/10/2018 Exp Date: 05/10/2019

Code	ELR	D-Ratio	Payroll	Expected Losses	Exp Prim Losses	Claim Data	IJ	OF	Act Inc Losses	Act Prim Losses
6306	1.49	.35	198,988	2,965	1,038					
6319	.98	.29	1,769,103	17,337	5,028					
8809	.04	.39	7,800	3	1					
8810	.03	.46	268,128	80	37					
Policy Total:			2,244,019	Subject Premium:	111,061	Total Act Inc Losses:			0	

42-TEXAS

Firm ID: A Firm Name: TEC EXCAVATION INC

Carrier: 29939 Policy No. 0001116944 Eff Date: 05/10/2019 Exp Date: 05/10/2020

Code	ELR	D-Ratio	Payroll	Expected Losses	Exp Prim Losses	Claim Data	IJ	OF	Act Inc Losses	Act Prim Losses
6306	1.49	.35	142,511	2,123	743	6001210965	06	F	280	280
6319	.98	.29	1,475,294	14,458	4,193					
8810	.03	.46	209,738	63	29					
Policy Total:			1,827,543	Subject Premium:	90,247	Total Act Inc Losses:			280	

42-TEXAS

Firm ID: A Firm Name: TEC EXCAVATION INC

Carrier: 29939 Policy No. 0001116944 Eff Date: 05/10/2020 Exp Date: 05/10/2021

Code	ELR	D-Ratio	Payroll	Expected Losses	Exp Prim Losses	Claim Data	IJ	OF	Act Inc Losses	Act Prim Losses
6306	1.49	.35	191,031	2,846	996	5001255847	06	F	534	534
6319	.98	.29	1,376,416	13,489	3,912					
8810	.03	.46	92,295	28	13					
Policy Total:			1,659,742	Subject Premium:	81,253	Total Act Inc Losses:			534	

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* Total by Policy Class: C Catastrophic Loss
D Disease Loss
E Employers Liability Loss

5.38

X Ex-Medical Coverage
Limited Loss

September 12, 2023

Page 2 of 2



CERTIFICATE OF LIABILITY INSURANCE

DATE (MM/DD/YYYY)

08/23/2023

THIS CERTIFICATE IS ISSUED AS A MATTER OF INFORMATION ONLY AND CONFERS NO RIGHTS UPON THE CERTIFICATE HOLDER. THIS CERTIFICATE DOES NOT AFFIRMATIVELY OR NEGATIVELY AMEND, EXTEND OR ALTER THE COVERAGE AFFORDED BY THE POLICIES BELOW. THIS CERTIFICATE OF INSURANCE DOES NOT CONSTITUTE A CONTRACT BETWEEN THE ISSUING INSURER(S), AUTHORIZED REPRESENTATIVE OR PRODUCER, AND THE CERTIFICATE HOLDER.

IMPORTANT: If the certificate holder is an ADDITIONAL INSURED, the policy(ies) must have ADDITIONAL INSURED provisions or be endorsed. If SUBROGATION IS WAIVED, subject to the terms and conditions of the policy, certain policies may require an endorsement. A statement on this certificate does not confer rights to the certificate holder in lieu of such endorsement(s).

PRODUCER		CONTACT NAME: Ty Hartley	
All Insured Group		PHONE (A/C, No, Ext): (432)349-0398	FAX (A/C, No): (940)468-7273
14550 Spring Cypress RD Suite B		E-MAIL ADDRESS: ty@hartley-usa.com	
Cypress TX 77429		INSURER(S) AFFORDING COVERAGE	
INSURED		INSURER A: CONTINENTAL INS CO	
TEC Excavation Inc		INSURER B: CONTINENTAL CAS CO	
PO BOX 80455		INSURER C: TEXAS MUTUAL INS COMPANY	
Midland TX 79708		INSURER D:	
		INSURER E:	
		INSURER F:	

COVERAGES**CERTIFICATE NUMBER:****REVISION NUMBER:**

THIS IS TO CERTIFY THAT THE POLICIES OF INSURANCE LISTED BELOW HAVE BEEN ISSUED TO THE INSURED NAMED ABOVE FOR THE POLICY PERIOD INDICATED. NOTWITHSTANDING ANY REQUIREMENT, TERM OR CONDITION OF ANY CONTRACT OR OTHER DOCUMENT WITH RESPECT TO WHICH THIS CERTIFICATE MAY BE ISSUED OR MAY PERTAIN, THE INSURANCE AFFORDED BY THE POLICIES DESCRIBED HEREIN IS SUBJECT TO ALL THE TERMS, EXCLUSIONS AND CONDITIONS OF SUCH POLICIES. LIMITS SHOWN MAY HAVE BEEN REDUCED BY PAID CLAIMS.

INSR LTR	TYPE OF INSURANCE	ADDL INSD	SUBR WVD	POLICY NUMBER	POLICY EFF (MM/DD/YYYY)	POLICY EXP (MM/DD/YYYY)	LIMITS
A	☒ COMMERCIAL GENERAL LIABILITY ☐ CLAIMS-MADE ☒ OCCUR GEN'L AGGREGATE LIMIT APPLIES PER: ☐ POLICY ☒ PROJECT ☐ LOC ☒ OTHER: POLLUTION	Y	Y	6081573553	08/14/2023	08/14/2024	EACH OCCURRENCE \$ 1,000,000 DAMAGE TO RENTED PREMISES (Ea occurrence) \$ 100,000 MED EXP (Any one person) \$ 15,000 PERSONAL & ADV INJURY \$ 1,000,000 GENERAL AGGREGATE \$ 2,000,000 PRODUCTS - COMP/OP AGG \$ 2,000,000 OCCURRENCE/AGGF \$ 1 MIL/2MIL
A	AUTOMOBILE LIABILITY ☒ ANY AUTO OWNED AUTOS ONLY ☐ SCHEDULED AUTOS ☒ HIRED AUTOS ONLY ☒ NON-OWNED AUTOS ONLY	Y	Y	6081573567	08/14/2023	08/14/2024	COMBINED SINGLE LIMIT (Ea accident) \$ 1,000,000 BODILY INJURY (Per person) \$ BODILY INJURY (Per accident) \$ PROPERTY DAMAGE (Per accident) \$
A	☒ UMBRELLA LIAB ☒ OCCUR ☐ EXCESS LIAB ☐ CLAIMS-MADE DED ☒ RETENTION \$ 10000	Y	Y	6081573570	08/14/2023	08/14/2024	EACH OCCURRENCE \$ 5,000,000 AGGREGATE \$ 5,000,000 PR/COMP OPS AGG \$ 5,000,000
C	WORKERS COMPENSATION AND EMPLOYERS' LIABILITY ANY PROPRIETOR/PARTNER/EXECUTIVE OFFICER/MEMBER EXCLUDED? (Mandatory in NH) If yes, describe under DESCRIPTION OF OPERATIONS below.	Y/N N	N/A	Y	0001116944	05/10/2023	05/10/2024 ☒ PER STATUTE ☐ OTHER E.L. EACH ACCIDENT \$ 1,000,000 E.L. DISEASE - EA EMPLOYEE \$ 1,000,000 E.L. DISEASE - POLICY LIMIT \$ 1,000,000
B	Commercial Inland Marine EQUIPMENT FLOATER	Y	Y	6081576209	08/14/2023	08/14/2024	SCHEDULED 3,478,307

DESCRIPTION OF OPERATIONS / LOCATIONS / VEHICLES (ACORD 101, Additional Remarks Schedule, may be attached if more space is required)

The General Liability, Business Automobile, and Commercial Umbrella policies contain an automatic blanket additional insured endorsement, in favor of the certificate holder when required by a written contract.

All policies contain an automatic blanket waiver of subrogation endorsement in favor of the certificate holder when required by a written contract.

The Commercial General Liability is Primary and Non-Contributory.

30 Day Notice of cancellation.

CERTIFICATE HOLDER**CANCELLATION**

CITY OF MIDLAND

300 N LORAIN

MIDLAND

TX 79701

SHOULD ANY OF THE ABOVE DESCRIBED POLICIES BE CANCELLED BEFORE THE EXPIRATION DATE THEREOF, NOTICE WILL BE DELIVERED IN ACCORDANCE WITH THE POLICY PROVISIONS.

AUTHORIZED REPRESENTATIVE

PACKET

ACORD 25 (2016/03)

5.39

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September 12, 2023

**ADDITIONAL REMARKS SCHEDULE**Page 1 of 1

AGENCY All Insured Group		NAMED INSURED TEC Excavation Inc	
POLICY NUMBER SEE PAGE 1		Twyla Clutter	
CARRIER SEE PAGE 1		NAIC CODE	P.O. Box 80455
			Midland, Tx 79708
		EFFECTIVE DATE:	SEE PAGE 1

ADDITIONAL REMARKS**THIS ADDITIONAL REMARKS FORM IS A SCHEDULE TO ACORD FORM,****FORM NUMBER:** Acord 25 **FORM TITLE:** Certificate of Liability Insurance

PROJECT: BRIARWOOD WATER & WASTEWATER UTILITY EXPANSION

ADDITIONAL INSURED:

PARKHILL SMITH & COOPER
1700 W. WALL ST.
MIDLAND, TX. 79701

TEC EXCAVATION, INC.

P.O. BOX 80455
MIDLAND, TX 79708
TELEPHONE (432) 687-5346

FAX (432) 687-2934

FEDERAL I.D. NO. 52-2374490

To Whom It May Concern:

Per your request, please review the following qualifications for the officers and job superintendent's of TEC Excavation, Inc.

TWYLA CLUTTER, PRESIDENT
8502 FM 307
MIDLAND, TX 79706

Twyla has been involved in the underground utility business for over 50 years. Her work experience includes handling daily operations including payroll, accounts payable / receivable, new hires, contracts, insurance, taxes. Previous employers include: T&E Excavating, Southwest Utility Contractors, Rhode Construction Co., Inc.

TERRY CLUTTER, VICE-PRESIDENT / SECRETARY TREASURER
8502 FM 307
MIDLAND, TX 79706

Terry has been involved in the underground utility business for over 50 years. His work experience includes handling daily operations including pipe-laying, equipment operator, project management, scheduling, General Superintendent overseeing all projects. Previous employers include: T&E Excavating, Southwest Utility Contractors, Rhode Construction Co., Inc., Key Enterprises, Inc., Price Construction Co. LTD.

ERIC CLUTTER, VICE-PRESIDENT
4010 GODFREY ST.
MIDLAND, TX 79707

Eric has been involved in the underground utility business for over 30 years. His work experience includes handling daily operations including pipe-laying, equipment operator, project management, scheduling, estimating, purchasing, for all projects. Previous employers include: Rhode Construction Co., Inc., Key Enterprises, Inc., Deavers Construction Co., L.P.

JOB SUPERINTENDENT'S/SAFETY OFFICER – Tyler Clutter, Logan Bennett, Juan Aleman Jr., Esteban Zubia

Job Superintendents have been involved in the underground utility business for over 30 years. Their work experience includes pipe-laying, equipment operator, job supervisor. All have been involved in building water & sewer projects ranging from \$1,000.00 to \$5,000,000.00 in value. Previous employers include: Rhode Construction Co., Inc., Key Enterprises, Inc., A&B Construction, RES Earth & Cable, Scott Thane Ditching.

Schedule C—Key Individuals

Project Manager			
Name of individual		ERIC CLUTTER	
Years of experience as project manager		30 +	
Years of experience with this organization		22	
Number of similar projects as project manager		NUMEROUS	
Number of similar projects in other positions			
Current Project Assignments			
Name of assignment		Percent of time used for this project	Estimated project completion date
PROJECT MANAGER		AS MUCH AS NEEDED	365 DAYS FROM NTP
Reference Contact Information (listing names indicates approval to contact named individuals as a reference)			
Name	JOSH FERGUSON	Name	
Title/Position	CITY ENGINEER	Title/Position	
Organization	CITY OF MIDLAND	Organization	
Telephone	432-685-7290	Telephone	
Email	jferguson@midlandtexas.gov	Email	
Project	NUMEROUS	Project	
Candidate's role on project		Candidate's role on project	
Project Superintendent			
Name of individual		JUAN ALEMAN JR.	
Years of experience as project superintendent		15 +	
Years of experience with this organization		20 YRS	
Number of similar projects as project superintendent		NUMEROUS	
Number of similar projects in other positions			
Current Project Assignments			
Name of assignment		Percent of time used for this project	Estimated project completion date
PROJECT SUPERINTENDENT		100 %	365 DAYS FROM NTP
Reference Contact Information (listing names indicates approval to contact named individuals as a reference)			
Name	CLINT HARMON	Name	
Title/Position	INSPECTOR	Title/Position	
Organization	CITY OF MIDLAND	Organization	
Telephone	432-557-8296	Telephone	
Email	charmon@midlandtexas.gov	Email	
Project	NUMEROUS	Project	
Candidate's role on project		Candidate's role on project	

Safety Manager			
Name of individual		TYLER CLUTTER	
Years of experience as project manager		10	
Years of experience with this organization		20	
Number of similar projects as project manager		NUMEROUS	
Number of similar projects in other positions			
Current Project Assignments			
Name of assignment		Percent of time used for this project	Estimated project completion date
SAFETY MANAGER		AS NEEDED	365 DAYS FROM NTP
Reference Contact Information (listing names indicates approval to contact named individuals as a reference)			
Name	JESSE TREJO	Name	
Title/Position	CONSTRUCTION SUPERVISOR	Title/Position	
Organization	CITY OF MIDLAND	Organization	
Telephone	432-685-7905	Telephone	
Email	jtremo@midlandtexas.gov	Email	
Project	NUMEROUS	Project	
Candidate's role on project		Candidate's role on project	
Quality Control Manager			
Name of individual		ERIC CLUTTER, SAME EXPERIENCE INFO. AS ABOVE	
Years of experience as project superintendent			
Years of experience with this organization			
Number of similar projects as project superintendent			
Number of similar projects in other positions			
Current Project Assignments			
Name of assignment		Percent of time used for this project	Estimated project completion date
Reference Contact Information (listing names indicates approval to contact named individuals as a reference)			
Name		Name	
Title/Position		Title/Position	
Organization		Organization	
Telephone		Telephone	
Email		Email	
Project		Project	
Candidate's role on project		Candidate's role on project	

MI Type text here

Schedule A -- Current Projects SEE ATTACHED

Name of Organization		Project Name	
Project Owner			
General Description of Project			
Project Cost		Date Project	
Key Project Personnel		Project Superintendent	
Name		Safety Manager	
Quality Control Manager			
Reference Contact Information (listing names indicates approval to contacting the names individuals as a reference)			
Name		Title/Position	
Organization		Telephone	
Owner			
Designer			
Construction Manager			
Project Owner			
Project Name			
General Description of Project			
Project Cost		Date Project	
Key Project Personnel		Project Superintendent	
Project Manager		Safety Manager	
Quality Control Manager			
Reference Contact Information (listing names indicates approval to contacting the names individuals as a reference)			
Name		Title/Position	
Organization		Telephone	
Owner			
Designer			
Construction Manager			
Project Owner			
Project Name			
General Description of Project			
Project Cost		Date Project	
Key Project Personnel		Project Superintendent	
Project Manager		Safety Manager	
Quality Control Manager			
Reference Contact Information (listing names indicates approval to contacting the names individuals as a reference)			
Name		Title/Position	
Organization		Telephone	
Owner			
Designer			
Construction Manager			
Project Owner			
Project Name			
General Description of Project			
Project Cost		Date Project	
Key Project Personnel		Project Superintendent	
Project Manager		Safety Manager	
Quality Control Manager			
Reference Contact Information (listing names indicates approval to contacting the names individuals as a reference)			
Name		Title/Position	
Organization		Telephone	
Owner			
Designer			
Construction Manager			

Schedule B—Previous Experience with Similar Projects

Name of Organization		Project Name	
Project Owner			
General Description of Project			
Project Cost		Date Project	
Key Project Personnel		Project Superintendent	
Name	Project Manager	Safety Manager	Quality Control Manager
Reference Contact Information (listing names indicates approval to contacting the names individuals as a reference)			
Owner	Name	Title/Position	Organization
Designer			Telephone
Construction Manager			Email
Project Owner			
General Description of Project		Project Name	
Project Cost		Date Project	
Key Project Personnel		Project Superintendent	
Name	Project Manager	Safety Manager	Quality Control Manager
Reference Contact Information (listing names indicates approval to contacting the names individuals as a reference)			
Owner	Name	Title/Position	Organization
Designer			Telephone
Construction Manager			Email
Project Owner			
General Description of Project		Project Name	
Project Cost		Date Project	
Key Project Personnel		Project Superintendent	
Name	Project Manager	Safety Manager	Quality Control Manager
Reference Contact Information (listing names indicates approval to contacting the names individuals as a reference)			
Owner	Name	Title/Position	Organization
Designer			Telephone
Construction Manager			Email
Project Owner			
General Description of Project		Project Name	
Project Cost		Date Project	
Key Project Personnel		Project Superintendent	
Name	Project Manager	Safety Manager	Quality Control Manager
Reference Contact Information (listing names indicates approval to contacting the names individuals as a reference)			
Owner	Name	Title/Position	Organization
Designer			Telephone
Construction Manager			Email

TEC EXCAVATION, INC.
P.O. BOX 80455
MIDLAND, TX 79708

PROJECTS COMPLETED

08/22/2023

PACKET

PROJECT	PROJECT DESCRIPTION	GENERAL CONTRACTOR	OWNER	CONTRACT AMOUNT	COMPLETION DATE
GREATHOUSE ADDITION SECT. 7	WATER & SANITARY SEWER IMPROVEMENTS	TEC EXCAVATION, INC.	LOS CONCHOS LLC.	\$ 898,948.00	January-14
WESTRIDGE SECT. 23	WATER & SANITARY SEWER IMPROVEMENTS	TEC EXCAVATION, INC.	SBC, L.P.	\$ 589,000.00	February-14
UNIVERSAL PRESSURE PUMPING	WATERLINE IMPROVEMENTS	TEC EXCAVATION, INC.	UNIVERSAL PRESSURE PUMPING	\$ 465,000.00	March-14
STONEBRIDGE SECT. 2	WATER & SANITARY SEWER IMPROVEMENTS	TEC EXCAVATION, INC.	INNOVATIVE LAND DEVELOPMENT	\$ 290,000.00	April-14
LOS CONCHOS PH. 2	WATERLINE IMPROVEMENTS	TEC EXCAVATION, INC.	LOS CONCHOS LLC.	\$ 287,000.00	May-14
CITY OF MIDLAND WATER/ SEWER TAPS	WATER & SANITARY SEWER IMPROVEMENTS	TEC EXCAVATION, INC.	CITY OF MIDLAND	\$ 1,625,000.00	May-14
WESTRIDGE SECT. 27	WATER & SANITARY SEWER IMPROVEMENTS	TEC EXCAVATION, INC.	SBC HOMES	\$ 130,000.00	May-14
MAYFIELD SECTION 7	WATER & SANITARY SEWER IMPROVEMENTS	TEC EXCAVATION, INC.	BERNAL HOMES	\$ 420,370.00	May-15
CITY OF MIDLAND UTILITY EXTENSION PROJECT	WATER & SANITARY SEWER IMPROVEMENTS	TEC EXCAVATION, INC.	CITY OF MIDLAND	\$ 1,500,000.00	October-14
FAUDREE RD. & SEWERLINE "P" EXTENSION	35,000 LF OF 24", 18" & 12" WATERLINE, 4,500 LF OF 24" SEWER 24' DEPTH	TEC EXCAVATION, INC.	CITY OF ODESSA	\$ 4,500,000.00	October-14
GREENWOOD ISD PORTABLE WATER WELLS & WATERLINE	18,000 LF OF 6" WATERLINE & 2 EA WATER WELLS	TEC EXCAVATION, INC.	GREENWOOD I.S.D.	\$ 540,000.00	May-15
HERITAGE OAKS SECTION 5	WATER & SEWER IMPROVEMENTS	TEC EXCAVATION, INC.	MARK PAYNE	\$ 434,000.00	January-15
CHEVRON HEADQUARTERS BUILDING	WATER & SANITARY SEWER IMPROVEMENTS	SWINERTON BUILDERS	CHEVRON	\$ 1,300,000.00	January-16

TEC EXCAVATION, INC.
P.O. BOX 80455
MIDLAND, TX 79708

PROJECTS COMPLETED

08/22/2023

PAC

DOUGLAS & D ST. WATER/SEWER IMPROVEMENTS	WATER/SEWER IMPROVEMENTS	TEC EXCAVATION, INC.	CITY OF MIDLAND	\$	800,000.00	September-15
3RD ST. WATERLINE	WATERLINE IMPROVEMENTS	TEC EXCAVATION, INC.	CITY OF ODESSA	\$	530,000.00	October-15
SOUTHWEST CROSSING	WATER/SEWER IMPROVEMENTS	TEC EXCAVATION, INC.	SOUTHWEST CROSSING LLC	\$	1,700,000.00	January-16
MIDKIFF WATERLINE EXT.	WATERLINE IMPROVEMENTS	TEC EXCAVATION, INC.	CITY OF MIDLAND	\$	1,428,000.00	April-16
ECUD 12" WATERLINE	WATERLINE IMPROVEMENTS	TEC EXCAVATION, INC.	ECUD	\$	653,000.00	April-16
SCHARBAUER SPORTS COMPLEX	WATER/SEWER STORM DRAIN IMPROVEMENTS	MID-TEX OF MIDLAND	CITY OF MIDLAND	\$	275,000.00	March-17
CITY OF MIDLAND TAPS & EXTENSION PROJECT	WATER/SEWER IMPROVEMENTS	TEC EXCAVATION, INC.	CITY OF MIDLAND	\$	3,000,000.00	August-17
GREATHOUSE SECTION 2	WATER/SEWER IMPROVEMENTS	TEC EXCAVATION, INC.	LOS CONCHOS LLC.	\$	1,257,000.00	January-18
YUKON RD. EXTENSION	WATER/SEWER IMPROVEMENTS	TEC EXCAVATION, INC.	PARKS BELL	\$	390,000.00	July-17
WESTERN SKIES	WATERLINE IMPROVEMENTS	TEC EXCAVATION, INC.	ECTOR COUNTY	\$	230,813.00	July-17
UTPB SEWER EXPANSION	SEWERLINE IMPROVEMENTS	MID-TEX OF MIDLAND	UTPB	\$	208,590.00	July-17
MIDLAND DRAW MANHOLE REHABILITATION	SEWERLINE IMPROVEMENTS	TEC EXCAVATION, INC.	CITY OF MIDLAND	\$	659,000.00	July-18
CITY OF MIDLAND UTILITY EXTENSION PROJECT PH. 2	WATER/SEWER IMPROVEMENTS	TEC EXCAVATION, INC.	CITY OF MIDLAND	\$	1,400,000.00	July-18
PARKS ST. PAVING, GRADING & DRAINAGE PROJECT	PAVING, GRADING, DRAINAGE, WATER/SEWER IMPROVEMENTS	TEC EXCAVATION, INC.	CITY OF BRECKENRIDGE	\$	4,009,417.00	November-19
ROLLINGWIND HILLS	WATER/SEWER IMPROVEMENTS	TEC EXCAVATION, INC.	BURNETT CONSTRUCTION	\$	812,000.00	July-19
GRADY ISD	WATER/SEWER IMPROVEMENTS	TEC EXCAVATION, INC.	GRADY ISD	\$	260,303.00	July-19
LOUISIANA AVE. WATERLINE	WATERLINE IMPROVEMENTS	TEC EXCAVATION, INC.	CITY OF MIDLAND	\$	1,231,500.00	May-19
ELLIS FUNERAL HOME	WATER & SANITARY SEWER IMPROVEMENTS	NC STURGEON	ELLIS FUNERAL HOME	\$	202,270.00	January-22

TEC EXCAVATION, INC.
P.O. BOX 80455
MIDLAND, TX 79708

PROJECTS COMPLETED

08/22/2023

PACK 1

ODESSA FIRE STA. 6	WATER & SANITARY SEWER IMPROVEMENTS	MW BUILDERS OF TEXAS	CITY OF ODESSA	\$	87,500.00	May-22
STONE CREEK	WATER & SANITARY SEWER IMPROVEMENTS	JACOBY HOPPER	CITY OF COAHOMA	\$	98,948.00	January-22
FLORIDA/COTTON FLAT WL	WATERLINE IMPROVEMENTS	TEC EXCAVATION, INC.	CITY OF MIDLAND	\$	480,091.00	April-22
191 INDUSTRIAL PARK 6	WATER & SANITARY SEWER IMPROVEMENTS	TEC EXCAVATION, INC.	ROBERT ANDERSON	\$	643,273.00	May-22
GARFIELD WATERLINE IMPROV.	WATERLINE IMPROVEMENTS	TEC EXCAVATION, INC.	CITY OF MIDLAND	\$	524,872.00	May-22
PARK HEIGHTS WATER/SEWER IMPROVEMENTS	WATER/SEWER IMPROVEMENTS	TEC EXCAVATION, INC.	CITY OF MIDLAND	\$	1,278,000.00	December-22
5149 SOLOMON LANE	WATERLINE IMPROVEMENTS	TEC EXCAVATION, INC.	CITY OF MIDLAND	\$	1,693,000.00	November-22
PROSPERITY BANK	WATER/SEWER IMPROVEMENTS	COLLIER CONSTRUCTION	PROSPERITY BANK	\$	192,000.00	November-22
WADLEY MANHOLE REPLACEMENTS	SEWERLINE IMPROVEMENTS	TEC EXCAVATION, INC.	CITY OF MIDLAND	\$	1,094,000.00	February-23
GRASSLAND ADDITION SECTION 14	WATER/SEWER IMPROVEMENTS	TEC EXCAVATION, INC.	ROBERT GRAHAM	\$	1,300,000.00	March-23
ODESSA COLLEGE WOOD SCIENCE BLDG.	WATERLINE IMPROVEMENTS	MW BUILDERS	ODESSA COLLEGE	\$	80,000.00	May-23
ATLANTA, JEFFERSON, ANDERSON WATER IMPROVEMENTS	WATERLINE IMPROVEMENTS	TEC EXCAVATION, INC.	CITY OF MIDLAND	\$	810,000.00	July-23

September 12, 2023

TEC EXCAVATION, INC.
P.O. BOX 80455
MIDLAND, TX 79708

CURRENT PROJECTS UNDER CONTRACT

08/22/2023

PACKET

PROJECT	PROJECT DESCRIPTION	GENERAL CONTRACTOR	OWNER	CONTRACT AMOUNT	% COMPLETE
MAIN ST. UTILITY BOND PROJECT	WATERLINE IMPROVEMENTS	TEC EXCAVATION, INC.	CITY OF MIDLAND	\$ 3,554,000.00	5%
PECK/TERREL SEWER IMPROVEMENTS	SEWERLINE IMPROVEMENTS	TEC EXCAVATION, INC.	CITY OF MIDLAND	\$ 935,000.00	25%
COMPASS 04 BOND PROJECT	WATERLINE IMPROVEMENTS	REECE ALBERT, INC.	CITY OF MIDLAND	\$ 397,710.00	95%

550

September 12, 2023

TEC EXCAVATION, INC.
P.O. BOX 80455
MIDLAND, TX 79708

SH191 WASTEWATER MAIN EXTENSION
PROJECT SCHEDULE

432-682-2619 PH.
432-684-1151 FAX

TASK	DURATION	START	FINISH
MOBILIZATION	5 DAYS	NTP	TBD
INSTALL EROSION CONTROLS	10 DAYS	TBD	TBD
WATER LINE IMPROVEMENTS/W.W. LINE STA. 0+00-2+50	135 DAYS	TBD	TBD
W.W. LINE IMPROVEMENTS STA. 2+50 – 87+75	180 DAYS	TBD	TBD
CLEAN UP / PROJECT CLOSEOUT	30 DAYS	TBD	TBD
CONTRACT TIME	360 DAYS		

TEC EXCAVATION, INC.

BALANCE SHEETS
(See independent accountant's review report)

SEPTEMBER 30, 2022 AND 2021

ASSETS

	2022	2021
Current assets		
Cash	\$ 679,039	\$ 949,839
Certificate of deposit	105,901	105,880
Securities available-for-sale at fair value	56,112	70,745
Accounts receivable - trade	1,637,849	729,933
Employee receivable	2,675	2,750
Prepaid expenses	29,968	128,098
Revenue recognized in excess of billings	97,988	23,075
Total current assets	<u>2,609,532</u>	<u>2,010,320</u>
Property and equipment		
Land	133,850	133,850
Buildings and improvements	203,135	203,135
Furniture and fixtures	20,988	20,988
Machinery and other equipment	6,057,200	5,938,014
Transportation equipment	775,313	1,189,141
	<u>7,190,486</u>	<u>7,485,128</u>
Less accumulated depreciation	<u>(6,402,150)</u>	<u>(6,766,501)</u>
Total property and equipment	<u>788,336</u>	<u>718,627</u>
Other assets		
Stockholder receivable	478,797	185,616
Deferred tax benefit		146,164
Total other assets	<u>478,797</u>	<u>331,780</u>
Total assets	<u>\$ 3,876,665</u>	<u>\$ 3,060,727</u>

LIABILITIES AND STOCKHOLDERS' EQUITY

	2022	2021
Current liabilities		
Accounts payable - trade	\$ 278,062	\$ 292,245
Accrued Texas Margin tax	9,477	
Accrued bonuses	85,450	83,950
Accrued expenses	1,651	99,745
Billings in excess of revenue recognized	114,172	76,180
Federal income tax payable	29,032	
Current maturities of long-term debt	38,756	38,464
Total current liabilities	556,600	590,584
Other liabilities		
Long-term debt, less current maturities	54,417	92,657
Deferred income taxes	48,255	
Loans from stockholders	55,000	55,000
Total other liabilities	157,672	147,657
Stockholders' equity		
Common stock		
Authorized 1,000,000 shares, \$1 par value,		
1,000 issued and outstanding	1,000	1,000
Additional paid-in capital	20,507	20,507
Retained earnings	3,137,530	2,282,309
	3,159,037	2,303,816
Accumulated other comprehensive income unrealized gain (loss) on securities available-for-sale, net of deferred income taxes of \$892 and \$4,963	3,356	18,670
Total stockholders' equity	3,162,393	2,322,486
Total liabilities and stockholders' equity	\$ 3,876,665	\$ 3,060,727

TEC EXCAVATION, INC.

STATEMENTS OF INCOME AND COMPREHENSIVE INCOME
(See independent accountant's review report)

YEARS ENDED SEPTEMBER 30, 2022 AND 2021

	2022	2021
Contract revenues earned	\$ 7,296,256	\$ 4,286,920
Cost of revenues earned	<u>5,746,977</u>	<u>4,709,036</u>
Gross profit (loss)	1,549,279	(422,116)
General and administrative expenses	<u>587,332</u>	<u>517,043</u>
Income (loss) from operations	<u>961,947</u>	<u>(939,159)</u>
Other income (expense)		
Interest income	49	54
Dividend income	517	502
Gain on sale of assets	128,300	62,178
Gain on sale of securities	4,409	2,255
Miscellaneous income	1,000	3,291
Interest expense	<u>(4,003)</u>	<u>(5,347)</u>
Total other income (expense)	<u>130,272</u>	<u>62,933</u>
Income (loss) before taxes	1,092,219	(876,226)
Provision (benefit) for income taxes	<u>236,998</u>	<u>(183,751)</u>
Net income (loss)	<u>855,221</u>	<u>(692,475)</u>
Other comprehensive income		
Unrealized holding gains (losses) arising during period (net of tax of \$(4,071) and \$2,554)	(15,257)	9,631
Reclassification adjustment for (gain) loss included in net income (loss)	<u>(57)</u>	<u>(24)</u>
	<u>(15,314)</u>	<u>9,607</u>
Comprehensive income (loss)	<u>\$ 839,907</u>	<u>\$ (682,868)</u>

TEC EXCAVATION, INC.

STATEMENTS OF STOCKHOLDERS' EQUITY
(See independent accountant's review report)

YEARS ENDED SEPTEMBER 30, 2022 AND 2021

	Common Stock	Additional Paid-in Capital	Retained Earnings	Accumulated Other Comprehensive Income	Total
Balance, 9-30-2020	\$ 1,000	\$ 20,507	\$ 2,974,784	\$ 9,063	\$ 3,005,354
Net income (loss)			(692,475)		(692,475)
Change in unrealized gain (loss) on securities available-for-sale net of tax of \$2,554				9,607	9,607
Balance, 9-30-2021	1,000	20,507	2,282,309	18,670	2,322,486
Net income (loss)			855,221		855,221
Change in unrealized gain (loss) on securities available-for-sale net of tax of \$(4,071)				(15,314)	(15,314)
Balance, 9-30-2022	<u>\$ 1,000</u>	<u>\$ 20,507</u>	<u>\$ 3,137,530</u>	<u>\$ 3,356</u>	<u>\$ 3,162,393</u>

TEC EXCAVATION, INC.

STATEMENTS OF CASH FLOWS
(See independent accountant's review report)

YEARS ENDED SEPTEMBER 30, 2022 AND 2021

	2022	2021
Cash flow from operating activities:		
Net income (loss)	\$ 855,221	\$ (692,475)
Adjustments to reconcile net income to net cash provided by operating activities:		
Depreciation	183,088	203,276
(Gain) on sale of assets	(128,300)	(62,178)
(Gain) on sale of securities	(4,409)	(2,255)
(Increase) decrease:		
Accounts receivable	(907,916)	23,394
Employee receivable	75	1,934
Prepaid expenses	(12,574)	13,674
Revenue recognized in excess of billing	(74,913)	305,957
Increase (decrease):		
Accounts payable - trade	(14,183)	148,747
Accrued Texas Margin tax	9,477	(1,824)
Accrued bonuses	1,500	
Accrued expenses	12,612	4,524
Billings in excess of revenue recognized	37,992	76,180
Federal income tax payable	29,032	
Deferred income taxes	198,489	(183,751)
Net cash provided (used) from operating activities	185,191	(164,797)
Cash flow from investing activities:		
Purchase of property and equipment	(252,797)	(15,477)
Increase in certificates of deposit	(21)	(16)
Proceeds from sale of property and equipment	128,300	98,204
Purchase of securities available-for-sale	(4,846)	(2,690)
Proceeds on sale of securities	4,504	2,364
Increase in stockholder receivable	(293,181)	
Net cash provided (used) from investing activities	(418,041)	82,385

TEC EXCAVATION, INC.

STATEMENTS OF CASH FLOWS
(See independent accountant's review report)

YEARS ENDED SEPTEMBER 30, 2022 AND 2021
(Continued)

	<u>2022</u>	<u>2021</u>
Cash flow from financing activities:		
Reduction in notes payable	<u>(37,950)</u>	<u>(58,044)</u>
Net cash flow provided (used) from financing activities	<u>(37,950)</u>	<u>(58,044)</u>
Net increase (decrease) in cash	(270,800)	(140,456)
Cash and cash equivalents, beginning of year	<u>949,839</u>	<u>1,090,295</u>
Cash and cash equivalents, end of year	<u>\$ 679,039</u>	<u>\$ 949,839</u>
Supplementary disclosures of cash flow information:		
Cash paid during the year for:		
Interest	<u>\$ 4,003</u>	<u>\$ 5,347</u>
Income taxes	<u>\$</u>	<u>\$ 1,824</u>
Supplementary disclosures of noncash investing and financing activities:		
Property and equipment acquired by issuance of long-term debt	<u>\$</u>	<u>\$ 88,761</u>

IMPORTANT: READ CAREFULLY BEFORE MAKING BID
GENERAL CONDITIONS OF BIDDING

1. All Bids are to be submitted as specified in the procurement document(s).
2. Each Bidder is requested to provide: Descriptive literature clearly marked to show each item on this Bid. Any catalog or manufacturer's reference in this Bid is descriptive, but not restrictive, and is used only to indicate type and quality. If, however, the Bidder proposes similar but not identical terms, he must furnish all particulars. If no mention is made of any exceptions, it is assumed that he is bidding on the article specified and not on an approved equal and he will be required to deliver exact article specified.
3. Prices should be itemized. (Indicate unit price and extend to show total price.) In case of discrepancy between the unit price and the extension, the unit price shall govern.
4. Unit price for each item offered shall include all discounts; e.g., trade, seasonal, etc. with net 30 days payment terms. Discounts shall not be shown as such but shall be incorporated in the base Bid price. Any Bid showing discounts will be considered an alternate Bid. The City of Midland will not be responsible for any goods delivered without a purchase order number.
5. If the Contract is awarded, it will be awarded to either the lowest responsible Bidder, or to the Bidder who provides goods or services at the best value for the City of Midland. In determining the best value for the City of Midland, the City of Midland may consider the criteria enumerated in Section 252.043 of the Texas Local Government Code. The City of Midland reserves the right to award by item or by total Bid, or to reject any or all Bids or parts of Bids. Further, the City of Midland reserves all rights granted by Section 271.027 of the Texas Local Government Code. The City of Midland reserves the right to award the Bid to the lowest responsible Bidder.
6. Time of proposed delivery shall be stated in number of calendar days.
7. NOTE: The City of Midland, Texas is exempt from all Federal, State, and City tax. Please do not include these taxes in your bid price or invoice. Taxable items must be so designated, and the City will supply vendor with a Tax Exemption Certificate, properly executed.
8. All items are to be delivered F.O.B. to the City of Midland, Texas with freight prepaid and included in the Bid.
9. Detailed specifications rule over General specifications (headings, etc.)
10. No officer or employee of the City shall have a financial interest, direct or indirect, in any contract with the City, or be financially interested, directly or indirectly, in the sale to the City of any lands, materials, supplies or services except as allowed under chapter 176 of the Local Government Code. Form CIQ shall be submitted and placed on file with the City of Midland.
11. The City shall determine the most advantageous Bid for the City and accept the Bid of the responsible party submitting the lowest and/or most advantageous Bid or reject any and all Bids.
12. The City of Midland, Texas may consider as informal any Bid not prepared and submitted in accordance with the provisions hereof, and may waive, in its sole discretion, any informalities.

REQUEST FOR BIDS (RFB)

CITY OF MIDLAND BRIARWOOD WATER AND WASTEWATER UTILITY EXTENSION BID PACKAGE

The City of Midland (Owner) is now accepting Bids in order to evaluate pricing and qualifications of a contractor to construct the work identified as Briarwood Water and Wastewater Utility Extension Bid Package Project. Sealed Bids will be received until **TBD**. Bidders shall deliver sealed Bids to the Owner at the following address:

**City of Midland
Office of the City Secretary
300 N. Loraine, 3rd Floor
Midland, Texas 79701**

Bid Documents may be obtained from the Engineer by emailing bids@parkhill.com, or from Civcast at www.civcastusa.com. Bidders may examine the Bid Documents at the Engineer's Office, Parkhill, 1700 W. Wall Street, Midland, Texas, 432.697.1447, Monday through Friday between the hours of 8:00 a.m. and 5:00 p.m. Neither Owner nor Engineer will be responsible for full or partial sets of Bidding Documents, including addenda, if any, obtained from sources other than the Issuing Office.

GENERAL INFORMATION AND OVERVIEW

The purpose of this RFB is to contract with a firm to construct the Briarwood Water and Wastewater Utility Extension, Parkhill Project #4011622. The general scope of work to be performed includes but is not limited to:

- The extension of an 24-inch gravity wastewater main and associated appurtenances from Golden Gate Avenue approximately 8,900 feet west to Highway 158, and the extension of a 16-inch water main and associated appurtenances from near North County Road 1248 approximately 3,800 feet west to Trobaugh Boulevard.

The City of Midland reserves the right to reject any or all Bids or to waive any informalities in the Bids.

BID PROCESS:

1. Requests for Information/Clarification (RFI/C's) shall be submitted to the Engineer, in writing and as indicated, no later than 72 hours prior to the RFB submittal deadline. Specific information regarding this RFB must be requested in writing to:

Kevin W. Krueger, PE
Parkhill
1700 West Wall Street, Suite 100
Midland, Texas 79701
Phone: 432.697.1447
Email: kekruieger@parkhill.com

2. Written responses to RFI/C's will be made available to all Respondents no later than 24 hours prior to the RFB Submittal Deadline.
3. Bid packages must be hand delivered, mailed, or shipped by means of a delivery tracking system to confirm delivery time, date, and person signing for delivery.
4. Bids will be opened at time and place indicated in the Advertisement, and unless obviously non-responsive, read aloud publicly. An abstract of amounts of base Bids and major alternates, if any, will be made available to Bidders after Bid opening.
5. The Owner shall exercise sole discretion as to the schedule and process of evaluating Bids according to the requirements contained herein.

Owner reserves right to reject any or all Bids, including without limitation, nonconforming, nonresponsive, unbalanced, or conditional Bids. Owner will reject Bid of any Bidder Owner finds, after reasonable inquiry and evaluation, not responsible. If Bidder purports to add terms or conditions to Bid, takes exception to any provision of Bidding Documents, or attempts to alter contents of Contract Documents for purposes of Bid, Owner will reject Bid as nonresponsive; provided Owner also reserves right to waive all minor informalities not involving price, time, or changes in Work.

If Owner awards contract for Work, award shall be to responsible Bidder submitting lowest, responsive Bid.

EVALUATION OF BIDS

1. In evaluating Bids, Owner will consider if Bids comply with prescribed requirements, and such alternates, unit prices, and other data, as requested in Bid Form or prior to Notice of Award.
2. For determination of apparent low Bidder(s), when base Bid with alternates are submitted, award may be made to Successful Bidder on base Bid and any combination of additive alternate Bids for which Owner determines funds will be available at time of award.
3. In evaluating if Bidder is responsible, Owner will consider Bidder qualifications and may consider qualifications and experience of subcontractors and Suppliers proposed for portions of Work identity of subcontractors and Suppliers must be submitted as provided in Bidding Documents.
4. Owner may conduct investigations as Owner deems necessary to establish responsibility, qualifications, and financial ability of Bidder and any proposed subcontractor or Supplier.

BID FORMAT & REQUIREMENTS:

1. The RFB shall be the basis for each Bid.
2. Bids shall be addressed to the Owner, as indicated, in a sealed package that shall be independent of the mailing/shipping packages. The Bid package shall be clearly marked as "City of Midland, Briarwood Water and Wastewater Utility Extension, Bid Package" on the package label. The package label shall include the name and address of the Respondent's company.
3. Bids shall be submitted in bound documents.
4. Bids sent by facsimile (fax) machine or by email shall be rejected as being non-responsive to the RFB.
5. Bid pricing shall be for the entirety of the work shown or specified and shall be listed on the Price Bid Sheet of this RFB.
6. All exclusions shall be listed in specific terms, quantities, and values.
7. No Respondent may withdraw its Bid within 60 days after the actual date of the opening thereof.
8. A Bid may be withdrawn by an appropriate document duly executed in the same manner that a Bid must be executed and delivered to the place where Bids are to be submitted prior to the date and time of the RFB submittal deadline. Upon receipt of such notice, the unopened Bid will be returned to the Respondent.
 - a. If a Respondent wishes to modify its Bid prior to the RFB submittal deadline, Respondent must withdraw its initial Bid in the manner specified and submit a new Bid prior to the date and time of the RFB submittal deadline.
 - b. If within 24 hours after Bids are opened any Respondent files a duly signed written notice with Owner and promptly thereafter demonstrates to the reasonable satisfaction of Owner that there was a material and substantial mistake in the preparation of its Bid, that Respondent may withdraw its Bid, and the Bid security will be returned. Thereafter, if the Work is rebid, that Bidder will be disqualified from further bidding on the Work.
9. Respondents shall satisfy themselves of the accuracy of the requirements in the RFB by examination of the sites in addition to the review of the specifications and addenda, if any. After Bids have been submitted, the Respondent shall not assert that there was a misunderstanding concerning the quantities of work or the nature of the work to be done. The RFB contains the provisions required for the construction of the Project. Information obtained from an officer, agent, or employee of the Owner or any other person shall not affect the risks or obligations assumed by the Respondent or relieve them from fulfilling any of the conditions of the Contract.
10. A certificate of insurance for general and automotive liability, and workers compensation in the amounts of at least \$1,000,000, \$250,000, and Statutory Limits respectively, naming Owner and Engineer as co-insured, shall be provided with the Bid. Bidder shall provide an insurance policy as an installation floater in an amount of no less than the value of the equipment and materials stored or pending start-up. Respondent's insurance company shall be required to give a minimum of 30 days prior notice of policy or coverage cancellation.

11. A PERFORMANCE and PAYMENT BOND, each in the amount of 100 percent (100%) of the Contract Price, issued by a corporate surety authorized to conduct business in the State of Texas under Article 7.19-1, Texas Insurance Code, will be required for the faithful performance of the contract. Attorneys-in-fact who sign PAYMENT BONDS and PERFORMANCE BONDS must file with each bond a certified and effective dated copy of the power of attorney. The party to whom the contract is awarded will be required to execute the Agreement and obtain the PERFORMANCE AND PAYMENT BONDS within ten (10) calendar days from the date when the NOTICE OF AWARD is delivered to the Bidder. The NOTICE OF AWARD shall be accompanied by the necessary Agreement, Bond Forms, and Certificate of Insurance. These bonds shall remain in effect until one year after the date when final payment becomes due or until completion of the correction period.
12. Bids shall include, at a minimum, the following sections and documentation in response to the RFB:
 - a. Request for Bid Document – A complete copy of the RFB, including addenda, if any, shall be submitted as a Bid Section, in its entirety, to include the Price Bid Sheet to be completed by the Respondent.
 - b. Pricing, as follows:
 - i. Pricing shall be submitted by item on the attached Price Bid Sheet. Failure to price all listed sites and items shall be considered non-responsive to the RFB.
 - ii. Pricing shall include all bid development costs, mobilization, labor, material, transportation, equipment, incidentals, appurtenances, demolition, removal, demobilization, overhead, and profit to cover the finished work specified in this RFB document, achieving a fully functional system.
 - iii. Pricing shall reflect the Owner's sales tax exempt status.
 - iv. Pricing shall include all freight and handling costs, F.O.B., Owner's destination.
 - v. Pricing shall include insurance and bonding costs.
 - c. Statement of Qualifications Section shall include the following minimum information:
 - i. Company Profile with listing of principals by percent ownership and their role in the company.
 - ii. Type of company – corporation, sole proprietorship, etc.
 - iii. Primary field of business interest (water/wastewater, industry, oil & gas, etc.), listed by percent of revenue.
 - iv. Date of Incorporation and/or start-up.
 - v. Number of years under the current ownership structure and business name.
 - vi. Number and location of offices and technical support centers.
 - vii. Percentage of this project, based on cost, that shall be:
 - Self-performed – completed by company personnel = what percent.
 - Sub-contracted – completed by personnel of other companies = what percent.
 - viii. Listing of all sub-contractors proposed to be used, including a complete Statement of Qualifications as required under this section to be completed by the sub-contractor.
 - ix. Number of employees (not subcontractor employees) dedicated to construction, integration, and technical support.

- x. Brief resume of each person to be assigned to this project, to include:
 - The individual's technical background as it relates to this project and related field of interest.
 - The individual's duration with the Bidder's company.
 - The individual's proximity to the Owner's facilities as a reasonable response expectation for technical and service support.
 - The individual's company of employment if different from the Respondent.
- xi. Areas of specialization including required licenses and certifications. Include copy of current TCEQ license(s).
- xii. Area of geographical coverage of related project and service activities.
- d. Reference Section shall include:
 - i. A listing of previous project references and experience shall be provided by the Bidder, information to include:
 - Name of entity.
 - Project name.
 - Contact person.
 - Phone number.
 - City of office.
 - Year work completed.
 - ii. A list of a minimum of three (3) similar projects that include the complexity and magnitude of work to be completed in this Project, and that have been completed by the Bidder. The list must include contact names, titles, addresses, email addresses, and telephone numbers for references.
- e. Project Schedule:
 - i. Include with your Bid a detailed project schedule from the Notice to Proceed for the timetable for completing the construction of the Work.
- f. Bid Bond with required Bid Security.

TERMS AND CONDITIONS:

- 1. The Owner hereby notifies all Respondents that:
 - a. The purchase contemplated by this RFB shall be procured in strict compliance with the local, state, and federal laws.
 - b. There is no pre-disposition of award to any particular company at the time of advertisement of this RFB.
 - c. An invitation to any Respondent, verbal or otherwise, does not waive any requirement set forth in this RFB.

- d. In regard to any agreement entered into pursuant to this document, minority business enterprises will be afforded equal opportunities to submit bids in response to this invitation and will not be discriminated against on the grounds of race, color, sex, age, religion, or national origin in consideration for an award.
2. The Owner reserves the right to reject any and/or all Bids, to waive any and all technicalities and to accept any Bid, or part thereof, which in the opinion of the Owner, is most advantageous to the Owner. In case of ambiguity or lack of clarity in stating the prices in the Bid, the Owner reserves the right to consider the most advantageous Bid thereof or to reject the Bid.
3. Respondents may modify their Bid by written addendum at any time prior to the scheduled receipt of Bids, provided such communication is received by the Owner prior to the closing hour of the Bid due date. The addendum should not reveal the Bid pricing but should provide the addition or subtraction or other modification so that the Owner will not know the final pricing or terms until the sealed Bid, and its addendum, is opened.
4. Owner will not provide interpretation of the meaning of Plans, Specifications, or other pre-bid documents to any Bidder orally. Such communication must be in writing in the form of an RFI/C and directed to the Engineer as stated herein. Where this RFB is ambiguous or in conflict with on-site conditions, the Respondent shall bring forth questions for clarification, and shall assume all responsibility for a fully functional system prior to submitting Bid. The Owner and Engineer shall determine the meaning and requirements of any questionable items.
5. Requests for Information/Clarification (RFI/C's) shall be submitted to the Engineer, as previously indicated.
6. Respondents shall assume all responsibility for verifying Engineer's receipt of Requests for Information/Clarification (RFI/C). Where applicable, an addendum or written clarification shall be provided to all Respondents to clarify the meaning of questionable items.
7. Evaluation of Bids will be based on the criteria stated herein. The best Bid submitted by a responsible, responsive, qualified Respondent will be negotiated with the Owner. If Bid amounts exceed the available funds to finance the contract, the Owner may reject all Bids or may award the contract on a negotiated Bid with deductible amounts applied as prioritized by the Owner to produce a net amount which is within available funds. The Owner reserves the right to waive any informalities or technical errors that in its judgment will best serve its interests.
8. At the time of the opening of Bids, each Respondent will be presumed to be thoroughly familiar with the technical requirements, including any addenda, as set forth herein. The failure or omission of any Respondent to examine any site condition, form, instrument, or document shall in no way relieve any Respondent from any obligation with respect to the Bid. It is the Bidder's responsibility to make inquiry as to any addenda issued. All such addenda shall become part of the contract documents and all Bidders shall be bound by such addenda, whether or not received by the Bidders.
9. The Owner may make such investigations as deemed necessary to determine the ability of the Respondent to perform the work, and the Respondent shall furnish to the Owner all such information and data for this purpose as the Owner may request. The Owner reserves the right to reject any Bid if the evidence submitted by, or the investigation of, such Respondent fails to satisfy the Owner that such Respondent is properly qualified to carry out the obligations of the contract and to complete the work contemplated therein. Conditional Bids will not be accepted.

10. Respondents must inform themselves fully of the conditions relating to the construction of the project and the employment of labor therein. Failure to do so will not relieve a successful Respondent of his obligation to furnish all labor and material necessary to carry out the provisions of the Contract. The conduct of required work shall not cause any interruptions of, or interfere with, the work of any other contractors.
11. The Respondent's attention is directed to the fact that all applicable state laws, municipal ordinances, and the rules and regulations of all authorities having jurisdiction over construction of the project shall apply to the contract throughout, and they will be deemed to be included in the contract as though therein written out in full.
12. The Respondent is specifically advised that any person, firm, or other party to whom it is proposed to award a subcontract under this contract must be identified and shall be acceptable to the Owner.
13. With respect to all work performed under this Contract, the Respondent shall meet the following requirements, where scope of work is applicable:
 - a. Comply with the safety standards and provisions of applicable laws, building and construction codes and the "Manual of Accident Prevention in Construction" published by the Associated General Contractors of America, and the requirements of the Occupational Safety and Health Act of 1970 (Public Law 91-596).
 - b. Exercise every precaution at all times for the prevention of accidents and the protection of persons, including employees, and property. Bidder shall conduct weekly safety meetings to insure a safe working environment. The Owner shall reserve the right to request documentation of such meetings and safety training practices.
14. **Provision of Texas Ethics Commission Form 1295 ("TEC Form 1295") by Bidders: Effective January 1, 2016, pursuant to Texas Government Code § 2252.908 (the "Interested Party Disclosure Act" or the "Act"), the Owner may not award the contract to a Bidder unless the Bidder has provided to the Owner a completed, signed, and notarized TEC Form 1295 which has been assigned a certificate number by the Texas Ethics Commission (the "TEC"). Pursuant to the rules prescribed by the TEC, the TEC Form 1295 must be completed online through the TEC's website, assigned a certificate number, printed, signed, and notarized, and provided to the Owner. The TEC Form 1295 may accompany the Bid or may be submitted separately but must be provided to the Owner prior to the award of the contract. For purposes of completing the TEC Form 1295, the entity's name is City of Midland; the contract ID number is TBD; and the description of goods and services is Briarwood Water and Wastewater Utility Extension Bid Documents. Neither the Owner nor its consultants have the ability to verify the information included in a TEC Form 1295, and neither have an obligation nor undertake responsibility for advising any Bidder with respect to the proper completion of the TEC Form 1295.**

SELECTION OF BIDDER:

Following the review and evaluation of the RFBs, the Owner will notify the most qualified Bidder in writing. Contracts for the Project will be issued for execution by all parties. Neither the State of Texas nor any of its departments, agencies, or employees are or will be a party to this Request for Bids or any resulting contract.

A "Notice of Award" will be issued upon approval of the Bidder's Bid by contract. A "Notice-to- Proceed" may be issued by the Owner to initiate each work element of the project. The selected Bidder shall be prepared to arrive on site to initiate construction of the proposed improvements upon immediate readiness demanded by the proposed completion date. The selected Bidder shall coordinate its proposed construction schedule with the Owner and Engineer prior to mobilization.

PAYMENT:

Upon notice to proceed, the selected Bidder shall submit a schedule of values to the Owner for approval as a basis of partial payment requests throughout the project. The selected Bidder may submit monthly invoices for work completed and materials purchased during the previous 30-day period based on the schedule of values. Piping material not eligible for materials-on-hand. All invoices shall reflect a five percent (5%) retention from the amount of the draw request.

Owner shall remit the net amount of the invoice within 30 days of receipt of the invoice. All retained amounts shall be remitted upon final completion of the project as approved by the Owner and release of a Certificate of Completion.

CONDITIONS OF AWARD:

The Bids will be considered and evaluated for award based upon the criteria set forth in this RFB.

The Price Bid Sheet shall be completed with pricing of all items as required under the scope of work and specifications of the RFB and meet the terms thereof. All blank spaces for Bid items must be filled in, in ink or typewritten, and the pricing form must be fully completed and executed when submitted. The Owner may waive any informalities, minor defects, or reject any or all Bids. The Owner reserves the right to reject any and all Bids, in whole or in part; to waive any informality in any Bid, and to accept the Bid which, in its discretion, is in the best interest of the Owner. In case of ambiguity or lack of completeness in stating the prices in any Bid, the Owner reserves the right to consider the most advantageous thereof.

**CITY OF MIDLAND
BRIARWOOD WATER AND WASTEWATER
UTILITY EXTENSION
BID PACKAGE
PRICE BID SHEET**

Bidder must completely fill out and provide pricing for all items and sections of the Price Bid Sheet below.

Item No.	Description	Unit	Estimated Quantity	Bid Unit Price	Total Bid Price
General					
1	Mobilization/Demobilization (Max. 5%)	LS	1	\$	\$
2	Asphalt Paving Removal and Replacement	SY	305	\$	\$
3	Concrete Paving Removal and Replacement	SY	93	\$	\$
4	Trench Safety, Including Plan (Water & Wastewater)	LF	13,401	\$	\$
5	Remove and Replace Mailbox	EA	1	\$	\$
6	Stormwater Pollution Prevention Plan and Erosion Control	LS	1	\$	\$
7	Traffic Control	LS	1	\$	\$
Wastewater					
8	18" ASTM F679 PS 115 Wastewater Main	LF	3,918	\$	\$
9	24" ASTM F679 PS 115 Wastewater Main	LF	4,713	\$	\$
10	24" ASTM D2241 PS 160 Wastewater Main	LF	194		
11	4' Dia. FRP MH (0-6' Depth)	EA	18	\$	\$
12	4' Dia. FRP MH Extra Depth	VF	50	\$	\$
13	Warning Tape and Tracer Wire	LF	8,885	\$	\$
14	30" Steel Encasement for 18" WW Main	LF	210	\$	\$
15	36" Steel Encasement for 24" WW Main	LF	315	\$	\$
16	Connect to Existing WW Main	EA	1	\$	\$
17	PACKET Abandon Existing WW Mains	5.67 LF	0	September 12, 2023 \$	\$

18	Sewer Stubout with Plug	EA	1	\$	\$
Water					
19	6" C900 PVC DR 18 Water Main	LF	356	\$	\$
20	12" C900 PVC DR 18 Water Main	LF	320	\$	\$
21	16" C900 PVC DR 18 Water Main	LF	3,840	\$	\$
22	Ductile Iron Fittings	TON	5	\$	\$
23	16" x 6" Tapping Sleeve	EA	1	\$	\$
24	6" Gate Valve and Box	EA	14	\$	\$
25	12" Gate Valve and Box	EA	7	\$	\$
26	16" Horizontal Gate Valve and Vault	EA	6	\$	\$
27	2" Combination Air Valve and Vault	EA	2	\$	\$
28	Fire Hydrant Assembly	EA	15	\$	\$
29	Cap 6" Main	EA	1	\$	\$
30	Cap 8" Main	EA	3	\$	\$
31	Cap 12" Main	EA	6	\$	\$
32	Cap 16" Main	EA	2	\$	\$
33	Warning Tape and Tracer Wire	LF	4,516	\$	\$
34	Connect to Existing 8" Water Main	EA	1	\$	\$
35	Connect to Existing 16" Water Main	EA	2	\$	\$
36	12" Steel Encasement for 6" Water Main	LF	60	\$	\$
37	20" Steel Encasement for 12" Water Main	LF	20	\$	\$
38	30" Steel Encasement for 16" Water Main	LF	50	\$	\$
39	Remove and Relocate Existing Fire Hydrant	EA	1	\$	\$
PACKET 568 September 12, 2023					

40	Abandon Existing Water Mains	LF	3,957	\$	\$
Note: Items 8-12, 14 & 15 (if steel casing used), 19-28, 36-38 (if steel casing used) are eligible for payment of materials.					
TOTAL BASE BID:					

***Maximum allowable Bid Time for Substantial Completion is as follows: 330 days.**

TIME OF THE ESSENCE

All time limits for Milestones (phases), Substantial Completion, completion, and readiness for final payment, as stated in the Contract Documents, are of the essence of Contract.

CONTRACT TIMES AND MILESTONES (PHASES): DAYS

All work substantially completed within 330 days after Contract Times commenced to run as provided in General Conditions, completed and ready for final payment per General Conditions, within 30 days after Contract Times commenced to run.

MILESTONES

Phase 1: All Water Improvements work included in this contract shall be completed no later than 180 calendar days following notice to proceed effective date. The Wastewater Improvements from Station 1+50 to 2+50 shall be completed no later than 180 calendar days following notice to proceed effective date.

Phase 2: The remaining contract work shall be completed per time limits stated in contract documents.

LIQUIDATED DAMAGES

Contractor and Owner recognize time is of the essence as stated in Article 4.01 and Owner will suffer financial and other losses if Work not completed and Milestones not achieved within times specified in Article 4.02, plus any extensions thereof allowed per Contract. Parties also recognize delays, expense, and difficulties involved in proving in a legal or arbitration proceeding, actual loss suffered by Owner if Work not completed on time. Accordingly, instead of requiring any such proof, Owner and Contractor agree as liquidated damages for delay (but not as a penalty):

Milestone Completion: Contractor pays to Owner \$2000 for each day that expires after time (as duly adjusted pursuant to Contract) specified in Article 4.02.A. for Milestone Completion until Work is complete.

Substantial Completion: Contractor pays Owner \$2000 for each day that expires after time (as duly adjusted pursuant to Contract) specified in Article 4.02.A for Substantial Completion until Work is substantially complete.

Completion of Remaining Work: After Substantial Completion, if Contractor neglects, refuses, or fails to complete remaining Work within Contract Time (as duly adjusted pursuant to Contract) for completion and readiness for final payment, Contractor pays Owner \$1000 for each day that expires until Work completed and ready for final payment.

Liquidated damages for failing to timely attain Substantial Completion and final completion are not additive and not imposed concurrently.

Bidder agrees that the Work will be substantially complete, as provided in the General Conditions, within the lesser of the number of calendar days specified above and completed and ready for final payment in accordance with the General Conditions within 60 calendar days after the date that substantial completion is reached.

Respectfully Submitted (Bidder): _____

SUBMITTED on _____, 2023.

State Contractor License No. _____. (If applicable)

1. The undersigned Bidder proposes and agrees, if this Bid is accepted, to enter into an Agreement with Owner in the form included in the RFB to perform and furnish all Work as specified or indicated in the RFB for the prices and within the times indicated in this Bid and in accordance with the other terms and conditions of the RFB.
2. Bidder accepts all of the terms and conditions of the RFB, including without limitation those dealing with the disposition of Bid security. The Bid will remain subject to acceptance for 60 days after the Bid opening, or for such longer period of time that Bidder may agree to in writing upon request of Owner.
3. In submitting this Bid, Bidder represents, as set forth in the Agreement, that:
 - A. Bidder has examined and carefully studied the Bid Documents, the other related data identified in the Bid Documents, and the following Addenda, receipt of all which is hereby acknowledged.

<u>Addendum No.</u>	<u>Addendum Date</u>
_____	_____
_____	_____
_____	_____

- B. Bidder is qualified to do business in the state where the Project is located as required by laws, rules, and regulations or, if allowed by stature, covenants to obtain such qualification prior to contract award.
 - C. The Bidder shall provide values for specific performance parameters for the equipment being proposed. The Bidder understands and agrees that the values stated in this Section for the associated performance parameters will be compared to the performance standards required in the equipment specifications. Bidders understand and agree to guarantee the performance values stated herein for the equipment proposed in accordance with the guidelines specified herein.
 - D. Bidder understands and agrees that this Bid shall form the basis for an agreement with the Owner. Therefore, the undersigned agrees to enter into an agreement to perform and furnish all Work as specified or indicated in these Specifications for the amount indicated in this Bid and in accordance with the other terms and conditions of these Contract Documents.

- E. Bidder accepts all of the terms and conditions of these Contract Documents including, without limitation, those dealing with the disposition of Bid security, required bonds, and the liquidated damages that may be imposed. This Bid shall remain subject to acceptance for a period of 60 days after the day of Bid opening. The Bidder shall sign and submit the Agreement with the bonds and other required documents within 10 days after the receipt of Notice of Award from the Owner.
 - F. Bidder has given Engineer written notice of all conflicts, errors, ambiguities, or discrepancies that Bidder has discovered in the Bid Documents, and the written resolution thereof by Engineer is acceptable to Bidder.
 - G. The Bid Documents are generally sufficient to indicate and convey understanding of all terms and conditions for the performance of the Work for which this Bid is submitted.
- 5. Bidder further represents that this Bid is genuine and not made in the interest of or on behalf of any undisclosed individual or entity and is not submitted in conformity with any agreement or rules of any group, association, organization or corporation; Bidder has not directly or indirectly induced or solicited any other Bidder to submit a false or sham Bid; Bidder has not solicited or induced any individual or entity to refrain from proposing; and Bidder has not sought by collusion to obtain for itself any advantage over any other Bidder or over Owner.
 - 6. Bidder will complete the Work in accordance with the Contract Documents for the prices proposed in the Price Bid Sheet.
 - 7. Bidder accepts the provisions of the Agreement as to liquidated damages in the event of failure to complete the Work within the Contract Times specified.
 - 8. The following documents are attached to and made a condition of this Bid:
 - A. Non-Collusion Affidavit of Prime Bidder;
 - B. Debarment / Suspension Certification.
 - 9. The Bidder is required to include in this Bid their proposed construction schedule.

STANDARD PURCHASE TERMS AND CONDITIONS
PURCHASING DIVISION, CITY OF MIDLAND, TEXAS

"Seller," as used herein, has the same meaning as "Company." "Buyer," as used herein, has the same meaning as "City."

Seller and Buyer agree as follows:

1. SELLER TO PACKAGE GOODS - Seller will package goods in accordance with good commercial practice. Each shipping container shall be clearly and permanently marked as follows; (a) Seller's name and address, (b) Consignee's name, and address, and purchase order number, (c) Container number and total number of containers, e.g., box 1 of 4 boxes, and (d) the number of the container bearing the packing slip. Seller shall bear cost of packaging unless otherwise provided. Goods shall be suitably packed to secure lowest transportation costs and to conform with requirements of common carriers and any applicable specifications. Buyer's count or weight shall be final and conclusive on shipments not accompanied by packing lists.

2. SHIPMENT UNDER RESERVATION PROHIBITED - Seller is not authorized to ship the goods under reservation and no tender of a bill of lading will serve as a tender of goods.

3. TITLE & RISK OF LOSS - The title and risk of loss of the goods shall not pass to Buyer until Buyer actually receives and takes possession of the goods at the point or points of delivery in Midland, Texas.

4. NO REPLACEMENT OF DEFECTIVE TENDER - Every tender or delivery of goods must fully comply with all provisions of this contract as to time of delivery, quality, and the like. If a tender is made which does not fully conform, this shall constitute a breach and Seller shall not have the right to substitute a conforming tender, provided, where the time for performance has yet expired, the Seller may reasonably notify Buyer of his intention to cure and may then make a conforming tender within the contract time but not afterward.

5. PLACE OF DELIVERY - The place of delivery shall be that set forth in the block of the purchase order entitled "deliver to".

6. INVOICES - Seller shall submit separate ORIGINAL invoices, on each purchase order. Invoices shall indicate the purchase order number. All invoices must be mailed to City of Midland, Accounts Payable, P.O. Box 1152, Midland, TX 79702-1152. Payment will be made within 30 days from the date the invoice and properly executed receiving documents are received by City of Midland, Accounts Payable at the above address. Invoices sent to any other address will delay payment.

7. GRATUITIES - The buyer may, by written notice to the seller, cancel this contract without liability to Seller, if it is determined by Buyer that gratuities, in the form of entertainment, gifts, or otherwise, were offered or given by the seller, or any agent or representative of the Seller, to any officer or employee of the City of Midland with a view toward securing a contract or securing favorable treatment with respect to performing of such a contract. In the event this contract is cancelled by Buyer pursuant to this provision, Buyer shall be entitled, in addition to any other rights and remedies, to recover or withhold the amount of the cost incurred by Seller in providing such gratuities.

8. WARRANTY - PRICE -

a. The price to be paid by the Buyer shall be that contained in Seller's Bid which Seller warrants to be no higher than Seller's current prices on order by others for products of the kind and specifications covered by this agreement for similar quantities under similar or like conditions and methods of purchase. In the event Seller breaches this warranty, the prices of the items shall be reduced to the Seller's current prices on order by others, or in the alternative, Buyer may cancel this contract without liability to Seller for breach or Seller's actual expense.

b. The Seller warrants that no person or selling agency has been employed or retained to solicit or secure this contract upon an agreement or understanding for commission, percentage, brokerage, or contingent fee excepting bona fide employees or bona fide established commercial or selling agencies maintained by the Seller for the purpose of securing business. For breach or violation of this warranty the Buyer shall have the right or rights to cancel this contract without liability and to deduct from the contract price, or otherwise recover the full amount of such commission, percentage, brokerage, or contingent fee.

9. WARRANTY - PRODUCT - Seller shall not limit or exclude any implied warranties and any attempt to do so shall render this contract voidable at the option of the Buyer. Seller warrants that the goods furnished will conform to the specification, drawings, and description listed in the Bid invitation, and to the sample(s) furnished by Seller, if any. In the event of a conflict between the specifications, drawings and descriptions, the specifications shall govern.

10. **SAFETY WARRANTY** - Seller warrants that the product sold to Buyer shall conform to the standards promulgated by the U.S. Department of Labor under the Occupational Safety and Health Act of 1970. In the event the product does not conform to OSHA standards, Buyer may return the product for correction or replacement at the Seller's expense. In the event Seller fails to make the appropriate correction within a reasonable time, correction made by buyer will be at Seller's expense.

11. **RIGHT OF INSPECTION** - Buyer shall have the right to inspect the goods at delivery before accepting them.

12. **CANCELLATION** - Buyer shall have the right to cancel for default all or any part of the undelivered portion of this order if Seller breached any of the terms hereof including warranties of Seller if the Seller becomes insolvent or commits acts of bankruptcy. Such right of cancellation is in addition to and not in lieu of any other remedies which Buyer may have in law or equity.

13. **TERMINATION** - The performance of work under this order may be terminated in whole, or in part by the Buyer in accordance with this provision. Termination of work hereunder shall be effected by the delivery to Seller of a "Notice of Termination" specifying the extent to which performance of work under the order is terminated and the date upon which such termination becomes effective. Such right of termination is in addition to and not in lieu of the rights of Buyer set forth in Clause 13, herein.

14. **FORCE MAJEURE** - Neither party shall be held responsible for losses, resulting if the fulfillment of any terms or provisions of this contract is delayed or prevented by any cause not within the control of the party whose performance is interfered with, and which by the exercise of reasonable diligence said party is unable to prevent.

15. **ASSIGNMENT - DELEGATION** - No right or interest in this contract shall be assigned or delegation of any obligation made by Seller without the written permission of the Buyer. Any attempted assignment or delegation by the Seller shall be wholly void and totally ineffective for all purposes unless made in conformity with this paragraph.

16. **MODIFICATIONS** - This contract can be modified or rescinded only by a writing signed by both of the parties or their duly authorized agents.

17. **INTERPRETATION - PAROL EVIDENCE** - This writing, plus any specifications for Bids and performance provided by Buyer in its advertisement for Bids, is intended by the parties as a final expression of this agreement. No course of prior dealings between the parties and no usage of the trade shall be relevant to supplement or explain any term used in this agreement. Acceptance or acquiescence in a course of performance rendered under this agreement shall not be relevant to determine the meaning of this agreement even though the accepting or acquiescing party has knowledge of the performance and opportunity for objection. Whenever a term defined by the Uniform Commercial Code is used in this agreement, the definition contained in the Code is to control.

18. **ADVERTISING** - Seller shall not advertise or publish without Buyer's prior consent the fact that Buyer has entered into the contract, except to the extent necessary to comply with proper requests for information from an authorized representative of the federal, state, or local government.

19. **RIGHT TO ASSURANCE** - Whenever one party to the contract in good faith has reason to question the other party's intent to perform, he may demand that the other party give written assurance of this intent to perform. In the event that a demand is made and no assurance is given within five (5) days, the demanding party may treat this failure as an anticipatory repudiation of the contract.

20. **PROTECTION AGAINST ROYALTIES OR PATENT INFRINGEMENT** - The Seller shall pay all royalties and license fees, and shall provide for the use of any design, device, material, or process covered by letters patent or copyright by suitable legal agreement with Patentee or Owner thereof. The Seller shall defend all suits or claims for infringement of any patent or copyrights and shall indemnify and save the Buyer harmless from any loss on account thereof, except that Buyer shall defend all such suits and claims and shall be responsible for all such loss when a particular design, device, material, or process is allowed to the Seller, the Seller shall indemnify and save Buyer harmless from any loss on account thereof. If the material or process specified or required by Buyer is an infringement, the Seller shall be responsible for such loss unless he promptly gives written notice to the buyer of such infringement.

21. TIME - It is hereby expressly agreed and understood that time is of the essence for the performance of this contract, and any failure by contract to meet the time specifications of this agreement will cause Seller to be in default of this agreement.

22. TAX - The City of Midland is exempt from all Federal, State and City tax. Please do not include these taxes in your Bid price or invoice. Taxable items must be so designated, and the City will supply vendor with a Tax Exemption Certificate, properly executed.

23. INSURANCE –

The following provisions apply unless the agreement is for the supply of goods only:

Seller shall at all times during the term of this agreement maintain and keep in full force and effect insurance in the following types and minimum amounts with companies authorized to do business in the State of Texas:

Commercial General Liability (including Contractual liability):

-Personal Injury: \$1,000,000.00 per person
\$1,000,000.00 per occurrence

-Property Damage: \$500,000.00 per occurrence

Business Automobile Liability: \$250,000.00 combined single limit-
Personal Injury and Property Damage

Worker's Compensation: Statutory limits

Employers' Liability: \$500,000.00 per accident or occurrence

The Commercial General Liability shall be on a per project aggregate, including completed operations, and shall be on a claims-occurred basis. This insurance shall name CITY as an additional insured and waive subrogation in favor of CITY.

The Business Automobile Liability insurance provided by COMPANY shall cover any auto for bodily injury and property damage, including owned vehicles, hired and non-city vehicles, and employee non-ownership, and the amount of such policy shall be a minimum of \$250,000.00 covering any vehicle used for the execution of the work that is the subject of this Contract. This insurance shall name CITY as an additional insured and waive subrogation in favor of CITY.

The Workers' Compensation coverage provided by COMPANY shall inure to the benefit of employees injured during the course and scope of their employment by COMPANY pursuant to this Contract. The Workers' Compensation shall waive all rights of subrogation in favor of CITY.

All insurance required pursuant to this Contract shall provide for a waiver of subrogation in favor of CITY. All insurance required pursuant to this Contract, except for Workers' Compensation Insurance, shall name CITY as an additional insured on a claims occurred basis. CITY shall be provided the notice by COMPANY's insurance provider not later than thirty (30) days prior to any reduction or termination of such coverage.

COMPANY shall contractually require all contractors, subcontractors, and sub-subcontractors that work on any portion of the work that is the subject of this Contract to obtain insurance coverage that meets or exceeds the policy requirements and minimum amounts specified herein. All contractors, subcontractors, and sub-subcontractors shall obtain insurance policies that provide blanket waivers of subrogation in favor of the City of Midland and policies that name the City of Midland as an additional insured on a claims occurred basis (except workers' compensation).

The parties agree that, prior to the execution of the Contract, COMPANY shall provide one or more certificates of insurance specifically stating that these requirements have been met and subject to the approval of CITY. CITY shall not be required to provide any insurance whatsoever pursuant to this Contract.

COMPANY certifies that the certificate of insurance provided as required herein complies with the requirements of Chapter 1811 of the Texas Insurance Code. COMPANY shall not use an inappropriate certificate of insurance or insert inappropriate language on a certificate. Compliance with state law is the sole responsibility of COMPANY.

24. **ASSIGNMENT** - Seller shall not, either directly or indirectly, assign all or any part of this agreement or any interest, right or privilege herein, without the prior written consent of the Buyer. The issue on whether or not to grant consent to an assignment is in the sole discretion of the Buyer.

25. **RELEASE - NOTWITHSTANDING ANY OTHER PROVISIONS, SELLER HEREBY RELEASES, ACQUITS, RELINQUISHES AND FOREVER DISCHARGES BUYER, BUYER'S EMPLOYEES AND OFFICERS, FROM ANY AND ALL DEMANDS, CLAIMS, DAMAGES, OR CAUSES OF ACTION OF ANY KIND WHATSOEVER WHICH SELLER HAS OR MIGHT HAVE IN THE FUTURE, INCLUDING BUT NOT LIMITED TO BREACH OF CONTRACT, QUANTUM MERUIT, CLAIMS UNDER THE DUE PROCESS AND TAKINGS CLAUSES OF THE TEXAS AND UNITED STATES CONSTITUTIONS, TORT CLAIMS, OR BUYER'S NEGLIGENCE.**

26. **GOVERNING LAW AND VENUE** - This agreement shall be governed by the laws of the State of Texas. All performance and payment made pursuant to this agreement shall be deemed to have occurred in Midland County, Texas. Exclusive venue for any claims, suits, or any other action arising from or connected in any way to this agreement, or the performance of this agreement shall be in Midland County, Texas. The obligations and undertakings of each of the parties to this agreement shall be deemed to have occurred in Midland County, Texas.

27. **INDEPENDENT CONTRACTOR** - It is expressly understood and agreed that Seller shall perform all work and services described herein as an independent contractor and not as an officer, agent, servant or employee of the Buyer; that Seller shall have exclusive control of and the exclusive right to control the details of the services and work performed hereunder, and all persons performing the same; and shall be solely responsible for the acts and omissions of its officers, agents, employees, contractors and subcontractors; that the doctrine of respondeat superior shall not apply as between Buyer and Seller, its officers, agents, employees, contractors and subcontractors; and that nothing herein shall be construed as creating a partnership or joint enterprise between Buyer and Seller. No person performing any of the work and services described hereunder by Seller shall be considered an officer, agent, servant, or employee of the Buyer. Further, it is specifically understood and agreed that nothing in this agreement is intended or shall be construed as creating a "Community of Pecuniary Interest" or "An Equal Right of Control" which would give rise to vicarious liability. Seller shall be an independent contractor under this agreement and shall assume all of the rights, obligations, and liabilities, applicable to it as such independent contractor hereunder. The Buyer does not have the power to direct the order in which the work is done. The Buyer shall not have the right to control the means, methods, or details of the Seller's work. Seller shall assume exclusive responsibility for the work. Seller is entirely free to do the work in its own way.

28. **NOTICE OF ALLEGED BREACH; STATUTORY PREREQUISITES** - As a condition precedent to filing suit for alleged damages incurred by an alleged breach of an express or implied provision of this agreement, Seller or his legal representative, shall give the City Manager, or any other reasonable official of the Buyer, notice in writing (consisting of one original and seven copies of notice attached to a copy of this agreement) of such damages, duly verified, within one-hundred-twenty (120) days after the same has been sustained. The discovery rule does not apply to the giving of this notice. The notice shall include when, where and how the damages occurred, the apparent extent thereof, the amount of damages sustained, the amount for which the Seller will settle, the physical and mailing addresses of Seller at the time and date the claim was presented and the physical and mailing addresses of Seller for the six months immediately preceding the occurrence of such damages, and the names and addresses of the witnesses upon whom the Seller relies to establish its claim; and a failure to so notify the City Manager within the time and manner provided herein shall exonerate, excuse and except the Buyer from any liability whatsoever. The Buyer is under no obligation to provide notice to Seller that Seller's notice is insufficient. Buyer reserves the right to request reasonable additional information regarding the claim. Said additional information shall be supplied within thirty (30) days after receipt of notice.

The statutory prerequisites outlined herein constitute jurisdictional requirements pursuant to Section 271.154 of the Texas Local Government Code and Section 311.034 of the Texas Government Code. Notwithstanding any other provision, Seller's failure to comply with the requirements herein shall perpetually bar Seller's claim for damages under Chapter 271 of the Texas Local Government Code, and Section 311.034 of the Texas Government Code, regardless if Buyer has actual or constructive notice or knowledge of said claim or alleged damages. Seller agrees that the requirements of this entire agreement are reasonable.

29. **INDEMNITY (NOT APPLICABLE TO PURCHASE AGREEMENTS) - SELLER WILL INDEMNIFY AND HOLD HARMLESS AND DEFEND BUYER AND ALL OF BUYER'S OFFICERS, AGENTS AND EMPLOYEES FROM ALL SUITS, ACTIONS, CLAIMS, DAMAGES, PERSONAL INJURIES, LOSSES, PROPERTY DAMAGE AND EXPENSES OF ANY CHARACTER WHATSOEVER, INCLUDING REASONABLE ATTORNEY'S FEES,**

BROUGHT FOR OR ON ACCOUNT OF ANY INJURIES OR DAMAGES RECEIVED OR SUSTAINED BY ANY PERSON OR PERSONS OR PROPERTY, ON ACCOUNT OF ANY NEGLIGENT ACT OF SELLER, its agents or employees, or any subcontractor, arising out of, or resulting from, Seller's use of, or activities on, the agreement premises, and Seller will be required to pay any judgment with costs which may be obtained against Buyer or any of its officers, agents, or employees, including reasonable attorney's fees.

SELLER SHALL INDEMNIFY AND HOLD HARMLESS AND DEFEND BUYER AND ALL OF BUYER'S OFFICERS, AGENTS AND EMPLOYEES FROM ALL SUITS, ACTIONS, CLAIMS, DAMAGES, ACCIDENTAL DEATH, PERSONAL INJURIES, PROPERTY DAMAGE, LOSSES, AND EXPENSE OF ANY CHARACTER WHATSOEVER INCLUDING REASONABLE ATTORNEY'S FEES, BROUGHT FOR OR ON ACCOUNT OF ANY INJURIES OR DAMAGES RECEIVED OR SUSTAINED BY ANY PERSON OR PERSONS OR PROPERTY, ON ACCOUNT OF ANY NEGLIGENT ACT OF BUYER, BUYER'S OFFICERS, AGENTS AND EMPLOYEES, WHETHER SUCH NEGLIGENT ACT WAS THE SOLE PROXIMATE CAUSE OF THE INJURY OR DAMAGE OR A PROXIMATE CAUSE JOINTLY AND CONCURRENTLY WITH SELLER OR SELLER'S EMPLOYEES, AGENTS OR SUBCONTRACTORS NEGLIGENCE, IN THE EXECUTION, SUPERVISION AND OPERATIONS GROWING OUT OF OR IN ANY WAY CONNECTED WITH THE PERFORMANCE OF THIS AGREEMENT AND SELLER WILL BE REQUIRED TO PAY ANY JUDGMENT WITH COSTS WHICH MAY BE OBTAINED AGAINST BUYER OR ANY OF BUYER'S OFFICERS, AGENTS OR EMPLOYEES, INCLUDING ATTORNEY'S FEES.

30. **SOVEREIGN IMMUNITY** - By executing this agreement the Buyer is not waiving its right of sovereign immunity. The Buyer is retaining its immunity from suit. The Buyer is not granting consent to be sued by legislative resolution or action. **THERE IS NO WAIVER OF SOVEREIGN IMMUNITY.**

31. **THIRD PARTY BENEFICIARY** - The Buyer's approval of this agreement does not create a third party beneficiary. There is no third party beneficiary to this agreement. No person or entity who is not a party to this agreement shall have any third party beneficiary or other rights hereunder.

32. **ATTORNEY FEES** - BY EXECUTING THIS AGREEMENT, SELLER AGREES TO WAIVE AND DOES HEREBY KNOWINGLY, CONCLUSIVELY, VOLUNTARILY, AND INTENTIONALLY WAIVE ANY CLAIM IT HAS OR MAY HAVE IN THE FUTURE AGAINST THE BUYER, REGARDING THE AWARD OF ATTORNEY'S FEES, WHICH ARE IN ANY WAY RELATED TO THE AGREEMENT, OR THE CONSTRUCTION, INTERPRETATION OR BREACH OF THE AGREEMENT. THE SELLER SPECIFICALLY AGREES THAT IF THE SELLER BRINGS OR COMMENCES ANY LEGAL ACTION OR PROCEEDING RELATED TO THIS AGREEMENT, THE CONSTRUCTION, INTERPRETATION, VALIDITY OR BREACH OF THIS AGREEMENT, INCLUDING BUT NOT LIMITED TO ANY ACTION PURSUANT TO THE PROVISIONS OF THE TEXAS UNIFORM DECLARATORY JUDGMENTS ACT (TEXAS CIVIL PRACTICE AND REMEDIES CODE SECTION 37.001, ET. SEQ., AS AMENDED), OR CHAPTER 271 OF THE TEXAS LOCAL GOVERNMENT CODE, THE SELLER AGREES TO ABANDON, WAIVE AND RELINQUISH ANY AND ALL RIGHTS TO THE RECOVERY OF ATTORNEY'S FEES TO WHICH SELLER MIGHT OTHERWISE BE ENTITLED.

SELLER AGREES THAT THIS IS THE VOLUNTARY AND INTENTIONAL RELINQUISHMENT AND ABANDONMENT OF A PRESENTLY EXISTING KNOWN RIGHT. SELLER ACKNOWLEDGES THAT IT UNDERSTANDS ALL TERMS AND CONDITIONS OF THE AGREEMENT. THE SELLER FURTHER ACKNOWLEDGES AND AGREES THAT THERE WAS AND IS NO DISPARITY OF BARGAINING POWER BETWEEN THE BUYER AND THE SELLER. THIS SECTION SHALL NOT BE CONSTRUED OR INTERPRETED AS A WAIVER OF SOVEREIGN IMMUNITY.

THE SELLER AND BUYER ARE RELYING ON THEIR OWN JUDGMENT. EACH PARTY HAD THE OPPORTUNITY TO DISCUSS THIS AGREEMENT WITH LEGAL COUNSEL PRIOR TO ITS EXECUTION.

33. **CONSIDERATION** - The terms of this agreement are supported by good and valuable consideration, the receipt and sufficiency of which is hereby acknowledged by the parties named herein.

34. **CERTIFICATION** - In accordance with the Texas Local Government Code, the City of Midland Department of Facilities and Fleet Management does hereby certify that the City of Midland is in compliance with Sections 252, 271 and all applicable sections of the Texas Local Government Code and other state law as it applies to procurement and contracting issues.

35. **FEDERAL WAGE REQUIREMENTS** - If applicable, the Davis-Bacon Act, 29 CFR 5.5, and any related acts or regulations are hereby incorporated by reference and made a part of this agreement, and all terms and requirements under said laws, by such incorporation, are made terms and requirements of this agreement, to which the parties to this agreement have agreed to be bound.

36. COMPLIANCE WITH FEDERAL, STATE AND LOCAL LAWS - Seller shall at all times during the term of this agreement comply with applicable federal, state, and local laws regarding Seller's activities pursuant to this agreement, including but not limited to all applicable sections of the Municipal Code of Midland, Texas, as may be amended, said sections being hereby incorporated by reference and made a part of this agreement for all legal purposes. Failure to abide by any such law mentioned herein constitutes grounds for the immediate termination of this agreement.

Special Provisions

(WATER UTILITIES)

ATTENTION: All Bidders are directed to pay special attention to the NOTICE TO BIDDERS section of the bid packet. Bidders have sole responsibility for complying with the current bid process requirements. Bidders also have sole responsibility for verifying that any bid submitted is completed correctly and includes all of the required documentation, including addendums.

1. Scope of Work:

Included in this Project will be the installation of potable water and gravity wastewater mains and associated appurtenances, to be performed as outlined in the Plans and Specifications, which are necessary to satisfactorily complete the work.

The project will include the extension of an 24-inch gravity wastewater main and associated appurtenances from Golden Gate Avenue approximately 8,900 feet west to Highway 158, and the extension of 16-inch water main and associated appurtenances from near North County Road 1248 approximately 3,800 feet west to Trobaugh Boulevard.

The Owner reserves the right to abandon, without obligation to the Contractor, any part of the project, or the entire project, at any time before the Contractor begins any construction work authorized by the Owner.

Standard Specifications for Construction of the City of Midland will govern all construction, except as modified by these Special Provisions.

2. Order of Precedence:

The Special Provisions take precedence over the General Conditions in this bid packet anywhere these two sections are not in agreement.

The Special Provisions take precedence over the City of Midland Specifications in this bid packet anywhere these two sections are not in agreement.

The Contractor is to bid the quantities in the Proposal section of the bid packet even if there is a discrepancy between the Proposal quantities and those noted or measured in the construction drawing set.

In the Proposal the long-hand dollar amount written in the Description column for each bid item will take precedence over the numerical dollar amount listed in the Unit Price column if there is a discrepancy between the two.

In the construction drawing set any written or noted dimension takes precedence over dimensions measured based on the drawing scale unless otherwise directed by the Engineer.

Any changes or revisions made as part of an Addendum for this project take precedence over the original bid packet and construction drawing set where the documents are in conflict.

3. Examination of Site:

Prospective bidders are to make a careful examination of the entire site of the project and are to make such explorations as may be necessary to determine the subsoil and/or water conditions to be encountered; improvements and obstructions which may be encountered; methods of providing ingress-egress to private as well as public property; methods of handling traffic during construction and maintenance of the entire project as well as any section thereof, protection of all existing structures both above and below ground; and how the plans fit the proposed project and especially if any discrepancies exist.

4. Payment:

Payment and retainage (five percent, 5%) shall be per the General Conditions.

Payment will be made for material installed, not for material delivery, for all Proposal Bid Items except those specifically listed below, which will be the only Proposal Bid Items to be paid upon material delivery for this project:

- Miscellaneous (General) Bid Items: None.
- Wastewater Bid Items: 7, 8, 9 and 11.
- Water Bid Items:

Retainage will apply the same to all bid items and invoices regardless of whether an invoice is for bid items paid upon material delivery or not.

Any and all payments for bid items that are paid upon material delivery are paid with the expectation that the material will be installed per the construction drawings and specifications, and that the material delivered will be protected and kept in good condition by the Contractor until it is installed. Material that is not properly stored or protected and becomes weathered or damaged before installation must be replaced with new material meeting the standards and requirements of the construction drawings and specifications before it can be installed, and this will be done by the Contractor at no additional cost to the City of Midland.

5. Safety Requirements:

It is the responsibility of the Contractor to follow and comply at all times with Occupational Safety and Health Administration (OSHA) and all other applicable safety regulations and requirements throughout the course of the project's work. The City of Midland reserves the right to require additional safety measures on the project site if they are needed in the opinion of the Engineer for the safety of the work crews or public.

OSHA approved trench protective systems (i.e. safety measures) are required for any and all trench sections on City of Midland projects that exceed a depth of five feet (5.0') regardless of the soil condition or classification at the location of the trench section in question.

6. Safety Restrictions – Work near High Voltage Lines:

The following procedure will be followed regarding the subject item on this contract:

- 1) A warning sign painted yellow with black letters that are legible at twelve feet shall be placed inside and outside vehicles such as cranes, derricks, power shovels, drilling rigs, pile drivers, hoisting equipment or similar apparatus. The warning sign shall read as follows:
“WARNING – UNLAWFUL TO OPERATE THIS EQUIPMENT WITHIN SIX FEET OF HIGH VOLTAGE LINES”
- 2) Equipment that may be operated within ten feet of high voltage lines shall have an insulation cage-type of guard about the boom or arm, except back hoes or dippers, and insulator links on the lift hook connections.
- 3) When necessary to work within six feet of high voltage electric lines, notification shall be given to the power company of who will erect temporary mechanical barriers, de-energize the line, or raise or lower the line. The notifying department shall maintain an accurate log of all such calls to the Power Company, and shall record action taken in each case.
- 4) The Contractor is required to make arrangements with the Power Company for the temporary relocation or raising of high voltage lines at the Contractor’s sole cost and expense.
- 5) No person shall work within six feet of a high voltage line without protection having been taken as outlined in Paragraph (3).

7. Traffic Control:

All proposed traffic control shall be approved by the City where applicable. All traffic control plans must be submitted to and approved by the Construction Manager no less than two (2) business days prior to starting the construction work. Traffic control for each phase of work must be approved prior to starting that work.

Generic traffic control plans or typical details may be submitted for shoulder work on any class of roadway, or for work on local or collector streets that does not require the closure of any travel lanes (i.e., all lanes are open to traffic on striped roadways, or adequate width remains available for two-way traffic on unstriped roadways). Once a generic traffic control plan or typical detail for a certain type of setup has been approved one time, the Contractor shall only be responsible for notifying the Construction Manager of the location, type of setup, and dates on which they intend to utilize the pre-approved traffic control for the duration of the contract. No additional plan submittals will be required in these cases, except that the City reserves the right to suspend this exception at its discretion. For any work not fitting the above exception, or in the event that the exception is suspended by the City, a site-specific traffic control plan will be required for each work location and time period.

1. All temporary traffic control shall be in general conformance with the *Texas Manual on Uniform Traffic Control Devices* (TMUTCD) (latest edition as adopted by the Texas Department of Transportation), except as specifically directed by the City Engineer or City Traffic Engineer.
2. All temporary traffic control shall be designed, installed, and maintained by competent and qualified personnel with adequate experience in traffic control.
3. All temporary traffic control involving multiple lane closures or traffic shifts, full closures of collector or arterial streets, traffic control extending through a railroad crossing, or any setup reasonably determined by the City to be “complex”, shall be implemented only by a contractor

with specific experience and expertise in the field of traffic control (i.e., a qualified “barricade company”).

4. A Traffic Control Plan (TCP) shall be submitted to the Engineering Services Department, Construction Manager, in advance of any work in the right-of-way that impacts traffic. No work shall occur until an approved TCP has been returned to the Contractor.
5. A copy of the approved TCP shall be kept in the possession of the person responsible for supervising the traffic control at all times while working in the right-of-way. The approved TCP shall be presented to City staff or law enforcement upon demand at any time.
6. Depending on site conditions and the nature of the work, temporary traffic control may be approved by the City for either of the following:
 - a. All Times – All traffic control, including closures, may remain in place 24 hours per day until expiration of the approved TCP.
 - b. Off-Peak Only – Lane or road closures are NOT permitted from 6:00-9:00 AM and 4:00-7:00 PM on weekdays (Monday through Friday). Other traffic control not related to lane or road closures may remain in place 24 hours per day until expiration of the approved TCP.
7. The contractor setting the temporary traffic control shall be responsible for the maintenance and upkeep of all signs, barricades, and other devices, at all times.
 - a. All temporary traffic control setups shall be maintained at least one time per day, including weekends and holidays.
 - b. More frequent maintenance shall be performed as needed, with particular emphasis to following up after severe weather events or during times of high winds.
 - c. Maintenance shall include:
 - i. Verifying and correcting the location and orientation of all signs, barricades, and other devices;
 - ii. Keeping signs and reflective areas of barricades and other devices clean and free of dirt buildup so as to maintain appropriate visibility and legibility; and
 - iii. Ensuring the proper location, orientation, and operation of arrow boards or message boards, if present.
8. Arrow boards shall be required for lane closures under the following conditions:
 - a. On roadways with a posted speed limit of 55 MPH or greater, for closures lasting more than one (1) hour;
 - b. On roadways with a posted speed limit of 45 MPH or greater, for closures lasting more than four (4) hours;
 - c. On any roadway if lanes will remain open to traffic travelling in the same direction on both sides of a closed lane during any overnight hours (from 7:00 PM to 6:00 AM); and

At other times as shown on the approved TCP, or as otherwise directed by the City.

8. Detours:

The Contractor is to prosecute his work in such a manner as to create a minimum of interruption to traffic and pedestrian facilities and to the flow of vehicular and pedestrian traffic within the project area.

9. Property and Right-of-Way Access:

Access to adjacent properties must be maintained at all times unless otherwise directed by the Engineer. If the contractor will not be working in an area for a period of one week or more, special care is to be taken to address any unsafe conditions such as excavated areas or obstructions outside the worked area that could be tripping hazards, etc.

10. Property and Right-of-Way Service:

Service to adjacent properties must be maintained at all times unless otherwise directed by the Engineer. Such services include water, wastewater, fiber, cable, electric, and gas. Contractor must notify affected properties no less than two (2) business days prior to any planned service interruption.

Contractor must coordinate with the City of Midland regarding any planned service interruptions for public water or wastewater, or to restore any public infrastructure damaged during construction activities.

Contractor must coordinate with private service providers for any necessary service interruptions to their infrastructure or to restore service to their infrastructure in the event that a private service is disrupted, damaged, etc. during construction.

11. Construction schedule:

It is the responsibility of the Contractor to furnish the Construction Engineer, prior to construction, with a schedule outlining the anticipated time each phase of construction will begin and be completed, including sufficient time being allowed for clean-up.

12. Construction Staking:

It is the responsibility of the Contractor to provide the project construction staking at fifty foot (50') intervals along the entire length of the project as well as at such control points as the Contractor deems necessary for proper execution of the work. Construction staking is to include grading and cuts as well as horizontal alignments and construction control points. Cut sheets are to be provided to the Engineer by the Contractor for review and approval.

13. Survey:

The Contractor is to provide GPS survey shots for all meters replaced to the City of Midland with each completed work order submittal. Survey data is to be shot in Texas Central Zone with 1983 NAD at 1.0' accuracy or better. Survey data is to be provided in Excel csv. file format with all rounding functions turned off.

14. Construction Materials:

The Contractor is to only provide new materials for permanent installation in any and all parts of this project, and all such materials must comply with the General Conditions, the Bid Packet Specifications, and all applicable City of Midland Standards and Specifications.

For this project, the Standard Specification is hereby amended to read:

Qualifications of Material Sources – Contractor is only to use pavement mixtures that have a proven record of acceptance by the City of Midland, or another Texas municipality, or have a proven record of meeting similar standards for state highway projects.

Concrete is only to be placed when the ambient temperature is between 40 degrees and 95 degrees Fahrenheit and the ambient temperature in the shade is higher than 40 degrees Fahrenheit or is 40 degrees Fahrenheit and rising.

All concrete pavement joints are to be sealed with Texas Department of Transportation (TxDOT) DMS-6310 SL-2 sealant, an American Society for Testing and Materials (ASTM) D 1190 Hot-Applied Single Component Joint Sealant, or a City of Midland approved equal. This will not apply to curb or sidewalk joints.

No construction materials are to be placed or installed during rain events unless they are necessary to resolve an emergency situation or to facilitate the project site erosion control measures.

15. Erosion Control:

Erosion control is the responsibility of the Contractor and erosion control measures are to be implemented so as to prevent sediment erosion from wind, rain, and other elements from the project site. Should the Owner feel that supplementary erosion control measures are required in addition to those implemented by the Contractor then the Contractor will include additional erosion control measures within reason to the Owner's satisfaction and/or TCEQ requirements.

Reasonable erosion control measures include but are not limited to: construction entrance(s), concrete washout(s), perimeter silt fence or fiber wattle, rock rip-rap dams for concentrated runoff control, gutter and inlet protection measures such as sand bags, and stabilization of the construction area surfaces when construction work is not actively occurring by means of vegetative cover or seeded erosion control blankets.

Supplemental erosion control measures are ancillary to the project and not paid as a separate item, unless otherwise noted in the Proposal or Pay Notes.

Site cleanup work is to be done for this project as soon as possible as per the General Conditions and will be ancillary to the project and not paid as a separate item, unless otherwise noted in the Proposal or Pay Notes. Site cleanup is to take place throughout the project's construction as needed to maintain a clean and professional looking work area. No more than three calendar days are to elapse after completion of construction before the final roadway and right-of-way cleanup has been completed to the satisfaction of the Engineer.

16. Waste Material:

Excess material from excavation and other construction or demolition activity will become the property of the Contractor. Excess excavation will be disposed of at locations secured by the Contractor and if necessary, approved by the Engineer. No material is to be placed on private property or City property without the approval of the Engineer and the property owner. Removal of excess material, excavation, and waste material are ancillary to the project and not paid as a separate item, unless otherwise noted in the Proposal or Pay Notes.

Excess concrete material must be washed out in a concrete washout within the project's job site area, or else any and all other concrete material washout must occur away from the job site area in the Contractor's or concrete Supplier's own operation yards or properties. Under no circumstances are

concrete trucks allowed to washout in any job site excavations, channels, public right-of-way, or on private property.

Existing fire hydrants and existing water meters indicated for removal as part of the project are to be returned to the City of Midland by the Contractor and remain City property. These are ancillary to the project and will not be paid as separate items.

17. Testing:

It is the Contractor's responsibility to perform all required testing for any and all materials and workmanship performed or installed as part of the project's work. The cost of all such testing is to be borne solely by the Contractor unless required by the Engineer for work or materials that had previously been tested and approved and had not experienced any change in condition since that time as a result of the Contractor's work or actions; or unless additional testing outside of the project scope is performed at the request of the Engineer.

Required testing includes:

Concrete Pavement – A Slump Test is required for every cylinder set (3 test cylinders) taken, and no less than 1 cylinder set per day is to be taken for testing when concrete is placed. Test results are to be given to the engineer upon completion of each test, with 1 cylinder set taken for:

- A. Every 50 cubic yards of concrete placed for concrete pavement between street intersections.
- B. Every 50 cubic yards of concrete placed for concrete pavement at a street intersection.
- C. Every 2 sets of fillets and valley gutters at street approaches. (1 set = 2 fillets and 1 valley gutter)
- D. Every 4 alley approaches or driveway approaches.
- E. There will be no testing for curb, ramps, and sidewalks.

Concrete Pavement For Trench Repair – A Slump Test is required only if directed by the Engineer for pavement patches that are equal to or greater than 50 cubic yards (roughly equal to an 8' wide by 340' long by 6" thick pavement section). The slump test is to be performed once for every cylinder set (3 cylinders) taken, and no less than 1 cylinder set per day is to be taken for testing when concrete is placed. Test results are to be given to the engineer upon completion of each test. There will be no testing for curb, ramps, and sidewalks.

Asphalt Hot-Mix Pavement – A Nuclear Gauge Density Test is required for either each day that asphalt hot-mix is placed or for every 250 linear feet of asphalt hot-mix pass, whichever results in more frequent testing. The laboratory density limits will be a minimum limit of 96%, a maximum limit of 98%, and an optimum limit of 97%. The acceptable field density range for construction of this project is 93% - 98% with a target density of 95%. Test results are to be given to the Engineer upon completion of each test.

Asphalt Hot-Mix Pavement For Trench Repair – A Nuclear Gauge Density Test is required only if directed by the Engineer for pavement patches that are equal to or greater than 620 square yards (roughly equal to an 8' wide by 700' long pavement section). The laboratory density limits will be a minimum limit of 96%, a maximum limit of 98%, and an optimum limit of 97%. The acceptable field density

limit will be a minimum limit of 93%, a maximum limit of 98%, and an optimum limit of 95%. Test results are to be given to the Engineer upon completion of each test.

Water Pipes & Fittings – Perform Pressure Testing and Bacterial Testing (Bac T)/Chlorination testing for all water mains and fire hydrants.

- Pressure Test – Perform test as described in the City of Midland Water Line Specifications, PART 10, Hydrostatic Tests, with the sole difference being that a continuous pressure of 180 pounds per square inch (psi) must be maintained over a continuous period of not less than four (4) hours rather than eight (8) hours. The acceptable field pressure limit will be a minimum 180 psi and a maximum 185 psi. A 2-3 psi drop in the measured pipe pressure during the first two (2) hour period will be acceptable to account for the compression of air within the pipe so long as the minimum and maximum allowed field pressure limits are not exceeded. There can be no variation in the measured pipe pressure during the last two (2) hours of the pressure test.
- Bac T/Chlorination Testing – Perform disinfection and test as described in the City of Midland Water Line Specifications, Part 9, Disinfection Of Pipe Lines.

Wastewater Gravity Pipes/Manholes – Perform air testing, mandrel testing, hydrostatic testing, and closed circuit televising (CCTV) for all wastewater mains and manholes.

- Air Test – Perform test as described in the City of Midland Gravity Flow Pipe Sewers And Fittings For Wastewater And Storm Water, Part 3.14, Testing Gravity Mains And Manholes.
- Mandrel Test – A successful mandrel pull is required for all wastewater pipes installed.
- Hydrostatic Testing – Perform test as described in the City of Midland Gravity Flow Pipe Sewers And Fittings For Wastewater And Stormwater Specifications, Part 3.14, Hydrostatic Testing.
- Closed Circuit Televising (CCTV) – Provide CCTV video of the wastewater mains for the full length of the wastewater system installed, including through all wastewater structures. CCTV video is not required for wastewater laterals unless directed by the Engineer.

Force Mains & Fittings (Wastewater & Storm Drain) – Perform pressure testing for all wastewater and storm drain force mains.

- Pressure Test – Perform test as described in the City of Midland Water Line Specifications, PART 10, Hydrostatic Tests, with the sole difference being that a continuous pressure of 180 pounds per square inch (psi) must be maintained over a continuous period of not less than four (4) hours rather than eight (8) hours. The acceptable field pressure limit will be a minimum 180 psi and a maximum 185 psi. A 2-3 psi drop in the measured pipe pressure during the first two (2) hour period will be acceptable to account for the compression of air within the pipe so long as the minimum and maximum allowed field pressure limits are not exceeded. There can be no variation in the measured pipe pressure during the last two (2) hours of the pressure test.

Storm Drain Pipes & Structures – Perform as-built survey and closed circuit televising (CCTV) for all storm drain pipes and structures.

- As-Built Survey of Storm Drain Pipes & Culverts – Provide as-built survey shots at fifty-foot (50') intervals along the storm drain pipe or culvert at the top of the pipe or culvert installed.
- As-Built Survey of Storm Drain Structures – Provide as-built survey shots at the inverts of all storm drain structures that are installed to verify the storm drain grades, including all manholes, junction boxes, and inlets.

- Closed Circuit Televising (CCTV) – Provide CCTV video of the storm drain for the full length of the storm drain system installed, including through all storm drain structures. CCTV video is not required for storm drain laterals unless directed by the Engineer.

18. Compliance:

The said Contractor further agrees to comply with all applicable provisions of the laws and building and construction codes of the City of Midland and the State of Texas, and with any regulations for the protection of workers which may be promulgated by the Government, and will protect such work with all necessary lights, barriers, safeguards, and warnings as provided for in said specifications and the Ordinance regulations.

19. Personnel:

It is the Contractor's responsibility to have a supervising representative of the Contractor on the construction site any time that construction work is taking place. The Contractor's representative must be on the Contractor's direct payroll. Sub-contractors or paid consultants will not satisfy this requirement.

It is also the Contractor's responsibility to provide the City with a reliable contact for issue escalation coordination. Such contacts would include the Contractor's site foreman, the Contractor's construction project manager, etc.

20. Intent of the Proposal:

The intent of the proposal is to determine the lowest responsible bidder based on the total of the quantities and unit prices. Once the lowest responsible bidder is selected, the project will be awarded based on the terms and requirements of the contract outlined in the bid packet and construction drawings.

21. Contract deadline:

The deadline for substantial completion of this project is 330 calendar days total starting from the Notice to Proceed date.

Extensions of the project deadline may be requested by the Contractor for documented excepting conditions such as weather days, delays due to conflicts with existing franchise lines, etc. which are reasonably beyond the Contractor's control. Any and all deadline extensions must be submitted by the Contractor in writing to Engineer for review, and the approval or denial of the request rests solely with the Engineer.

Unless specifically granted in writing by the Engineer, there will be no suspension of project time between phases of construction.

22. Warranty Period:

There is a one (1) year calendar warranty period on this project for all work performed or materials installed effective immediately upon acceptance of the improvements by the Owner. The warranty period will be based on the acceptance date of the project as a whole, and not any individual phases of the project.

23. Bid Packet Completion Items of Note:

Bidders must be willing to sign the Contract as is if a bid is submitted. Revisions, alterations, deletions, additions, or any other changes of any kind by the bidder to the bid packet or other bid documents (such as the construction drawing set, addendums, etc.) will result in the bid submittal being deemed 'Non-Responsive' and the bid will not be accepted.

Bidders are reminded to make sure that the Conflict of Interest forms are completed if applicable before submitting a bid.

All bid items in the Proposal section must be completed for a bid submittal to be considered complete. Any bid item left blank, only partially completed, or that the bidder indicates they chose to not provide a bid for will be considered incomplete, and the entire bid submittal will also be deemed incomplete, the bid submittal will be deemed 'Non-Responsive', and the bid will not be accepted. Bidders bear sole responsibility for making sure that the Proposal is complete and in accordance with the instructions provided to bidders in the bid packet.

All acknowledgement forms for all addendums that are issued during the bid process for this project must be filled out and be included with any bid submittal for that bid submittal to be considered complete. Any bid submittal lacking these completed addendum acknowledgement forms will be deemed 'Non-Responsive' and the bid will not be accepted. Bidders bear sole responsibility for making sure that they have obtained all addendums issued prior to submitting their bid.

Bidders must provide documentation as part of the bid packet submittal proving that they possess active licenses that are equivalent to or a higher class than a Water Operator D license and also equivalent to or a higher class than either a Wastewater D license or a Class 1 Collections license, and the Contractor must maintain both of these active licenses for the entirety of the project. Any bid submittal that does not include this required documentation for both licenses will be rejected as a non-responsive bid. If a Contractor allows either or both of the required licenses to lapse at any time during the course of the project then all work under this project will be halted and the City of Midland will have sole discretion to either allow the Contractor to renew both of their active licenses before resuming work or to end the project immediately.

NON-COLLUSION AFFIDAVIT OF PRIME BIDDER

State of TX §

County of MIDLAND §

says that: Twyla Clutter, being first duly sworn, deposes and

- (1) He is pres. of TEC Excavation the Bidder that has submitted the attached Bid;
- (2) He is fully informed respecting the preparation and contents of the attached Bid and of all pertinent circumstances respecting such Bid;
- (3) Such Bid is genuine and is not a collusive or sham Bid;
- (4) Neither the said Bidder nor any of its officers, partners, owners, agents, representatives, employees or parties in interest, including this affiant, has in any way colluded, conspired, connived, or agreed, directly or indirectly, with any other Bidder, firm or person to submit a collusive or sham Bid in connection with the Contract for which the attached Bid has been submitted or to refrain from bidding in connection with such Contract, or has in any manner, directly or indirectly, sought by agreement or collusion or communication or conference with any other Bidder, firm or person to fix the price or prices in the attached Bid or of any other Bidder, or to fix an overhead, profit or cost element of the Bid price or the Bid price of any other Bidder, or to secure through any advantage against the City of Midland Local Public Agency) or any person interested in the proposed contract; and
- (5) The price or prices quoted in the attached Bid are fair and proper and are not tainted by any collusion, conspiracy, connivance, or unlawful agreement on the part of the Bidder or any of its agents, representatives, owners, employees, or parties in interest, including this affiant.

(signed)

Twyla Clutter

Title

Subscribed and sworn to before me

this 23rd day of August, 2023

Guillermo Aguilar
My commission expires Feb. 8, 2024.

Debarment / Suspension Certification

I, Twyla Clutter, hereby certify that I have checked on the federal
(Authorized Representative of Recipient)
System for Award Management (www.sam.gov) website and determined that
TEC Excavation Inc. is not shown as an "excluded party" that is debarred,
(Name of Entity)
suspended or otherwise excluded from or ineligible for participation in federal assistance
programs under Executive Order 12549. (See 2 CFR Part 180 and 2 CFR Part 1532 for
additional information on the federal governmentwide debarment and suspension system for
nonprocurement programs and activities.)

I understand that a false statement herein may subject me to penalties under federal and state
laws relating to filing false statements and other relevant statutes.

Twyla Clutter
Signature

8.23.23
Date

President
Title

Twyla Clutter
Name of Recipient

Verifying prime contractors and subcontractors for construction, equipment, supplies and services: Using the www.sam.gov website, the recipient must verify prior to awarding the contract that the prime contractor is not listed as an "excluded party" that is debarred, suspended or otherwise excluded from or ineligible. Once any subcontractors are known, they also must be verified as not listed as an "excluded party" prior to award of a subcontract. The recipient must print a dated record of the verification from the www.sam.gov website and retain a copy that is available for review by TWDB. The prime contractors and subcontractors must be verified prior to the contract award or the costs may be disallowed.

Bid Bond

Surety Department

KNOW ALL MEN BY THESE PRESENTS,

That we, **TEC Excavation, Inc.**, as Principal, hereinafter called the Principal, and the **Merchants Bonding Company (Mutual)**, a Corporation created and existing under the laws of the State of **Iowa**, whose principal office is in **Des Moines, Iowa**, as Surety, hereinafter called the Surety, are held and firmly bound unto the **City of Midland, Texas**, as Obligee, hereinafter called the Obligee, in the sum of **Five Percent (5%) of the Greatest Amount Bid** Dollars (\$ -----5%-----), for the payment of which sum, well and truly to be made, the said Principal and the said Surety, bind ourselves, our heirs, executors, administrators, successors and assigns, jointly and severally, firmly by these presents.

Whereas, the Principal has submitted a bid for

Briarwood Water and Wastewater Utility Extension

NOW THEREFORE, if the Obligee shall accept the bid of the Principal and the Principal shall enter into a contract with the Obligee in accordance with the terms of such bid, and give such bond or bonds as may be specified in the bidding or contract documents with good and sufficient surety for the faithful performance of such contract and for the prompt payment of labor and material furnished in the prosecution thereof, or in the event of the failure of the Principal to enter such contract and give such bond or bonds, if the Principal shall pay to the Obligee the difference not to exceed the penalty hereof between the amount specified in said bid and such larger amount for which the Obligee may in good faith contract with another party to perform the work covered by said bid, then this obligation shall be null and void, otherwise to remain in full force and effect.

Signed and sealed this **23rd** day of **August**, 20**23**.

Attest:

By:



TEC Excavation, Inc.

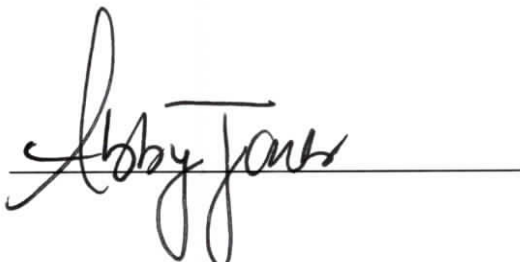
(Principal)

By



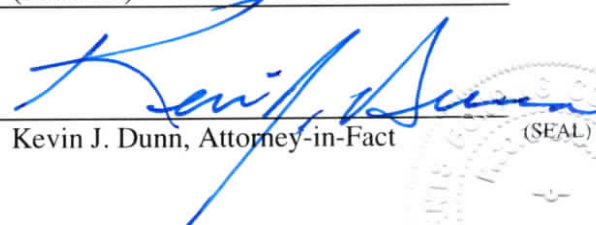
(SEAL)

Witness:



Merchants Bonding Company
(Mutual)

By



Kevin J. Dunn, Attorney-in-Fact

(SEAL)

MERCHANTS
BONDING COMPANY
POWER OF ATTORNEY

Know All Persons By These Presents, that MERCHANTS BONDING COMPANY (MUTUAL) and MERCHANTS NATIONAL BONDING, INC., both being corporations of the State of Iowa, d/b/a Merchants National Indemnity Company (in California only) (herein collectively called the "Companies") do hereby make, constitute and appoint, individually,

Bennett Brown; Kevin J Dunn; Roberta Erb; Steven Tucker; Tracy Tucker; W Lawrence Brown

their true and lawful Attorney(s)-in-Fact, to sign its name as surety(ies) and to execute, seal and acknowledge any and all bonds, undertakings, contracts and other written instruments in the nature thereof, on behalf of the Companies in their business of guaranteeing the fidelity of persons, guaranteeing the performance of contracts and executing or guaranteeing bonds and undertakings required or permitted in any actions or proceedings allowed by law.

This Power-of-Attorney is granted and is signed and sealed by facsimile under and by authority of the following By-Laws adopted by the Board of Directors of Merchants Bonding Company (Mutual) on April 23, 2011 and amended August 14, 2015 and adopted by the Board of Directors of Merchants National Bonding, Inc., on October 16, 2015.

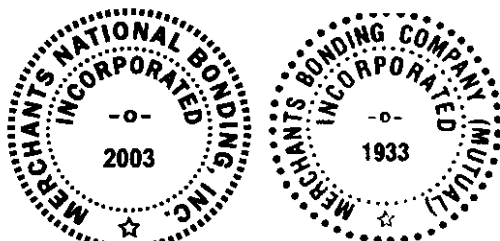
"The President, Secretary, Treasurer, or any Assistant Treasurer or any Assistant Secretary or any Vice President shall have power and authority to appoint Attorneys-in-Fact, and to authorize them to execute on behalf of the Company, and attach the seal of the Company thereto, bonds and undertakings, recognizances, contracts of indemnity and other writings obligatory in the nature thereof."

"The signature of any authorized officer and the seal of the Company may be affixed by facsimile or electronic transmission to any Power of Attorney or Certification thereof authorizing the execution and delivery of any bond, undertaking, recognizance, or other suretyship obligations of the Company, and such signature and seal when so used shall have the same force and effect as though manually fixed."

In connection with obligations in favor of the Florida Department of Transportation only, it is agreed that the power and authority hereby given to the Attorney-in-Fact includes any and all consents for the release of retained percentages and/or final estimates on engineering and construction contracts required by the State of Florida Department of Transportation. It is fully understood that consenting to the State of Florida Department of Transportation making payment of the final estimate to the Contractor and/or its assignee, shall not relieve this surety company of any of its obligations under its bond.

In connection with obligations in favor of the Kentucky Department of Highways only, it is agreed that the power and authority hereby given to the Attorney-in-Fact cannot be modified or revoked unless prior written personal notice of such intent has been given to the Commissioner-Department of Highways of the Commonwealth of Kentucky at least thirty (30) days prior to the modification or revocation.

In Witness Whereof, the Companies have caused this instrument to be signed and sealed this 8th day of December, 2022.



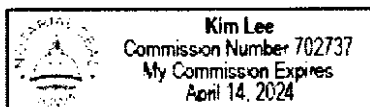
MERCHANTS BONDING COMPANY (MUTUAL)
MERCHANTS NATIONAL BONDING, INC.
d/b/a MERCHANTS NATIONAL INDEMNITY COMPANY

By

Larry Taylor
President

STATE OF IOWA
COUNTY OF DALLAS ss.

On this 8th day of December, 2022, before me appeared Larry Taylor, to me personally known, who being by me duly sworn did say that he is President of MERCHANTS BONDING COMPANY (MUTUAL) and MERCHANTS NATIONAL BONDING, INC.; and that the seals affixed to the foregoing instrument are the Corporate Seals of the Companies; and that the said instrument was signed and sealed in behalf of the Companies by authority of their respective Boards of Directors.

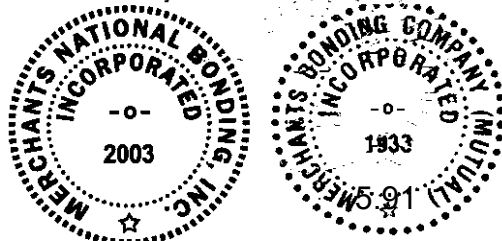


Kim Lee
Notary Public

(Expiration of notary's commission does not invalidate this instrument)

I, William Warner, Jr., Secretary of MERCHANTS BONDING COMPANY (MUTUAL) and MERCHANTS NATIONAL BONDING, INC., do hereby certify that the above and foregoing is a true and correct copy of the POWER-OF-ATTORNEY executed by said Companies, which is still in full force and effect and has not been amended or revoked.

In Witness Whereof, I have hereunto set my hand and affixed the seal of the Companies on this 23rd day of August, 2023.



William Warner Jr.
Secretary

PACKET

September 12, 2023

POA 0018 (10/22)

CONTRACT DOCUMENTS



THE CITY OF MIDLAND CONTRACT

Contract No. 23004968

THIS CONTRACT, effective the 13th day of September, 2023, by and between the City of Midland, hereinafter referred to as "CITY", and TEC Excavation, Inc., hereinafter referred to as "COMPANY", is made for the following considerations:

1. **Cost:** Total Proposal: \$ 4,321,723.00 DOLLARS
2. **Scope of Work:** COMPANY shall perform all work described for a new sound system at Momentum Bank Ballpark. Said work being more particularly described in the following documents, which are attached hereto and incorporated herein for all purposes.

EXHIBIT A..... Specifications, Proposal or Cost Summary
EXHIBIT B..... Intentionally Omitted
EXHIBIT C..... Bonding instructions for Public Works Contract of \$50,000 and more
EXHIBIT D..... Wage Scale

3. **City:** The words "CITY's Representative" or "representative" shall mean Carl Craigo or the designee under whose supervision these contract documents, including the plans and specifications, were prepared, or who may inspect work performed under this Contract; or such other representative, supervisor, or inspector as may be authorized by CITY to act in any particular capacity under this Contract.

4. **City's Representative:** CITY's Representative may make periodic visits to the site to observe the progress and quality of the executed work and to determine, in general, if the work is proceeding in accordance with the contract documents. CITY's representative will not be required to make exhaustive or continuous on-site inspections to check the quality or quantity of the work, nor will such representative be responsible for the construction means, methods, techniques, sequences or procedures, or the safety precautions incident thereto. CITY's representative will not be responsible for COMPANY's failure to perform the work in accordance with the contract.

5. **Company:** Unless otherwise stipulated, COMPANY shall provide and pay for all materials, supplies, machinery, equipment, tools, superintendence, labor, insurance, and all water, light, power, fuel,

transportation and all other facilities necessary for the execution and completion of the work covered by the contract documents. Unless otherwise specified, all materials shall be new, and both workmanship and materials shall be of a good quality. COMPANY shall, if required, furnish satisfactory evidence as to the kind and quality of materials.

5.1. COMPANY shall, at its expense, obtain all permits and licenses necessary for the performance of this contract and pay all fees and taxes required by law, and comply with all laws, ordinances, rules and regulations governing COMPANY's performance of the contract, including all environmental laws and regulations, whether state or federal.

5.2. All work shall be done and all materials furnished in strict conformity with the contract and specifications.

6. **Minor Work Not Mentioned:** All minor detail of the work not specifically mentioned in the Specifications but obviously necessary for the proper completion of the work, such as the proper connection of new work to old, shall be considered as incidental to and a part of the work for which the prices are named in the contract. COMPANY will not be entitled to any additional compensation therefor unless specifically stated otherwise. Otherwise the term "extra work" as used in this contract shall mean and include all work that may be required by CITY to be done by COMPANY to accomplish any alteration or addition to the work as shown on the Specifications.

6.1. COMPANY shall perform all extra work under the direction of CITY's Representative when presented with a written work order signed by CITY's Representative, subject, however, to the right of the COMPANY to require written confirmation of such extra work order by CITY. Payment for extra work shall be as agreed in the work order.

7. **Safety:** COMPANY shall at all times exercise reasonable precaution for the safety of employees and others on or near the work and shall comply with all applicable provisions of federal, state and municipal laws. All machinery and equipment and other physical hazards shall be guarded in accordance with federal, state or municipal laws or regulations.

8. **INDEMNITY: COMPANY SHALL INDEMNIFY AND HOLD HARMLESS AND DEFEND CITY AND ALL OF CITY'S OFFICERS, AGENTS AND EMPLOYEES FROM ALL SUITS, ACTIONS, CLAIMS, DAMAGES, PERSONAL INJURIES, ACCIDENTAL DEATH, LOSSES, PROPERTY DAMAGE AND EXPENSES OF ANY CHARACTER WHATSOEVER, INCLUDING ATTORNEY'S FEES, BROUGHT FOR OR ON ACCOUNT OF ANY INJURIES OR DAMAGES RECEIVED OR SUSTAINED BY ANY PERSON OR PERSONS OR**

PROPERTY, ON ACCOUNT OF ANY NEGLIGENT ACT OF COMPANY, THEIR AGENTS OR EMPLOYEES, OR ANY SUBCONTRACTOR, IN THE EXECUTION, SUPERVISION AND OPERATIONS GROWING OUT OF OR IN ANY WAY CONNECTED WITH THE PERFORMANCE OF THIS CONTRACT, AND COMPANY WILL BE REQUIRED TO PAY ANY JUDGMENT WITH COSTS WHICH MAY BE OBTAINED AGAINST CITY OR ANY OF ITS OFFICERS, AGENTS OR EMPLOYEES, INCLUDING ATTORNEY'S FEES. THE OBLIGATIONS CONTAINED IN THIS SECTION 8 SHALL SURVIVE THE TERMINATION OF THIS CONTRACT.

8.1. COMPANY SHALL INDEMNIFY AND HOLD HARMLESS AND DEFEND CITY AND ALL OF CITY'S OFFICERS, AGENTS AND EMPLOYEES FROM ALL SUITS, ACTIONS, CLAIMS, DAMAGES, PERSONAL INJURIES, ACCIDENTAL DEATH, PROPERTY DAMAGE, LOSSES, AND EXPENSES OF ANY CHARACTER WHATSOEVER INCLUDING ATTORNEY'S FEES, BROUGHT FOR OR ON ACCOUNT OF ANY INJURIES OR DAMAGES RECEIVED OR SUSTAINED BY ANY PERSON OR PERSONS OR PROPERTY, ON ACCOUNT OF ANY NEGLIGENT ACT OF CITY, CITY'S OFFICERS, AGENTS AND EMPLOYEES, WHETHER SUCH NEGLIGENT ACT WAS THE SOLE PROXIMATE CAUSE OF THE INJURY OR DAMAGE OR A PROXIMATE CAUSE JOINTLY AND CONCURRENTLY WITH COMPANY OR COMPANY'S EMPLOYEES, AGENTS OR SUBCONTRACTORS NEGLIGENCE IN THE EXECUTION, SUPERVISION AND OPERATIONS GROWING OUT OF OR IN ANY WAY CONNECTED WITH THE PERFORMANCE OF THIS CONTRACT, AND COMPANY WILL BE REQUIRED TO PAY ANY JUDGMENT WITH COSTS WHICH MAY BE OBTAINED AGAINST CITY OR ANY OF ITS OFFICERS, AGENTS OR EMPLOYEES, INCLUDING ATTORNEY'S FEES. THE OBLIGATIONS CONTAINED IN THIS SECTION 8.1 SHALL SURVIVE THE TERMINATION OF THIS CONTRACT.

8.2. COMPANY AGREES THAT IT WILL INDEMNIFY AND SAVE CITY HARMLESS FROM ALL CLAIMS GROWING OUT OF ANY DEMANDS OF SUBCONTRACTORS, LABORERS, WORKMEN, MECHANICS, MATERIALMEN, AND FURNISHERS OF MACHINERY AND PARTS THEREOF, EQUIPMENT, POWER TOOLS AND ALL SUPPLIES, INCURRED IN THE FURTHERANCE OF THE PERFORMANCE OF THIS CONTRACT. WHEN CITY SO DESIRES, COMPANY SHALL FURNISH SATISFACTORY EVIDENCE THAT ALL OBLIGATIONS OF THE NATURE HEREINABOVE DESIGNATED HAVE BEEN PAID, DISCHARGED OR WAIVED. COMPANY, ITS SURETIES AND INSURANCE CARRIERS SHALL DEFEND, INDEMNIFY AND SAVE HARMLESS CITY AND

ALL OF ITS OFFICERS, AGENTS AND EMPLOYEES FROM ALL SUITS, ACTIONS, OR CLAIMS OF ANY CHARACTER WHATSOEVER, BROUGHT FOR OR ON ACCOUNT OF ANY INJURIES OR DAMAGES RECEIVED OR SUSTAINED BY ANY PERSON OR PERSONS OR PROPERTY, ARISING FROM ANY ACT OF COMPANY OR ANY SUBCONTRACTOR, THEIR AGENTS OR EMPLOYEES, IN THE EXECUTION AND SUPERVISION OF THIS CONTRACT, AND WILL BE REQUIRED TO PAY ANY JUDGMENT WITH COSTS WHICH MAY BE OBTAINED AGAINST CITY OR ANY OF ITS OFFICERS, AGENTS, OR EMPLOYEES INCLUDING ATTORNEY'S FEES. THE OBLIGATIONS CONTAINED IN THIS SECTION 8.2 SHALL SURVIVE THE TERMINATION OF THIS CONTRACT.

9. **Start of Work:** COMPANY shall commence work no later than ten (10) days after receipt of the execution of this document or other written release to proceed and shall complete such work no later than 330 calendar days after release to proceed.

10. **Clean Up:** COMPANY shall promptly remove from CITY's premises all materials condemned by CITY's Representative on account of failure to conform to the contract, whether actually incorporated in the work or not, and COMPANY shall at its own expense promptly replace such condemned materials with other materials conforming to the requirements of the contract. COMPANY shall also bear the expense of restoring all work of other contractors damaged by any such removal or replacement. If COMPANY does not remove and replace any such condemned materials within a reasonable time after a written notice by CITY, CITY may remove and replace such at COMPANY's expense.

11. **Warranty:** Neither the final payment nor any provision in this contract shall relieve COMPANY of responsibility for faulty materials or workmanship, and he shall remedy any defects due thereto and pay for any damage to other work resulting therefrom, which shall appear within a period of one (1) year from the date of substantial completion. CITY shall give notice of observed defects with reasonable promptness.

12. **Remedy:** CITY may, on account of subsequently discovered evidence, withhold whole or part of any payment to such extent as may be necessary to protect itself from loss on account of:

12.1. Defective work not remedied; or

12.2. Claims filed or reasonable evidence indicating possible filing of claims; or

12.3. Failure of COMPANY to make payments promptly to subcontractors or for material or labor which CITY may pay as an agent for the COMPANY; or

12.4. Damages to another contractor or subcontractor.

When the above grounds to withhold payment are removed, or COMPANY provides a surety bond satisfactory to CITY, which will protect CITY in the amount withheld, payment may be released.

13. **Funding Out:** In the event no funds or insufficient funds are appropriated and budgeted or are otherwise unavailable in any fiscal period for contract payments due under the contract, then this contract shall terminate on the last day of the fiscal period for which full appropriations were made, without penalty or expense to CITY of any kind whatsoever.

14. **Wage Scale:** COMPANY agrees to pay all workmen in his employ no less than the generally prevailing wage rate for employees of similar category in the Permian Basin Area, as is depicted in the wage rate scale attached hereto as EXHIBIT D, and incorporated herein by reference for all legal purposes.

14.1. If applicable, the Davis-Bacon Act, 29 CFR 5.5, and any related acts or regulations are hereby incorporated by reference and made a part of this Contract, and all terms and requirements under said laws, by such incorporation, are made terms and requirements of this Contract, to which the parties to this Contract have agreed to be bound.

15. **Prompt Pay Act:** CITY and COMPANY agree that Texas Government Code, Chapter 2251, Payment for Goods and Services (the "Prompt Pay Act") does not waive governmental immunity.

16. **Payment; Retainage:** After all work is completed by COMPANY, including all Change Orders altering the original scope and amount of the contract are completed, and the CITY has inspected and approved that the work is completed and in compliance with the contract and all subsequent Change Orders, the CITY may thereafter issue payment to COMPANY in the amount of the contract and all Change Orders. The CITY shall be the final judge of when the work is completed by COMPANY. The CITY, in its sole discretion, shall determine if the work under the contract and under any Change Orders has been done to the CITY's requirements.

16.1. The CITY may make periodic payments to COMPANY; provided, however, such periodic payments may only be made pursuant to this section, and only after all work and all Change Orders are completed by COMPANY and approved by the CITY. The approval shall be in the CITY's sole discretion. Requests for progress payments may be made to the extent of the materials and labor completed at the end of each month. Upon approval by the CITY or the CITY's representative, the request and invoice shall be forwarded for payment less 5% retainage. The total of these payments shall not exceed 95% of the total contract amount.

17. **Late Completion; Liquidated Damages:** It is hereby understood and mutually agreed, by and between COMPANY and the CITY, that the date of beginning and the time for completion as specified in the contract of the work to be done hereunder are ESSENTIAL CONDITIONS of this contract; and it is further mutually understood and agreed that the work embraced in this contract shall be commenced on a date to be specified in the "Notice to Proceed." COMPANY agrees that said work shall be prosecuted regularly, diligently, and uninterruptedly at such rate of progress as will insure full completion thereof within the time specified. It is expressly understood and agreed, by and between COMPANY and the CITY, that the time for the completion of the work described herein is a reasonable time for the completion of the same, taking into consideration the average climatic range and usual industrial conditions prevailing in this locality.

17.1. In the event COMPANY shall neglect, fail or refuse to complete the work within the time herein specified, or any proper extension thereof granted by the CITY, then COMPANY and COMPANY's surety, if any, shall be liable for and does hereby agree, as a part consideration for the awarding of this contract, to pay to the CITY \$500.00, not as a penalty but as liquidated damages for such breach of contract as hereinafter set forth, for each and every day that COMPANY shall be in default after the time stipulated in the contract for completing the work. Further, the CITY shall have the right to cancel this contract for such delay. In the event the CITY cancels this contract pursuant to the terms of this section, the CITY shall pay to COMPANY only those monies deemed appropriate by the CITY, in its sole discretion, to compensate COMPANY for any work actually performed, less any liquidated damages COMPANY owes the CITY.

17.2. The said amount is fixed and agreed upon by and between COMPANY and the CITY because of the impracticability and extreme difficulty of fixing and ascertaining the actual damages the CITY would in such event sustain, and said amount is agreed to be the amount of damages which the CITY would sustain and said amount shall be retained from time to time by the CITY from current periodical estimates.

17.3. It is further agreed that time is of the essence of each and every portion of this contract and of the specifications wherein a definite and certain length of time is fixed for the performance of any act whatsoever; and where under the contract an additional time is allowed for the completion of any work, the new time limit fixed by such extension shall be of the essence of this contract. Provided, that COMPANY shall not be charged with liquidated damages or any excess cost when the CITY determines, in its sole discretion, that COMPANY is without fault and COMPANY's reasons for the time extension are acceptable to the CITY. Provided, further, that COMPANY shall not be charged with liquidated damages or excess cost when the delay in completion of the work is due to

- a. To any preference, priority or allocation order duly issued by the Government;
- b. To unforeseeable cause beyond the control and without the fault or negligence of COMPANY, including, but not restricted to, acts of God, or of the public enemy, acts of the CITY, acts of another contractor in the performance of a contract with the CITY, fires, floods, epidemics, quarantine restrictions, strikes, freight embargoes, and severe weather; and
- c. To any delays of subcontractors or suppliers occasioned by any of the causes specified in subsections (a) and (b) of this article.

17.4. Provided, further, that COMPANY shall, within ten (10) days from the beginning of such delay, unless the CITY shall, in its sole discretion grant a further period of time prior to the date of final settlement of the contract, notify the CITY, in writing, of the causes of the delay, who shall ascertain the facts and extent of the delay and notify COMPANY within a reasonable time of its decision in the matter.

17.5. COMPANY AGREES THAT THE PAYMENT OF SUCH LIQUIDATED DAMAGES MAY BE RECOVERED BY THE CITY FROM RETAINAGE HELD BY THE CITY. NOTWITHSTANDING ANY OTHER PROVISION HEREOF, COMPANY HEREBY RELEASES, ACQUITS, RELINQUISHES AND FOREVER DISCHARGES CITY, CITY'S EMPLOYEES AND OFFICERS FROM ANY AND ALL DEMANDS, CLAIMS, DAMAGES, OR CAUSES OF ACTION OF ANY KIND WHATSOEVER ARISING FROM THE CITY WITHHOLDING PAYMENT FROM COMPANY AS LIQUIDATED DAMAGES FOR COMPANY'S FAILURE TO COMPLETE THE WORK WITHIN THE TIME SPECIFIED HEREIN, INCLUDING BUT NOT LIMITED TO BREACH OF CONTRACT, QUANTUM MERUIT, CLAIMS UNDER THE DUE PROCESS AND TAKINGS CLAUSES OF THE TEXAS AND UNITED STATES CONSTITUTIONS, TORT CLAIMS, OR CITY'S NEGLIGENCE.

17.6. COMPANY SHALL RECEIVE NO FINANCIAL COMPENSATION FOR DELAY OR HINDRANCE TO THE WORK. IN NO EVENT SHALL THE CITY BE LIABLE TO COMPANY OR ANY SUBCONTRACTOR OR SUPPLIER, ANY OTHER PERSON OR ANY SURETY FOR OR ANY EMPLOYEE OR AGENT OF ANY OF THEM, FOR ANY DAMAGES ARISING OUT OF OR ASSOCIATED WITH ANY DELAY OR HINDRANCE TO THE WORK, REGARDLESS OF THE SOURCE OF THE DELAY OR HINDRANCE, INCLUDING EVENTS OF FORCE MAJEURE, AND EVEN IF SUCH DELAY OR HINDRANCE RESULTS FROM, ARISES OUT OF OR IS DUE, IN WHOLE OR IN PART, TO THE NEGLIGENCE OF THE CITY. COMPANY'S SOLE REMEDY IN ANY SUCH CASE SHALL BE AN EXTENSION OF TIME.

18. **No Third-Party Beneficiary:** CITY's approval of this contract does not create a third-party beneficiary.

beneficiary. There is no third-party beneficiary to this contract. No person or entity who is not a party to this contract shall have any third-party beneficiary or other rights hereunder.

19. WAIVER OF ATTORNEY FEES: BY EXECUTING THIS CONTRACT, COMPANY AGREES TO WAIVE AND DOES HEREBY KNOWINGLY, CONCLUSIVELY, VOLUNTARILY AND INTENTIONALLY WAIVE ANY CLAIM IT HAS OR MAY HAVE IN THE FUTURE AGAINST CITY REGARDING THE AWARD OR ATTORNEY'S FEES, WHICH ARE IN ANY WAY RELATED TO THIS CONTRACT, OR THE CONSTRUCTION, INTERPRETATION OR BREACH OF THIS CONTRACT. COMPANY SPECIFICALLY AGREES THAT IF COMPANY BRINGS OR COMMENCES ANY LEGAL ACTION OR PROCEEDING RELATED TO THIS CONTRACT, THE CONSTRUCTION, INTERPRETATION, VALIDITY OR BREACH OF THIS CONTRACT, INCLUDING, BUT NOT LIMITED TO, ANY ACTION PURSUANT TO THE PROVISIONS OF THE TEXAS UNIFORM DECLARATORY JUDGMENTS ACT (TEXAS CIVIL PRACTICE AND REMEDIES CODE SECTION 37.001, ET SEQ., AS AMENDED), OR CHAPTER 271 OF THE TEXAS LOCAL GOVERNMENT CODE, COMPANY AGREES TO ABANDON, WAIVE AND RELINQUISH ANY AND ALL RIGHTS TO THE RECOVERY OF ATTORNEY'S FEES TO WHICH COMPANY MIGHT OTHERWISE BE ENTITLED.

COMPANY AGREES THAT THIS IS THE VOLUNTARY AND INTENTIONAL RELINQUISHMENT AND ABANDONMENT OF A PRESENTLY-EXISTING KNOWN RIGHT. COMPANY ACKNOWLEDGES THAT IT UNDERSTANDS ALL TERMS AND CONDITIONS OF THIS CONTRACT. COMPANY FURTHER ACKNOWLEDGES AND AGREES THAT THERE WAS AND IS NO DISPARITY OF BARGAINING POWER BETWEEN CITY AND COMPANY. THIS SECTION SHALL NOT BE CONSTRUED OR INTERPRETED AS A WAIVER OR GOVERNMENTAL IMMUNITY AND SHALL SURVIVE THE TERMINATION OF THIS CONTRACT.

COMPANY IS RELYING ON ITS OWN JUDGMENT. COMPANY HAD THE OPPORTUNITY TO DISCUSS THIS CONTRACT WITH COMPETENT LEGAL COUNSEL PRIOR TO ITS EXECUTION. THE OBLIGATIONS CONTAINED IN THIS SECTION 18 SHALL SURVIVE THE TERMINATION OF THIS CONTRACT.

20. Governmental Immunity: By executing this contract CITY is not waiving its right of governmental immunity. CITY is retaining its immunity from suit. CITY is not granting consent to be sued by legislative resolution or action.

THERE IS NO WAIVER OF GOVERNMENTAL IMMUNITY.

21. Insurance:

COMPANY shall at all times during the term of this Contract maintain and keep in full force and effect insurance in the following types and minimum amounts with companies authorized to do business in the State of Texas:

Commercial General Liability (including Contractual liability):

-Personal Injury: \$1,000,000.00 per person
\$1,000,000.00 per occurrence

-Property Damage: \$500,000.00 per occurrence

Business Automobile Liability: \$250,000.00 combined single limit -
Personal Injury and Property Damage

Workers' Compensation: Statutory limits

Employers' Liability: \$500,000.00 per accident or occurrence

The Commercial General Liability shall be on a per project aggregate, including completed operations, and shall be on a claims-occurred basis. This insurance shall name CITY as an additional insured and waive subrogation in favor of CITY.

The Business Automobile Liability insurance provided by COMPANY shall cover any auto for bodily injury and property damage, including owned vehicles, hired and non-city vehicles, and employee non-ownership, and the amount of such policy shall be a minimum of \$250,000.00 covering any vehicle used for the execution of the work that is the subject of this Contract. This insurance shall name CITY as an additional insured and waive subrogation in favor of CITY.

The Workers' Compensation coverage provided by COMPANY shall inure to the benefit of employees injured during the course and scope of their employment by COMPANY pursuant to this Contract. The Workers' Compensation shall waive all rights of subrogation in favor of CITY.

All insurance required pursuant to this Contract shall provide for a waiver of subrogation in favor of CITY. All insurance required pursuant to this Contract, except for Workers' Compensation Insurance, shall name CITY as an additional insured on a claims occurred basis. CITY shall be provided the notice by COMPANY's insurance provider not later than thirty (30) days prior to any reduction or termination of such coverage.

COMPANY shall contractually require all contractors, subcontractors, and sub-subcontractors that work on any portion of the work that is the subject of this Contract to obtain insurance coverage that meets or exceeds the policy requirements and minimum amounts specified herein. All contractors, subcontractors, and sub-subcontractors shall obtain insurance policies that provide blanket waivers of

subrogation in favor of the City of Midland and policies that name the City of Midland as an additional insured on a claims occurred basis (except workers' compensation).

The parties agree that, prior to the execution of the Contract, COMPANY shall provide one or more certificates of insurance specifically stating that these requirements have been met and subject to the approval of CITY. CITY shall not be required to provide any insurance whatsoever pursuant to this Contract.

COMPANY certifies that the certificate of insurance provided as required herein complies with the requirements of Chapter 1811 of the Texas Insurance Code. COMPANY shall not use an unapproved certificate of insurance or insert inappropriate language on a certificate. Compliance with state law is the sole responsibility of COMPANY.

22. **Assignment:** COMPANY shall not, either directly or indirectly, assign all or any part of this Contract or any interest, right or privilege herein, without the prior written consent of CITY. The issue on whether or not to grant consent to an assignment is in the sole discretion of CITY.

23. **RELEASE: NOTWITHSTANDING ANY OTHER PROVISION CONTAINED HEREIN, COMPANY HEREBY RELEASES, ACQUITS, RELINQUISHES AND FOREVER DISCHARGES CITY AND CITY'S COUNCIL MEMBERS, EMPLOYEES, AND OFFICERS FROM ANY AND ALL DEMANDS, CLAIMS, DAMAGES OR CAUSES OF ACTION OF ANY KIND WHATSOEVER THAT COMPANY HAS OR MIGHT HAVE IN THE FUTURE, INCLUDING, BUT NOT LIMITED TO, BREACH OF CONTRACT, QUANTUM MERUIT, CLAIMS UNDER THE DUE PROCESS AND TAKINGS CLAUSES OF THE TEXAS AND UNITED STATES CONSTITUTIONS, TORT CLAIMS, OR CITY'S NEGLIGENCE. THE OBLIGATIONS CONTAINED IN THIS SECTION SHALL SURVIVE THE TERMINATION OF THIS CONTRACT.**

24. **Governing Law and Venue:** This contract shall be governed by the laws of the State of Texas. All performance and payment made pursuant to this contract shall be deemed to have occurred in Midland County, Texas. The obligations and undertakings of each of the parties to this Agreement shall be deemed to have occurred in Midland County, Texas. Exclusive venue for any claims, suits or any other action arising from or connected in any way to this contract or the performance of this contract shall be in Midland County, Texas.

25. **Independent Contractor:** COMPANY shall perform all work and services described herein as an independent contractor and not as an officer, agent, servant, or employee of CITY. COMPANY shall have exclusive control of, and the exclusive right to control the details of the services and work to be

performed hereunder, and all persons performing the same. COMPANY shall be solely responsible for the acts and omissions of its officers, agents, employees, contractors and subcontractors and the doctrine of respondeat superior shall not apply as between CITY and COMPANY, its officers, agents, employees, contractors and subcontractors. Nothing in this Contract shall be construed as creating a partnership or joint enterprise between CITY and COMPANY. No person performing any of the work and services described hereunder by COMPANY shall be considered an officer, agent, servant or employee of CITY. Further, it is specifically understood and agreed that nothing in this contract is intended or construed as creating a "Community of Pecuniary Interest" or an "Equal Right of Control" which would give rise to vicarious liability.

COMPANY shall be an independent contractor under this Contract and shall assume all of the rights, obligations and liabilities, applicable to it as such independent contractor hereunder. CITY does not have the power to direct the order in which the work is done. CITY shall not have the right to control the means, methods or details of COMPANY's work. COMPANY shall assume exclusive responsibility for the work. COMPANY is entirely free to do the work in its own way.

26. Notice of Alleged Breach; Statutory Prerequisites: As a condition precedent to filing suit for alleged damages incurred by an alleged breach of an express or implied provision of this Contract, COMPANY or its legal representative, shall give the City Manager, or any other reasonable official of CITY, notice in writing (consisting of one (1) original and seven (7) copies of notice attached to a copy of this Contract) of such damages, duly verified, within one hundred twenty (120) days after the same has been sustained. The discovery rule does not apply to the giving of this notice. The notice shall include when, where and how the damages occurred, the apparent extent thereof, the amount of damages sustained, the amount for which COMPANY shall settle, the physical and mailing addresses of COMPANY at the time and date the claim was presented and the physical and mailing addresses of COMPANY for the six (6) months immediately preceding the occurrence of such damages, and the names and addresses of the witnesses upon whom COMPANY relies to establish its claim; and a failure to provide such written notification within the time and manner provided herein shall exonerate, excuse and except CITY from any liability whatsoever. CITY is under no obligation to provide notice to COMPANY that COMPANY's notice is insufficient. CITY reserves the right to request additional information regarding the claim. Said additional information shall be supplied within thirty (30) days after receipt of notice.

The statutory prerequisites outlined herein constitute jurisdictional requirements pursuant to Section 271.154 of the Texas Local Government Code and Section 311.034 of the Texas Government Code. Notwithstanding any other provision to the contrary, COMPANY shall comply with the

requirements of this Section shall perpetually bar COMPANY's claim for damages under Chapter 271 of the Texas Local Government Code, and Section 311.034 of the Texas Government Code, regardless if CITY has actual or constructive notice or knowledge of said claim or alleged damages. COMPANY agrees that the requirements of this entire Contract are reasonable. The provisions and obligations of this Section shall survive the termination of this Contract.

27. **Consideration:** The terms of this Contract are supported by good and valuable consideration, the receipt and sufficiency of which is hereby acknowledged by the parties named herein.

28. **Termination At Will:** CITY may terminate this Contract at will for no or any reason upon giving at least one hundred eighty (180) days written notice to COMPANY. The parties to this Contract understand and agree that it is in CITY's sole discretion to cancel the Contract during the term of the Contract without penalty to CITY. COMPANY has no expectation and has received no guarantees that this Contract will not be terminated before the end of the Contract term. The parties have bargained for the flexibility of terminating this Contract upon tender of the requisite notice at any time during the term of the Contract. All work and services under the Contract shall be suspended upon termination of the Contract becoming effective.

29. **Compliance:** COMPANY agrees that it shall comply with Texas Government Code Section 2252.908, *et seq.*, as amended. COMPANY agrees that it shall comply with Texas Local Government Code Section 176.006, *et seq.*, as amended.

30. To the extent that Sections 2271.002 and 2274.002 of the Texas Government Code (collectively, the "Anti-Boycott Statutes") apply to this Contract, Company hereby verifies:

- that Company does not boycott Israel and will not boycott Israel during the term of this Contract;
- that Company does not boycott energy companies and will not boycott energy companies during the term of this Contract; and
- that Company does not have a practice, policy, guidance, or directive that discriminates against a firearm entity or firearm trade association and will not discriminate during the term of this Contract against a firearm entity or firearm trade association.

To the extent that the Anti-Boycott Statutes do not apply to this Contract, such verification is not required, and Company shall be deemed to have not made such verification.

31. **Records Retention and Production of Information.** To the extent that this Contract constitutes a contract described by Section 552.371 of the Texas Government Code, COMPANY shall: (i) preserve all contracting information related to this Contract as provided by the records retention requirements

applicable to CITY for the duration of this Contract; (ii) promptly provide to CITY any contracting information related to the Contract that is in the custody or possession of COMPANY on request of CITY; and (iii) on completion of the Contract, either: (a) provide at no cost to CITY all contracting information related to the Contract that is in the custody or possession of COMPANY; or (b) preserve the contracting information related to the Contract as provided by the records retention requirements applicable to CITY.

32. **Public Information.** To the extent that this Contract is a contract described by Section 552.371 of the Texas Government Code, COMPANY agrees as follows in accordance with Section 552.372(b) of the Texas Government Code: The requirements of Subchapter J, Chapter 552, Government Code, may apply to this Contract, and COMPANY agrees that the contract can be terminated if COMPANY knowingly or intentionally fails to comply with a requirement of that subchapter.

33. **Conflict of Terms.** If a conflict of terms or language exists between: (i) any of the provisions of this Contract and (ii) any of the provisions contained in any exhibit(s) attached to this Contract, precedence shall be given to the provisions of this Contract. For the avoidance of any doubt, the provisions contained in this Contract shall supersede any and all conflicting provisions contained in any exhibit(s) attached hereto. Furthermore, the parties acknowledge and agree that any provision contained in an exhibit(s) attached to this Contract that imposes an additional express or implied obligation on CITY is hereby made void and of no force or effect. CITY's sole and exclusive obligations under this Contract are contained in the provisions of this Contract that precede the signature page(s), which evidences the parties' execution.

34. Company agrees that all iron or steel products produced through a manufacturing process and used in the project that is the subject of this Contract shall be produced in the United States in accordance with Government Code § 2252.202, et seq., as amended.

EXECUTED IN DUPLICATE the day and year first above mentioned.

THE CITY OF MIDLAND, TEXAS

By: _____
Tommy Gonzalez, City Manager

ATTEST

Marcia Bentley-German, City Governance Officer/City Secretary

APPROVED ONLY AS TO FORM

John Ohnemiller, City Attorney

COMPANY:

By: _____

Name: _____

Title: _____

STATE OF _____ §

§

COUNTY OF _____ §

BEFORE ME, the undersigned authority, on this ____ day of _____, 20____ personally appeared, _____, an officer of TEC Excavation, Inc., known to me to be the person and official whose name is subscribed to the forgoing instrument, and acknowledged to me that he executed the same as the act and deed of said corporation, for the purposes and consideration therein expressed, and in the capacity therein stated.

GIVEN UNDER MY HAND AND SEAL OF OFFICE this the ____ day of _____, 20____.

EXHIBIT C

Bonding Requirements

The successful Bidder shall be required to furnish a Performance & Payment Bond* for Bids in excess of \$50,000.00, in an amount equal to one hundred percent (100%) of the total contract price, such bond to be executed in five (5) original counterparts by a Corporate Surety authorized to do business in the State of Texas and acceptable to the City of Midland. All bonds must be executed on forms contained in these contract documents. The form of agreement which the successful Bidder, as contractor, will be required to execute is also included herewith. The form of agreement and the form of the bonds should be carefully examined by the Bidder.

A certified check, cashier's check, bank money order, or irrevocable letter of credit issued by a bank satisfactory to the City, or a Bidder's bond on the form provided, in the amount of five percent (5%) of the largest possible lump sum Bid submitted, payable without recourse to the City, must accompany the Bidder's Bid, as a guaranty that the Bidder will enter a contract and execute the required payment bond and guaranty in the forms provided within fifteen (15) days after notice of award of contract to him. Bids or Bids without the required Bid guaranty will not be considered. All Bid sureties and payment bonds shall name the City of Midland as Obligee.

*A cash security such as a cashier's check or irrevocable letter of credit issued by a bank satisfactory to the City for 100 % of the contract amount may be supplied in lieu of the Performance and Payment Bonds. The check will be returned un-cashed upon satisfactory completion of the work and evidence of payment of all obligations due for the contract.

STANDARD GENERAL CONDITIONS OF THE CONSTRUCTION CONTRACT

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Exhibit A – Foreseeable Bad Weather Days

STANDARD GENERAL CONDITIONS OF THE CONSTRUCTION CONTRACT

ARTICLE 1—DEFINITIONS AND TERMINOLOGY

1.01 *Defined Terms*

- A. Wherever used in the Bidding Requirements or Contract Documents, a term printed with initial capital letters, including the term's singular and plural forms, will have the meaning indicated in the definitions below. In addition to terms specifically defined, terms with initial capital letters in the Contract Documents include references to identified articles and paragraphs, and the titles of other documents or forms.
1. *Addenda*—Written or graphic instruments issued prior to the opening of Bids which clarify, correct, or change the Bidding Requirements or the proposed Contract Documents.
 2. *Agreement*—The written instrument, executed by Owner and Contractor, that sets forth the Contract Price and Contract Times, identifies the parties and the Engineer, and designates the specific items that are Contract Documents.
 3. *Application for Payment*—The document prepared by Contractor, in a form acceptable to Engineer, to request progress or final payments, and which is to be accompanied by such supporting documentation as is required by the Contract Documents.
 4. *Bid*—The offer of a Bidder submitted on the prescribed form setting forth the prices for the Work to be performed.
 5. *Bidder*—An individual or entity that submits a Bid to Owner.
 6. *Bidding Documents*—The Bidding Requirements, the proposed Contract Documents, and all Addenda.
 7. *Bidding Requirements*—The Advertisement or invitation to Bid, Instructions to Bidders, Bid Bond or other Bid security, if any, the Bid Form, and the Bid with any attachments.
 8. *Change Order*—A document which is signed by Contractor and Owner and authorizes an addition, deletion, or revision in the Work or an adjustment in the Contract Price or the Contract Times, or other revision to the Contract, issued on or after the Effective Date of the Contract.
 9. *Change Bid*—A written request by Contractor, duly submitted in compliance with the procedural requirements set forth herein, seeking an adjustment in Contract Price or Contract Times; contesting an initial decision by Engineer concerning the requirements of the Contract Documents or the acceptability of Work under the Contract Documents; challenging a set-off against payments due; or seeking other relief with respect to the terms of the Contract.
 10. *Claim*
 - a. A demand or assertion by Owner directly to Contractor, duly submitted in compliance with the procedural requirements set forth herein, seeking an adjustment of Contract Price or Contract Times; contesting an initial decision by Engineer concerning the

- requirements of the Contract Documents or the acceptability of Work under the Contract Documents; contesting Engineer's decision regarding a Change Bid; seeking resolution of a contractual issue that Engineer has declined to address; or seeking other relief with respect to the terms of the Contract.
- b. A demand or assertion by Contractor directly to Owner, duly submitted in compliance with the procedural requirements set forth herein, contesting Engineer's decision regarding a Change Bid, or seeking resolution of a contractual issue that Engineer has declined to address.
 - c. A demand or assertion by Owner or Contractor, duly submitted in compliance with the procedural requirements set forth herein, made pursuant to Paragraph 12.01.A.4, concerning disputes arising after Engineer has issued a recommendation of final payment.
 - d. A demand for money or services by a third party is not a Claim.
- 11. *Constituent of Concern*—Asbestos, petroleum, radioactive materials, polychlorinated biphenyls (PCBs), lead-based paint (as defined by the HUD/EPA standard), hazardous waste, and any substance, product, waste, or other material of any nature whatsoever that is or becomes listed, regulated, or addressed pursuant to Laws and Regulations regulating, relating to, or imposing liability or standards of conduct concerning, any hazardous, toxic, or dangerous waste, substance, or material.
 - 12. *Contract*—The entire and integrated written contract between Owner and Contractor concerning the Work.
 - 13. *Contract Documents*—Those items so designated in the Agreement, and which together comprise the Contract.
 - 14. *Contract Price*—The money that Owner has agreed to pay Contractor for completion of the Work in accordance with the Contract Documents.
 - 15. *Contract Times*—The number of days or the dates by which Contractor shall: (a) achieve Milestones, if any; (b) achieve Substantial Completion; and (c) complete the Work.
 - 16. *Contractor*—The individual or entity with which Owner has contracted for performance of the Work.
 - 17. *Cost of the Work*—See Paragraph 13.01 for definition.
 - 18. *Drawings*—The part of the Contract that graphically shows the scope, extent, and character of the Work to be performed by Contractor.
 - 19. *Effective Date of the Contract*—The date, indicated in the Agreement, on which the Contract becomes effective.
 - 20. *Electronic Document*—Any Project-related correspondence, attachments to correspondence, data, documents, drawings, information, or graphics, including but not limited to Shop Drawings and other Submittals, that are in an electronic or digital format.
 - 21. *Electronic Means*—Electronic mail (email), upload/download from a secure Project website, or other communications methods that allow: (a) the transmission or communication of Electronic Documents; (b) the documentation of transmissions, including sending and receipt; (c) printing of the transmitted Electronic Document by the

recipient; (d) the storage and archiving of the Electronic Document by sender and recipient; and (e) the use by recipient of the Electronic Document for purposes permitted by this Contract. Electronic Means does not include the use of text messaging, or of Facebook, Twitter, Instagram, or similar social media services for transmission of Electronic Documents.

22. *Engineer*—The individual or entity named as such in the Agreement.
23. *Field Order*—A written order issued by Engineer which requires minor changes in the Work but does not change the Contract Price or the Contract Times.
24. *Hazardous Environmental Condition*—The presence at the Site of Constituents of Concern in such quantities or circumstances that may present a danger to persons or property exposed thereto.
- a. The presence at the Site of materials that are necessary for the execution of the Work, or that are to be incorporated into the Work, and that are controlled and contained pursuant to industry practices, Laws and Regulations, and the requirements of the Contract, is not a Hazardous Environmental Condition.
 - b. The presence of Constituents of Concern that are to be removed or remediated as part of the Work is not a Hazardous Environmental Condition.
 - c. The presence of Constituents of Concern as part of the routine, anticipated, and obvious working conditions at the Site, is not a Hazardous Environmental Condition.
25. *Laws and Regulations; Laws or Regulations*—Any and all applicable laws, statutes, rules, regulations, ordinances, codes, and binding decrees, resolutions, and orders of any and all governmental bodies, agencies, authorities, and courts having jurisdiction.
26. *Liens*—Charges, security interests, or encumbrances upon Contract-related funds, real property, or personal property.
27. *Milestone*—A principal event in the performance of the Work that the Contract requires Contractor to achieve by an intermediate completion date, or by a time prior to Substantial Completion of all the Work.
28. *Notice of Award*—The written notice by Owner to a Bidder of Owner's acceptance of the Bid.
29. *Notice to Proceed*—A written notice by Owner to Contractor fixing the date on which the Contract Times will commence to run and on which Contractor shall start to perform the Work.
30. *Owner*—The individual or entity with which Contractor has contracted regarding the Work, and which has agreed to pay Contractor for the performance of the Work, pursuant to the terms of the Contract.
31. *Progress Schedule*—A schedule, prepared and maintained by Contractor, describing the sequence and duration of the activities comprising Contractor's plan to accomplish the Work within the Contract Times.
32. *Project*—The total undertaking to be accomplished for Owner by engineers, contractors, and others, including planning, study, design, construction, testing, commissioning, and start-up, and of which the Work to be performed under the Contract Documents is a part.

33. *Resident Project Representative*—The authorized representative of Engineer assigned to assist Engineer at the Site. As used herein, the term Resident Project Representative (RPR) includes any assistants or field staff of Resident Project Representative.
34. *Samples*—Physical examples of materials, equipment, or workmanship that are representative of some portion of the Work and that establish the standards by which such portion of the Work will be judged.
35. *Schedule of Submittals*—A schedule, prepared and maintained by Contractor, of required submittals and the time requirements for Engineer's review of the submittals.
36. *Schedule of Values*—A schedule, prepared and maintained by Contractor, allocating portions of the Contract Price to various portions of the Work, and used as the basis for reviewing Contractor's Applications for Payment.
37. *Shop Drawings*—All drawings, diagrams, illustrations, schedules, and other data or information that are specifically prepared or assembled by or for Contractor and submitted by Contractor to illustrate some portion of the Work. Shop Drawings, whether approved or not, are not Drawings and are not Contract Documents.
38. *Site*—Lands or areas indicated in the Contract Documents as being furnished by Owner upon which the Work is to be performed, including rights-of-way and easements, and such other lands or areas furnished by Owner which are designated for the use of Contractor.
39. *Specifications*—The part of the Contract that consists of written requirements for materials, equipment, systems, standards, and workmanship as applied to the Work, and certain administrative requirements and procedural matters applicable to the Work.
40. *Subcontractor*—An individual or entity having a direct contract with Contractor or with any other Subcontractor for the performance of a part of the Work.
41. *Submittal*—A written or graphic document, prepared by or for Contractor, which the Contract Documents require Contractor to submit to Engineer, or that is indicated as a Submittal in the Schedule of Submittals accepted by Engineer. Submittals may include Shop Drawings and Samples; schedules; product data; Owner-delegated designs; sustainable design information; information on special procedures; testing plans; results of tests and evaluations, source quality-control testing and inspections, and field or Site quality-control testing and inspections; warranties and certifications; Suppliers' instructions and reports; records of delivery of spare parts and tools; operations and maintenance data; Project photographic documentation; record documents; and other such documents required by the Contract Documents. Submittals, whether or not approved or accepted by Engineer, are not Contract Documents. Change Bids, Change Orders, Claims, notices, Applications for Payment, and requests for interpretation or clarification are not Submittals.
42. *Substantial Completion*—The time at which the Work (or a specified part thereof) has progressed to the point where, in the opinion of Engineer, the Work (or a specified part thereof) is sufficiently complete, in accordance with the Contract Documents, so that the Work (or a specified part thereof) can be utilized for the purposes for which it is intended. The terms "substantially complete" and "substantially completed" as applied to all or part of the Work refer to Substantial Completion of such Work.

43. *Successful Bidder*—The Bidder to which the Owner makes an award of contract.
44. *Supplementary Conditions*—The part of the Contract that amends or supplements these General Conditions. **Supplementary Conditions are established by redline edits to these Standard General Conditions of the Construction Contract.**
45. *Supplier*—A manufacturer, fabricator, supplier, distributor, or vendor having a direct contract with Contractor or with any Subcontractor to furnish materials or equipment to be incorporated in the Work by Contractor or a Subcontractor.
46. *Technical Data*
- a. Those items expressly identified as Technical Data in the Supplementary Conditions, with respect to either (1) existing subsurface conditions at or adjacent to the Site, or existing physical conditions at or adjacent to the Site including existing surface or subsurface structures (except Underground Facilities) or (2) Hazardous Environmental Conditions at the Site.
 - b. If no such express identifications of Technical Data have been made with respect to conditions at the Site, then Technical Data is defined, with respect to conditions at the Site under Paragraphs 5.03, 5.04, and 5.06, as the data contained in boring logs, recorded measurements of subsurface water levels, assessments of the condition of subsurface facilities, laboratory test results, and other factual, objective information regarding conditions at the Site that are set forth in any geotechnical, environmental, or other Site or facilities conditions report prepared for the Project and made available to Contractor.
 - c. Information and data regarding the presence or location of Underground Facilities are not intended to be categorized, identified, or defined as Technical Data, and instead Underground Facilities are shown or indicated on the Drawings.
47. *Underground Facilities*—All active or not-in-service underground lines, pipelines, conduits, ducts, encasements, cables, wires, manholes, vaults, tanks, tunnels, or other such facilities or systems at the Site, including but not limited to those facilities or systems that produce, transmit, distribute, or convey telephone or other communications, cable television, fiber optic transmissions, power, electricity, light, heat, gases, oil, crude oil products, liquid petroleum products, water, steam, waste, wastewater, storm water, other liquids or chemicals, or traffic or other control systems. An abandoned facility or system is not an Underground Facility.
48. *Unit Price Work*—Work to be paid for on the basis of unit prices.
49. *Work*—The entire construction or the various separately identifiable parts thereof required to be provided under the Contract Documents. Work includes and is the result of performing or providing all labor, services, and documentation necessary to produce such construction; furnishing, installing, and incorporating all materials and equipment into such construction; and may include related services such as testing, start-up, and commissioning, all as required by the Contract Documents.
50. *Work Change Directive*—A written directive to Contractor issued on or after the Effective Date of the Contract, signed by Owner and recommended by Engineer, ordering an addition, deletion, or revision in the Work.

1.02 Terminology

- A. The words and terms discussed in Paragraphs 1.02.B, C, D, and E are not defined terms that require initial capital letters, but, when used in the Bidding Requirements or Contract Documents, have the indicated meaning.
- B. *Intent of Certain Terms or Adjectives:* The Contract Documents include the terms “as allowed,” “as approved,” “as ordered,” “as directed” or terms of like effect or import to authorize an exercise of professional judgment by Engineer. In addition, the adjectives “reasonable,” “suitable,” “acceptable,” “proper,” “satisfactory,” or adjectives of like effect or import are used to describe an action or determination of Engineer as to the Work. It is intended that such exercise of professional judgment, action, or determination will be solely to evaluate, in general, the Work for compliance with the information in the Contract Documents and with the design concept of the Project as a functioning whole as shown or indicated in the Contract Documents (unless there is a specific statement indicating otherwise). The use of any such term or adjective is not intended to and shall not be effective to assign to Engineer any duty or authority to supervise or direct the performance of the Work, or any duty or authority to undertake responsibility contrary to the provisions of Article 10 or any other provision of the Contract Documents.
- C. *Day:* The word “day” means a calendar day of 24 hours measured from midnight to the next midnight.
- D. *Defective:* The word “defective,” when modifying the word “Work,” refers to Work that is unsatisfactory, faulty, or deficient in that it:
1. does not conform to the Contract Documents;
 2. does not meet the requirements of any applicable inspection, reference standard, test, or approval referred to in the Contract Documents; or
 3. has been damaged prior to Engineer’s recommendation of final payment (unless responsibility for the protection thereof has been assumed by Owner at Substantial Completion in accordance with Paragraph 15.03 or Paragraph 15.04).
- E. *Furnish, Install, Perform, Provide*
1. The word “furnish,” when used in connection with services, materials, or equipment, means to supply and deliver said services, materials, or equipment to the Site (or some other specified location) ready for use or installation and in usable or operable condition.
 2. The word “install,” when used in connection with services, materials, or equipment, means to put into use or place in final position said services, materials, or equipment complete and ready for intended use.
 3. The words “perform” or “provide,” when used in connection with services, materials, or equipment, means to furnish and install said services, materials, or equipment complete and ready for intended use.
 4. If the Contract Documents establish an obligation of Contractor with respect to specific services, materials, or equipment, but do not expressly use any of the four words “furnish,” “install,” “perform,” or “provide,” then Contractor shall furnish and install said services, materials, or equipment complete and ready for intended use.

- F. *Contract Price or Contract Times*: References to a change in “Contract Price or Contract Times” or “Contract Times or Contract Price” or similar, indicate that such change applies to (1) Contract Price, (2) Contract Times, or (3) both Contract Price and Contract Times, as warranted, even if the term “or both” is not expressed.
- G. Unless stated otherwise in the Contract Documents, words or phrases that have a well-known technical or construction industry or trade meaning are used in the Contract Documents in accordance with such recognized meaning.

ARTICLE 2—PRELIMINARY MATTERS

2.01 *Delivery of Performance and Payment Bonds; Evidence of Insurance*

- A. *Performance and Payment Bonds*: When Contractor delivers the signed counterparts of the Agreement to Owner, Contractor shall also deliver to Owner the performance bond and payment bond (if the Contract requires Contractor to furnish such bonds).
- B. *Evidence of Contractor’s Insurance*: When Contractor delivers the signed counterparts of the Agreement to Owner, Contractor shall also deliver to Owner, with copies to each additional insured (as identified in the Contract), the certificates, endorsements, and other evidence of insurance required to be provided by Contractor in accordance with Article 6, except to the extent the Supplementary Conditions expressly establish other dates for delivery of specific insurance policies.
- C. *Evidence of Owner’s Insurance*: After receipt of the signed counterparts of the Agreement and all required bonds and insurance documentation, Owner shall promptly deliver to Contractor, with copies to each additional insured (as identified in the Contract), the certificates and other evidence of insurance required to be provided by Owner under Article 6.

2.02 *Copies of Documents*

- A. Owner shall furnish to Contractor four printed copies of the Contract (including one fully signed counterpart of the Agreement), and one copy in electronic portable document format (PDF). Additional printed copies will be furnished upon request at the cost of reproduction.
- B. Owner shall maintain and safeguard at least one original printed record version of the Contract, including Drawings and Specifications signed and sealed by Engineer and other design professionals. Owner shall make such original printed record version of the Contract available to Contractor for review. Owner may delegate the responsibilities under this provision to Engineer.

2.03 *Before Starting Construction*

- A. *Preliminary Schedules*: Within 10 days after the Effective Date of the Contract (or as otherwise required by the Contract Documents), Contractor shall submit to Engineer for timely review:
 - 1. a preliminary Progress Schedule indicating the times (numbers of days or dates) for starting and completing the various stages of the Work, including any Milestones specified in the Contract;
 - 2. a preliminary Schedule of Submittals; and
 - 3. a preliminary Schedule of Values for all of the Work which includes quantities and prices of items which when added together equal the Contract Price and subdivides the Work

into component parts in sufficient detail to serve as the basis for progress payments during performance of the Work. Such prices will include an appropriate amount of overhead and profit applicable to each item of Work.

2.04 *Preconstruction Conference; Designation of Authorized Representatives*

- A. Before any Work at the Site is started, a conference attended by Owner, Contractor, Engineer, and others as appropriate will be held to establish a working understanding among the parties as to the Work, and to discuss the schedules referred to in Paragraph 2.03.A, procedures for handling Shop Drawings, Samples, and other Submittals, processing Applications for Payment, electronic or digital transmittals, and maintaining required records.
- B. At this conference Owner and Contractor each shall designate, in writing, a specific individual to act as its authorized representative with respect to the services and responsibilities under the Contract. Such individuals shall have the authority to transmit and receive information, render decisions relative to the Contract, and otherwise act on behalf of each respective party.

2.05 *Acceptance of Schedules*

- A. At least 10 days before submission of the first Application for Payment a conference, attended by Contractor, Engineer, and others as appropriate, will be held to review the schedules submitted in accordance with Paragraph 2.03.A. No progress payment will be made to Contractor until acceptable schedules are submitted to Engineer.
 - 1. The Progress Schedule will be acceptable to Engineer if it provides an orderly progression of the Work to completion within the Contract Times. Such acceptance will not impose on Engineer responsibility for the Progress Schedule, for sequencing, scheduling, or progress of the Work, nor interfere with or relieve Contractor from Contractor's full responsibility therefor.
 - 2. Contractor's Schedule of Submittals will be acceptable to Engineer if it provides a workable arrangement for reviewing and processing the required submittals.
 - 3. Contractor's Schedule of Values will be acceptable to Engineer as to form and substance if it provides a reasonable allocation of the Contract Price to the component parts of the Work.
 - 4. If a schedule is not acceptable, Contractor will have an additional 10 days to revise and resubmit the schedule.

2.06 *Electronic Transmittals*

- A. Except as otherwise stated elsewhere in the Contract, the Owner, Engineer, and Contractor may send, and shall accept, Electronic Documents transmitted by Electronic Means.
- B. If the Contract does not establish protocols for Electronic Means, then Owner, Engineer, and Contractor shall jointly develop such protocols.
- C. Subject to any governing protocols for Electronic Means, when transmitting Electronic Documents by Electronic Means, the transmitting party makes no representations as to long-term compatibility, usability, or readability of the Electronic Documents resulting from the recipient's use of software application packages, operating systems, or computer hardware differing from those used in the drafting or transmittal of the Electronic Documents.

ARTICLE 3—CONTRACT DOCUMENTS: INTENT, REQUIREMENTS, REUSE

3.01 *Intent*

- A. The Contract Documents are complementary; what is required by one Contract Document is as binding as if required by all.
- B. It is the intent of the Contract Documents to describe a functionally complete Project (or part thereof) to be constructed in accordance with the Contract Documents.
- C. Unless otherwise stated in the Contract Documents, if there is a discrepancy between the electronic versions of the Contract Documents (including any printed copies derived from such electronic versions) and the printed record version, the printed record version will govern.
- D. The Contract supersedes prior negotiations, representations, and agreements, whether written or oral.
- E. Engineer will issue clarifications and interpretations of the Contract Documents as provided herein.
- F. Any provision or part of the Contract Documents held to be void or unenforceable under any Law or Regulation will be deemed stricken, and all remaining provisions will continue to be valid and binding upon Owner and Contractor, which agree that the Contract Documents will be reformed to replace such stricken provision or part thereof with a valid and enforceable provision that comes as close as possible to expressing the intention of the stricken provision.
- G. Nothing in the Contract Documents creates:
 - 1. any contractual relationship between Owner or Engineer and any Subcontractor, Supplier, or other individual or entity performing or furnishing any of the Work, for the benefit of such Subcontractor, Supplier, or other individual or entity; or
 - 2. any obligation on the part of Owner or Engineer to pay or to see to the payment of any money due any such Subcontractor, Supplier, or other individual or entity, except as may otherwise be required by Laws and Regulations.

3.02 *Reference Standards*

A. *Standards Specifications, Codes, Laws and Regulations*

- 1. Reference in the Contract Documents to standard specifications, manuals, reference standards, or codes of any technical society, organization, or association, or to Laws or Regulations, whether such reference be specific or by implication, means the standard specification, manual, reference standard, code, or Laws or Regulations in effect at the time of opening of Bids (or on the Effective Date of the Contract if there were no Bids), except as may be otherwise specifically stated in the Contract Documents.
- 2. No provision of any such standard specification, manual, reference standard, or code, and no instruction of a Supplier, will be effective to change the duties or responsibilities of Owner, Contractor, or Engineer from those set forth in the part of the Contract Documents prepared by or for Engineer. No such provision or instruction shall be effective to assign to Owner or Engineer any duty or authority to supervise or direct the performance of the Work, or any duty or authority to undertake responsibility

inconsistent with the provisions of the part of the Contract Documents prepared by or for Engineer.

3.03 *Reporting and Resolving Discrepancies*

A. *Reporting Discrepancies*

1. *Contractor's Verification of Figures and Field Measurements:* Before undertaking each part of the Work, Contractor shall carefully study the Contract Documents, and check and verify pertinent figures and dimensions therein, particularly with respect to applicable field measurements. Contractor shall promptly report in writing to Engineer any conflict, error, ambiguity, or discrepancy that Contractor discovers, or has actual knowledge of, and shall not proceed with any Work affected thereby until the conflict, error, ambiguity, or discrepancy is resolved by a clarification or interpretation by Engineer, or by an amendment or supplement to the Contract issued pursuant to Paragraph 11.01.
2. *Contractor's Review of Contract Documents:* If, before or during the performance of the Work, Contractor discovers any conflict, error, ambiguity, or discrepancy within the Contract Documents, or between the Contract Documents and (a) any applicable Law or Regulation, (b) actual field conditions, (c) any standard specification, manual, reference standard, or code, or (d) any instruction of any Supplier, then Contractor shall promptly report it to Engineer in writing. Contractor shall not proceed with the Work affected thereby (except in an emergency as required by Paragraph 7.15) until the conflict, error, ambiguity, or discrepancy is resolved, by a clarification or interpretation by Engineer, or by an amendment or supplement to the Contract issued pursuant to Paragraph 11.01.
3. Contractor shall not be liable to Owner or Engineer for failure to report any conflict, error, ambiguity, or discrepancy in the Contract Documents unless Contractor had actual knowledge thereof.

B. *Resolving Discrepancies*

1. Except as may be otherwise specifically stated in the Contract Documents, the provisions of the part of the Contract Documents prepared by or for Engineer take precedence in resolving any conflict, error, ambiguity, or discrepancy between such provisions of the Contract Documents and:
 - a. the provisions of any standard specification, manual, reference standard, or code, or the instruction of any Supplier (whether or not specifically incorporated by reference as a Contract Document); or
 - b. the provisions of any Laws or Regulations applicable to the performance of the Work (unless such an interpretation of the provisions of the Contract Documents would result in violation of such Law or Regulation).

3.04 *Requirements of the Contract Documents*

- A. During the performance of the Work and until final payment, Contractor and Owner shall submit to the Engineer in writing all matters in question concerning the requirements of the Contract Documents (sometimes referred to as requests for information or interpretation—RFIs) or relating to the acceptability of the Work under the Contract Documents, as soon as possible after such matters arise. Engineer will be the initial interpreter of the requirements of the Contract Documents, and judge of the acceptability of the Work.

- B. Engineer will, with reasonable promptness, render a written clarification, interpretation, or decision on the issue submitted, or initiate an amendment or supplement to the Contract Documents. Engineer's written clarification, interpretation, or decision will be final and binding on Contractor, unless it appeals by submitting a Change Bid, and on Owner, unless it appeals by filing a Claim.
- C. If a submitted matter in question concerns terms and conditions of the Contract Documents that do not involve (1) the performance or acceptability of the Work under the Contract Documents, (2) the design (as set forth in the Drawings, Specifications, or otherwise), or (3) other engineering or technical matters, then Engineer will promptly notify Owner and Contractor in writing that Engineer is unable to provide a decision or interpretation. If Owner and Contractor are unable to agree on resolution of such a matter in question, either party may pursue resolution as provided in Article 12.

3.05 *Reuse of Documents*

- A. Contractor and its Subcontractors and Suppliers shall not:
 - 1. have or acquire any title to or ownership rights in any of the Drawings, Specifications, or other documents (or copies of any thereof) prepared by or bearing the seal of Engineer or its consultants, including electronic media versions, or reuse any such Drawings, Specifications, other documents, or copies thereof on extensions of the Project or any other project without written consent of Owner and Engineer and specific written verification or adaptation by Engineer; or
 - 2. have or acquire any title or ownership rights in any other Contract Documents, reuse any such Contract Documents for any purpose without Owner's express written consent, or violate any copyrights pertaining to such Contract Documents.
- B. The prohibitions of this Paragraph 3.05 will survive final payment, or termination of the Contract. Nothing herein precludes Contractor from retaining copies of the Contract Documents for record purposes.

ARTICLE 4—COMMENCEMENT AND PROGRESS OF THE WORK

4.01 *Commencement of Contract Times; Notice to Proceed*

- A. The Contract Times will commence to run on the 30th day after the Effective Date of the Contract or, if a Notice to Proceed is given, on the day indicated in the Notice to Proceed. A Notice to Proceed may be given at any time within 30 days after the Effective Date of the Contract. In no event will the Contract Times commence to run later than the 60th day after the day of Bid opening or the 30th day after the Effective Date of the Contract, whichever date is earlier.

4.02 *Starting the Work*

- A. Contractor shall start to perform the Work on the date when the Contract Times commence to run. No Work may be done at the Site prior to such date.

4.03 *Reference Points*

- A. Owner shall provide engineering surveys to establish reference points for construction which in Engineer's judgment are necessary to enable Contractor to proceed with the Work. Contractor shall be responsible for laying out the Work, shall protect and preserve the

established reference points and property monuments, and shall make no changes or relocations without the prior written approval of Owner. Contractor shall report to Engineer whenever any reference point or property monument is lost or destroyed or requires relocation because of necessary changes in grades or locations, and shall be responsible for the accurate replacement or relocation of such reference points or property monuments by professionally qualified personnel.

4.04 *Progress Schedule*

- A. Contractor shall adhere to the Progress Schedule established in accordance with Paragraph 2.05 as it may be adjusted from time to time as provided below.
 - 1. Contractor shall submit to Engineer for acceptance (to the extent indicated in Paragraph 2.05) proposed adjustments in the Progress Schedule that will not result in changing the Contract Times.
 - 2. Proposed adjustments in the Progress Schedule that will change the Contract Times must be submitted in accordance with the requirements of Article 11.
- B. Contractor shall carry on the Work and adhere to the Progress Schedule during all disputes or disagreements with Owner. No Work will be delayed or postponed pending resolution of any disputes or disagreements, or during any appeal process, except as permitted by Paragraph 16.04, or as Owner and Contractor may otherwise agree in writing.

4.05 *Delays in Contractor's Progress*

- A. If Owner, Engineer, or anyone for whom Owner is responsible, delays, disrupts, or interferes with the performance or progress of the Work, then Contractor shall be entitled to an equitable adjustment in Contract Price or Contract Times.
- B. Contractor shall not be entitled to an adjustment in Contract Price or Contract Times for delay, disruption, or interference caused by or within the control of Contractor. Delay, disruption, and interference attributable to and within the control of a Subcontractor or Supplier shall be deemed to be within the control of Contractor.
- C. If Contractor's performance or progress is delayed, disrupted, or interfered with by unanticipated causes not the fault of and beyond the control of Owner, Contractor, and those for which they are responsible, then Contractor shall be entitled to an equitable adjustment in Contract Times. Such an adjustment will be Contractor's sole and exclusive remedy for the delays, disruption, and interference described in this paragraph. Causes of delay, disruption, or interference that may give rise to an adjustment in Contract Times under this paragraph include but are not limited to the following:
 - 1. Severe and unavoidable natural catastrophes such as fires, floods, epidemics, and earthquakes;
 - 2. Abnormal weather conditions;
 - 3. Acts or failures to act of third-party utility owners or other third-party entities (other than those third-party utility owners or other third-party entities performing other work at or adjacent to the Site as arranged by or under contract with Owner, as contemplated in Article 8); and
 - 4. Acts of war or terrorism.

5. Weather-Related Delays

- a. If “abnormal weather conditions” as set forth in Paragraph 4.05.C.2 of the General Conditions are the basis for a request for an equitable adjustment in the Contract Times, such request must be documented by data substantiating each of the following: 1) that weather conditions were abnormal for the period of time in which the delay occurred, 2) that such weather conditions could not have been reasonably anticipated, and 3) that such weather conditions had an adverse effect on the Work as scheduled.
 - b. The existence of abnormal weather conditions will be determined on a month-by-month basis in accordance with the following:
 - 1) Every workday on which one or more of the following conditions exist will be considered a “bad weather day”:
 - i) Total precipitation (as rain equivalent) occurring between 7:00 p.m. on the preceding day (regardless of whether such preceding day is a workday) through 7:00 p.m. on the workday in question equals or exceeds 2 inches of precipitation (as rain equivalent, based on the snow/rain conversion indicated in the table entitled Foreseeable Bad Weather Days; such table is hereby incorporated in this SC-4.05.C by reference.
 - ii) Ambient outdoor air temperature at 11:00 a.m. is equal to or less than the following low temperature threshold: 20 degrees Fahrenheit; or, at 3:00 p.m. the ambient outdoor temperature is equal to or greater than the following high temperature threshold: 110 degrees Fahrenheit.
 - 2) Determination of actual bad weather days during performance of the Work will be based on the weather records measured and recorded by National Weather Service weather monitoring station at Midland International Air and Space Port.
 - 3) Contractor shall anticipate the number of foreseeable bad weather days per month indicated in the table in Exhibit A—Foreseeable Bad Weather Days.
 - 4) In each month, every bad weather day exceeding the number of foreseeable bad weather days established in the table in Exhibit A—Foreseeable Bad Weather Days will be considered as “abnormal weather conditions.” The existence of abnormal weather conditions will not relieve Contractor of the obligation to demonstrate and document that delays caused by abnormal weather are specific to the planned work activities or that such activities thus delayed were on Contractor’s then-current Progress Schedule’s critical path for the Project.
- D. Contractor’s entitlement to an adjustment of Contract Times or Contract Price is limited as follows:
1. Contractor’s entitlement to an adjustment of the Contract Times is conditioned on the delay, disruption, or interference adversely affecting an activity on the critical path to completion of the Work, as of the time of the delay, disruption, or interference.
 2. Contractor shall not be entitled to an adjustment in Contract Price for any delay, disruption, or interference if such delay is concurrent with a delay, disruption, or interference caused by or within the control of Contractor. Such a concurrent delay by

Contractor shall not preclude an adjustment of Contract Times to which Contractor is otherwise entitled.

3. Adjustments of Contract Times or Contract Price are subject to the provisions of Article 11.
- E. Each Contractor request or Change Bid seeking an increase in Contract Times or Contract Price must be supplemented by supporting data that sets forth in detail the following:
 1. The circumstances that form the basis for the requested adjustment;
 2. The date upon which each cause of delay, disruption, or interference began to affect the progress of the Work;
 3. The date upon which each cause of delay, disruption, or interference ceased to affect the progress of the Work;
 4. The number of days' increase in Contract Times claimed as a consequence of each such cause of delay, disruption, or interference; and
 5. The impact on Contract Price, in accordance with the provisions of Paragraph 11.07.

Contractor shall also furnish such additional supporting documentation as Owner or Engineer may require including, where appropriate, a revised progress schedule indicating all the activities affected by the delay, disruption, or interference, and an explanation of the effect of the delay, disruption, or interference on the critical path to completion of the Work.

- F. Delays, disruption, and interference to the performance or progress of the Work resulting from the existence of a differing subsurface or physical condition, an Underground Facility that was not shown or indicated by the Contract Documents, or not shown or indicated with reasonable accuracy, and those resulting from Hazardous Environmental Conditions, are governed by Article 5, together with the provisions of Paragraphs 4.05.D and 4.05.E.
- G. Paragraph 8.03 addresses delays, disruption, and interference to the performance or progress of the Work resulting from the performance of certain other work at or adjacent to the Site.

ARTICLE 5—SITE; SUBSURFACE AND PHYSICAL CONDITIONS; HAZARDOUS ENVIRONMENTAL CONDITIONS

5.01 Availability of Lands

- A. Owner shall furnish the Site. Owner shall notify Contractor in writing of any encumbrances or restrictions not of general application but specifically related to use of the Site with which Contractor must comply in performing the Work.
- B. Upon reasonable written request, Owner shall furnish Contractor with a current statement of record legal title and legal description of the lands upon which permanent improvements are to be made and Owner's interest therein as necessary for giving notice of or filing a mechanic's or construction lien against such lands in accordance with applicable Laws and Regulations.
- C. Contractor shall provide for all additional lands and access thereto that may be required for temporary construction facilities or storage of materials and equipment.

5.02 Use of Site and Other Areas

- A. *Limitation on Use of Site and Other Areas*

1. Contractor shall confine construction equipment, temporary construction facilities, the storage of materials and equipment, and the operations of workers to the Site, adjacent areas that Contractor has arranged to use through construction easements or otherwise, and other adjacent areas permitted by Laws and Regulations, and shall not unreasonably encumber the Site and such other adjacent areas with construction equipment or other materials or equipment. Contractor shall assume full responsibility for (a) damage to the Site; (b) damage to any such other adjacent areas used for Contractor's operations; (c) damage to any other adjacent land or areas, or to improvements, structures, utilities, or similar facilities located at such adjacent lands or areas; and (d) for injuries and losses sustained by the owners or occupants of any such land or areas; provided that such damage or injuries result from the performance of the Work or from other actions or conduct of the Contractor or those for which Contractor is responsible.
 2. If a damage or injury claim is made by the owner or occupant of any such land or area because of the performance of the Work, or because of other actions or conduct of the Contractor or those for which Contractor is responsible, Contractor shall (a) take immediate corrective or remedial action as required by Paragraph 7.13, or otherwise; (b) promptly attempt to settle the claim as to all parties through negotiations with such owner or occupant, or otherwise resolve the claim by arbitration or other dispute resolution proceeding, or in a court of competent jurisdiction; and (c) to the fullest extent permitted by Laws and Regulations, indemnify and hold harmless Owner and Engineer, and the officers, directors, members, partners, employees, agents, consultants and subcontractors of each and any of them, from and against any such claim, and against all costs, losses, and damages (including but not limited to all fees and charges of engineers, architects, attorneys, and other professionals and all court or arbitration or other dispute resolution costs) arising out of or relating to any claim or action, legal or equitable, brought by any such owner or occupant against Owner, Engineer, or any other party indemnified hereunder to the extent caused directly or indirectly, in whole or in part by, or based upon, Contractor's performance of the Work, or because of other actions or conduct of the Contractor or those for which Contractor is responsible.
- B. *Removal of Debris During Performance of the Work:* During the progress of the Work the Contractor shall keep the Site and other adjacent areas free from accumulations of waste materials, rubbish, and other debris. Removal and disposal of such waste materials, rubbish, and other debris will conform to applicable Laws and Regulations.
- C. *Cleaning:* Prior to Substantial Completion of the Work Contractor shall clean the Site and the Work and make it ready for utilization by Owner. At the completion of the Work Contractor shall remove from the Site and adjacent areas all tools, appliances, construction equipment and machinery, and surplus materials and shall restore to original condition all property not designated for alteration by the Contract Documents.
- D. *Loading of Structures:* Contractor shall not load nor permit any part of any structure to be loaded in any manner that will endanger the structure, nor shall Contractor subject any part of the Work or adjacent structures or land to stresses or pressures that will endanger them.

5.03 *Subsurface and Physical Conditions*

- A. *Reports and Drawings:* The Supplementary Conditions identify:

1. Those reports of explorations and tests of subsurface conditions at or adjacent to the Site that contain Technical Data;
 2. Those drawings of existing physical conditions at or adjacent to the Site, including those drawings depicting existing surface or subsurface structures at or adjacent to the Site (except Underground Facilities), that contain Technical Data; and
 3. Technical Data contained in such reports and drawings.
- B. *Underground Facilities*: Underground Facilities are shown or indicated on the Drawings, pursuant to Paragraph 5.05, and not in the drawings referred to in Paragraph 5.03.A. Information and data regarding the presence or location of Underground Facilities are not intended to be categorized, identified, or defined as Technical Data.
- C. *Reliance by Contractor on Technical Data*: Contractor may rely upon the accuracy of the Technical Data expressly identified in the Supplementary Conditions with respect to such reports and drawings, but such reports and drawings are not Contract Documents. If no such express identification has been made, then Contractor may rely upon the accuracy of the Technical Data as defined in Paragraph 1.01.A.46.b.
- D. *Limitations of Other Data and Documents*: Except for such reliance on Technical Data, Contractor may not rely upon or make any claim against Owner or Engineer, or any of their officers, directors, members, partners, employees, agents, consultants, or subcontractors, with respect to:
1. the completeness of such reports and drawings for Contractor's purposes, including, but not limited to, any aspects of the means, methods, techniques, sequences, and procedures of construction to be employed by Contractor, and safety precautions and programs incident thereto;
 2. other data, interpretations, opinions, and information contained in such reports or shown or indicated in such drawings;
 3. the contents of other Site-related documents made available to Contractor, such as record drawings from other projects at or adjacent to the Site, or Owner's archival documents concerning the Site; or
 4. any Contractor interpretation of or conclusion drawn from any Technical Data or any such other data, interpretations, opinions, or information.

5.04 *Differing Subsurface or Physical Conditions*

- A. *Notice by Contractor*: If Contractor believes that any subsurface or physical condition that is uncovered or revealed at the Site:
1. is of such a nature as to establish that any Technical Data on which Contractor is entitled to rely as provided in Paragraph 5.03 is materially inaccurate;
 2. is of such a nature as to require a change in the Drawings or Specifications;
 3. differs materially from that shown or indicated in the Contract Documents; or
 4. is of an unusual nature, and differs materially from conditions ordinarily encountered and generally recognized as inherent in work of the character provided for in the Contract Documents;

- then Contractor shall, promptly after becoming aware thereof and before further disturbing the subsurface or physical conditions or performing any Work in connection therewith (except in an emergency as required by Paragraph 7.15), notify Owner and Engineer in writing about such condition. Contractor shall not further disturb such condition or perform any Work in connection therewith (except with respect to an emergency) until receipt of a written statement permitting Contractor to do so.
- B. *Engineer's Review:* After receipt of written notice as required by the preceding paragraph, Engineer will promptly review the subsurface or physical condition in question; determine whether it is necessary for Owner to obtain additional exploration or tests with respect to the condition; conclude whether the condition falls within any one or more of the differing site condition categories in Paragraph 5.04.A; obtain any pertinent cost or schedule information from Contractor; prepare recommendations to Owner regarding the Contractor's resumption of Work in connection with the subsurface or physical condition in question and the need for any change in the Drawings or Specifications; and advise Owner in writing of Engineer's findings, conclusions, and recommendations.
- C. *Owner's Statement to Contractor Regarding Site Condition:* After receipt of Engineer's written findings, conclusions, and recommendations, Owner shall issue a written statement to Contractor (with a copy to Engineer) regarding the subsurface or physical condition in question, addressing the resumption of Work in connection with such condition, indicating whether any change in the Drawings or Specifications will be made, and adopting or rejecting Engineer's written findings, conclusions, and recommendations, in whole or in part.
- D. *Early Resumption of Work:* If at any time Engineer determines that Work in connection with the subsurface or physical condition in question may resume prior to completion of Engineer's review or Owner's issuance of its statement to Contractor, because the condition in question has been adequately documented, and analyzed on a preliminary basis, then the Engineer may at its discretion instruct Contractor to resume such Work.
- E. *Possible Price and Times Adjustments*
1. Contractor shall be entitled to an equitable adjustment in Contract Price or Contract Times, to the extent that the existence of a differing subsurface or physical condition, or any related delay, disruption, or interference, causes an increase or decrease in Contractor's cost of, or time required for, performance of the Work; subject, however, to the following:
 - a. Such condition must fall within any one or more of the categories described in Paragraph 5.04.A;
 - b. With respect to Work that is paid for on a unit price basis, any adjustment in Contract Price will be subject to the provisions of Paragraph 13.03; and,
 - c. Contractor's entitlement to an adjustment of the Contract Times is subject to the provisions of Paragraphs 4.05.D and 4.05.E.
 2. Contractor shall not be entitled to any adjustment in the Contract Price or Contract Times with respect to a subsurface or physical condition if:
 - a. Contractor knew of the existence of such condition at the time Contractor made a commitment to Owner with respect to Contract Price and Contract Times by the submission of a Bid or becoming bound under a negotiated contract, or otherwise;

- b. The existence of such condition reasonably could have been discovered or revealed as a result of any examination, investigation, exploration, test, or study of the Site and contiguous areas expressly required by the Bidding Requirements or Contract Documents to be conducted by or for Contractor prior to Contractor's making such commitment; or
 - c. Contractor failed to give the written notice required by Paragraph 5.04.A.
- 3. If Owner and Contractor agree regarding Contractor's entitlement to and the amount or extent of any adjustment in the Contract Price or Contract Times, then any such adjustment will be set forth in a Change Order.
- 4. Contractor may submit a Change Bid regarding its entitlement to or the amount or extent of any adjustment in the Contract Price or Contract Times, no later than 30 days after Owner's issuance of the Owner's written statement to Contractor regarding the subsurface or physical condition in question.
- F. *Underground Facilities; Hazardous Environmental Conditions*: Paragraph 5.05 governs rights and responsibilities regarding the presence or location of Underground Facilities. Paragraph 5.06 governs rights and responsibilities regarding Hazardous Environmental Conditions. The provisions of Paragraphs 5.03 and 5.04 are not applicable to the presence or location of Underground Facilities, or to Hazardous Environmental Conditions.

5.05 *Underground Facilities*

- A. *Contractor's Responsibilities*: Unless it is otherwise expressly provided in the Supplementary Conditions, the cost of all of the following are included in the Contract Price, and Contractor shall have full responsibility for:
 - 1. reviewing and checking all information and data regarding existing Underground Facilities at the Site;
 - 2. complying with applicable state and local utility damage prevention Laws and Regulations;
 - 3. verifying the actual location of those Underground Facilities shown or indicated in the Contract Documents as being within the area affected by the Work, by exposing such Underground Facilities during the course of construction;
 - 4. coordination of the Work with the owners (including Owner) of such Underground Facilities, during construction; and
 - 5. the safety and protection of all existing Underground Facilities at the Site, and repairing any damage thereto resulting from the Work.
- B. *Notice by Contractor*: If Contractor believes that an Underground Facility that is uncovered or revealed at the Site was not shown or indicated on the Drawings, or was not shown or indicated on the Drawings with reasonable accuracy, then Contractor shall, promptly after becoming aware thereof and before further disturbing conditions affected thereby or performing any Work in connection therewith (except in an emergency as required by Paragraph 7.15), notify Owner and Engineer in writing regarding such Underground Facility.
- C. *Engineer's Review*: Engineer will:
 - 1. promptly review the Underground Facility and conclude whether such Underground Facility was not shown or indicated on the Drawings, or was not shown or indicated with

reasonable accuracy;

2. identify and communicate with the owner of the Underground Facility; prepare recommendations to Owner (and if necessary, issue any preliminary instructions to Contractor) regarding the Contractor's resumption of Work in connection with the Underground Facility in question;
3. obtain any pertinent cost or schedule information from Contractor; determine the extent, if any, to which a change is required in the Drawings or Specifications to reflect and document the consequences of the existence or location of the Underground Facility; and
4. advise Owner in writing of Engineer's findings, conclusions, and recommendations.

During such time, Contractor shall be responsible for the safety and protection of such Underground Facility.

D. *Owner's Statement to Contractor Regarding Underground Facility:* After receipt of Engineer's written findings, conclusions, and recommendations, Owner shall issue a written statement to Contractor (with a copy to Engineer) regarding the Underground Facility in question addressing the resumption of Work in connection with such Underground Facility, indicating whether any change in the Drawings or Specifications will be made, and adopting or rejecting Engineer's written findings, conclusions, and recommendations in whole or in part.

E. *Early Resumption of Work:* If at any time Engineer determines that Work in connection with the Underground Facility may resume prior to completion of Engineer's review or Owner's issuance of its statement to Contractor, because the Underground Facility in question and conditions affected by its presence have been adequately documented, and analyzed on a preliminary basis, then the Engineer may at its discretion instruct Contractor to resume such Work.

F. *Possible Price and Times Adjustments*

1. Contractor shall be entitled to an equitable adjustment in the Contract Price or Contract Times, to the extent that any existing Underground Facility at the Site that was not shown or indicated on the Drawings, or was not shown or indicated with reasonable accuracy, or any related delay, disruption, or interference, causes an increase or decrease in Contractor's cost of, or time required for, performance of the Work; subject, however, to the following:
 - a. With respect to Work that is paid for on a unit price basis, any adjustment in Contract Price will be subject to the provisions of Paragraph 13.03;
 - b. Contractor's entitlement to an adjustment of the Contract Times is subject to the provisions of Paragraphs 4.05.D and 4.05.E; and
 - c. Contractor gave the notice required in Paragraph 5.05.B.
2. If Owner and Contractor agree regarding Contractor's entitlement to and the amount or extent of any adjustment in the Contract Price or Contract Times, then any such adjustment will be set forth in a Change Order.
3. Contractor may submit a Change Bid regarding its entitlement to or the amount or extent of any adjustment in the Contract Price or Contract Times, no later than 30 days after Owner's issuance of the Owner's written statement to Contractor regarding the Underground Facility in question.

4. The information and data shown or indicated on the Drawings with respect to existing Underground Facilities at the Site is based on information and data (a) furnished by the owners of such Underground Facilities, or by others, (b) obtained from available records, or (c) gathered in an investigation conducted in accordance with the current edition of ASCE 38, Standard Guideline for the Collection and Depiction of Existing Subsurface Utility Data, by the American Society of Civil Engineers. If such information or data is incorrect or incomplete, Contractor's remedies are limited to those set forth in this Paragraph 5.05.F.

5.06 *Hazardous Environmental Conditions at Site*

A. *Reports and Drawings:* The Supplementary Conditions identify:

1. those reports known to Owner relating to Hazardous Environmental Conditions that have been identified at or adjacent to the Site;
2. drawings known to Owner relating to Hazardous Environmental Conditions that have been identified at or adjacent to the Site; and
3. Technical Data contained in such reports and drawings.

B. *Reliance by Contractor on Technical Data Authorized:* Contractor may rely upon the accuracy of the Technical Data expressly identified in the Supplementary Conditions with respect to such reports and drawings, but such reports and drawings are not Contract Documents. If no such express identification has been made, then Contractor may rely on the accuracy of the Technical Data as defined in Paragraph 1.01.A.46.b. Except for such reliance on Technical Data, Contractor may not rely upon or make any claim against Owner or Engineer, or any of their officers, directors, members, partners, employees, agents, consultants, or subcontractors, with respect to:

1. the completeness of such reports and drawings for Contractor's purposes, including, but not limited to, any aspects of the means, methods, techniques, sequences, and procedures of construction to be employed by Contractor, and safety precautions and programs incident thereto;
2. other data, interpretations, opinions, and information contained in such reports or shown or indicated in such drawings; or
3. any Contractor interpretation of or conclusion drawn from any Technical Data or any such other data, interpretations, opinions, or information.

C. Contractor shall not be responsible for removing or remediating any Hazardous Environmental Condition encountered, uncovered, or revealed at the Site unless such removal or remediation is expressly identified in the Contract Documents to be within the scope of the Work.

D. Contractor shall be responsible for controlling, containing, and duly removing all Constituents of Concern brought to the Site by Contractor, Subcontractors, Suppliers, or anyone else for whom Contractor is responsible, and for any associated costs; and for the costs of removing and remediating any Hazardous Environmental Condition created by the presence of any such Constituents of Concern.

E. If Contractor encounters, uncovers, or reveals a Hazardous Environmental Condition whose

removal or remediation is not expressly identified in the Contract Documents as being within the scope of the Work, or if Contractor or anyone for whom Contractor is responsible creates a Hazardous Environmental Condition, then Contractor shall immediately: (1) secure or otherwise isolate such condition; (2) stop all Work in connection with such condition and in any area affected thereby (except in an emergency as required by Paragraph 7.15); and (3) notify Owner and Engineer (and promptly thereafter confirm such notice in writing). Owner shall promptly consult with Engineer concerning the necessity for Owner to retain a qualified expert to evaluate such condition or take corrective action, if any. Promptly after consulting with Engineer, Owner shall take such actions as are necessary to permit Owner to timely obtain required permits and provide Contractor the written notice required by Paragraph 5.06.F. If Contractor or anyone for whom Contractor is responsible created the Hazardous Environmental Condition in question, then Owner may remove and remediate the Hazardous Environmental Condition and impose a set-off against payments to account for the associated costs.

- F. Contractor shall not resume Work in connection with such Hazardous Environmental Condition or in any affected area until after Owner has obtained any required permits related thereto and delivered written notice to Contractor either (1) specifying that such condition and any affected area is or has been rendered safe for the resumption of Work, or (2) specifying any special conditions under which such Work may be resumed safely.
- G. If Owner and Contractor cannot agree as to entitlement to or on the amount or extent, if any, of any adjustment in Contract Price or Contract Times, as a result of such Work stoppage, such special conditions under which Work is agreed to be resumed by Contractor, or any costs or expenses incurred in response to the Hazardous Environmental Condition, then within 30 days of Owner's written notice regarding the resumption of Work, Contractor may submit a Change Bid, or Owner may impose a set-off. Entitlement to any such adjustment is subject to the provisions of Paragraphs 4.05.D, 4.05.E, 11.07, and 11.08.
- H. If, after receipt of such written notice, Contractor does not agree to resume such Work based on a reasonable belief it is unsafe or does not agree to resume such Work under such special conditions, then Owner may order the portion of the Work that is in the area affected by such condition to be deleted from the Work, following the contractual change procedures in Article 11. Owner may have such deleted portion of the Work performed by Owner's own forces or others in accordance with Article 8.
- I. To the fullest extent permitted by Laws and Regulations, Owner shall indemnify and hold harmless Contractor, Subcontractors, and Engineer, and the officers, directors, members, partners, employees, agents, consultants, and subcontractors of each and any of them, from and against all claims, costs, losses, and damages (including but not limited to all fees and charges of engineers, architects, attorneys, and other professionals, and all court, arbitration, or other dispute resolution costs) arising out of or relating to a Hazardous Environmental Condition, provided that such Hazardous Environmental Condition (1) was not shown or indicated in the Drawings, Specifications, or other Contract Documents, identified as Technical Data entitled to limited reliance pursuant to Paragraph 5.06.B, or identified in the Contract Documents to be included within the scope of the Work, and (2) was not created by Contractor or by anyone for whom Contractor is responsible. Nothing in this Paragraph 5.06.I obligates Owner to indemnify any individual or entity from and against the consequences of that individual's or entity's own negligence.
- J. To the fullest extent permitted by Laws and Regulations, Contractor shall indemnify and hold

harmless Owner and Engineer, and the officers, directors, members, partners, employees, agents, consultants, and subcontractors of each and any of them, from and against all claims, costs, losses, and damages (including but not limited to all fees and charges of engineers, architects, attorneys, and other professionals and all court or arbitration or other dispute resolution costs) arising out of or relating to the failure to control, contain, or remove a Constituent of Concern brought to the Site by Contractor or by anyone for whom Contractor is responsible, or to a Hazardous Environmental Condition created by Contractor or by anyone for whom Contractor is responsible. Nothing in this Paragraph 5.06.J obligates Contractor to indemnify any individual or entity from and against the consequences of that individual's or entity's own negligence.

- K. The provisions of Paragraphs 5.03, 5.04, and 5.05 do not apply to the presence of Constituents of Concern or to a Hazardous Environmental Condition uncovered or revealed at the Site.

ARTICLE 6—BONDS AND INSURANCE

6.01 Performance, Payment, and Other Bonds

- A. Contractor shall furnish a performance bond and a payment bond, each in an amount at least equal to the Contract Price, as security for the faithful performance and payment of Contractor's obligations under the Contract. These bonds must remain in effect until one year after the date when final payment becomes due or until completion of the correction period specified in Paragraph 15.08, whichever is later, except as provided otherwise by Laws or Regulations, the terms of a prescribed bond form, the Supplementary Conditions, or other provisions of the Contract.
- B. Contractor shall also furnish such other bonds (if any) as are required by the Supplementary Conditions or other provisions of the Contract.
- C. All bonds must be in the form included in the Bidding Documents or otherwise specified by Owner prior to execution of the Contract, except as provided otherwise by Laws or Regulations, and must be issued and signed by a surety named in "Companies Holding Certificates of Authority as Acceptable Sureties on Federal Bonds and as Acceptable Reinsuring Companies" as published in Department Circular 570 (as amended and supplemented) by the Bureau of the Fiscal Service, U.S. Department of the Treasury. A bond signed by an agent or attorney-in-fact must be accompanied by a certified copy of that individual's authority to bind the surety. The evidence of authority must show that it is effective on the date the agent or attorney-in-fact signed the accompanying bond.
- D. Contractor shall obtain the required bonds from surety companies that are duly licensed or authorized, in the state or jurisdiction in which the Project is located, to issue bonds in the required amounts.
- E. If the surety on a bond furnished by Contractor is declared bankrupt or becomes insolvent, or the surety ceases to meet the requirements above, then Contractor shall promptly notify Owner and Engineer in writing and shall, within 20 days after the event giving rise to such notification, provide another bond and surety, both of which must comply with the bond and surety requirements above.
- F. If Contractor has failed to obtain a required bond, Owner may exclude the Contractor from the Site and exercise Owner's termination rights under Article 16.

- G. Upon request to Owner from any Subcontractor, Supplier, or other person or entity claiming to have furnished labor, services, materials, or equipment used in the performance of the Work, Owner shall provide a copy of the payment bond to such person or entity.
- H. Upon request to Contractor from any Subcontractor, Supplier, or other person or entity claiming to have furnished labor, services, materials, or equipment used in the performance of the Work, Contractor shall provide a copy of the payment bond to such person or entity.

6.02 Insurance—General Provisions

- A. Owner and Contractor shall obtain and maintain insurance as required in this article and in the Supplementary Conditions.
- B. All insurance required by the Contract to be purchased and maintained by Owner or Contractor shall be obtained from insurance companies that are duly licensed or authorized in the state or jurisdiction in which the Project is located to issue insurance policies for the required limits and coverages. Unless a different standard is indicated in the Supplementary Conditions, all companies that provide insurance policies required under this Contract shall have an A.M. Best rating of A-VII or better.
- C. Alternative forms of insurance coverage, including but not limited to self-insurance and “Occupational Accident and Excess Employer’s Indemnity Policies,” are not sufficient to meet the insurance requirements of this Contract, unless expressly allowed in the Supplementary Conditions.
- D. Contractor shall deliver to Owner, with copies to each additional insured identified in the Contract, certificates of insurance and endorsements establishing that Contractor has obtained and is maintaining the policies and coverages required by the Contract. Upon request by Owner or any other insured, Contractor shall also furnish other evidence of such required insurance, including but not limited to copies of policies, documentation of applicable self-insured retentions (if allowed) and deductibles, full disclosure of all relevant exclusions, and evidence of insurance required to be purchased and maintained by Subcontractors or Suppliers. In any documentation furnished under this provision, Contractor, Subcontractors, and Suppliers may block out (redact) (1) any confidential premium or pricing information and (2) any wording specific to a project or jurisdiction other than those applicable to this Contract.
- E. Owner shall deliver to Contractor, with copies to each additional insured identified in the Contract, certificates of insurance and endorsements establishing that Owner has obtained and is maintaining the policies and coverages required of Owner by the Contract (if any). Upon request by Contractor or any other insured, Owner shall also provide other evidence of such required insurance (if any), including but not limited to copies of policies, documentation of applicable self-insured retentions (if allowed) and deductibles, and full disclosure of all relevant exclusions. In any documentation furnished under this provision, Owner may block out (redact) (1) any confidential premium or pricing information and (2) any wording specific to a project or jurisdiction other than those relevant to this Contract.
- F. Failure of Owner or Contractor to demand such certificates or other evidence of the other party’s full compliance with these insurance requirements, or failure of Owner or Contractor to identify a deficiency in compliance from the evidence provided, will not be construed as a waiver of the other party’s obligation to obtain and maintain such insurance.
- G. In addition to the liability insurance required to be provided by Contractor, the Owner, at

Owner's option, may purchase and maintain Owner's own liability insurance. Owner's liability policies, if any, operate separately and independently from policies required to be provided by Contractor, and Contractor cannot rely upon Owner's liability policies for any of Contractor's obligations to the Owner, Engineer, or third parties.

H. Contractor shall require:

1. Subcontractors to purchase and maintain worker's compensation, commercial general liability, and other insurance that is appropriate for their participation in the Project, and to name as additional insureds Owner and Engineer (and any other individuals or entities identified in the Supplementary Conditions as additional insureds on Contractor's liability policies) on each Subcontractor's commercial general liability insurance policy; and
 2. Suppliers to purchase and maintain insurance that is appropriate for their participation in the Project.
- I. If either party does not purchase or maintain the insurance required of such party by the Contract, such party shall notify the other party in writing of such failure to purchase prior to the start of the Work, or of such failure to maintain prior to any change in the required coverage.
- J. If Contractor has failed to obtain and maintain required insurance, Contractor's entitlement to enter or remain at the Site will end immediately, and Owner may impose an appropriate set-off against payment for any associated costs (including but not limited to the cost of purchasing necessary insurance coverage), and exercise Owner's termination rights under Article 16.
- K. Without prejudice to any other right or remedy, if a party has failed to obtain required insurance, the other party may elect (but is in no way obligated) to obtain equivalent insurance to protect such other party's interests at the expense of the party who was required to provide such coverage, and the Contract Price will be adjusted accordingly.
- L. Owner does not represent that insurance coverage and limits established in this Contract necessarily will be adequate to protect Contractor or Contractor's interests. Contractor is responsible for determining whether such coverage and limits are adequate to protect its interests, and for obtaining and maintaining any additional insurance that Contractor deems necessary.
- M. The insurance and insurance limits required herein will not be deemed as a limitation on Contractor's liability, or that of its Subcontractors or Suppliers, under the indemnities granted to Owner and other individuals and entities in the Contract or otherwise.
- N. All the policies of insurance required to be purchased and maintained under this Contract will contain a provision or endorsement that the coverage afforded will not be canceled, or renewal refused, until at least 10 days prior written notice has been given to the purchasing policyholder. Within three days of receipt of any such written notice, the purchasing policyholder shall provide a copy of the notice to each other insured and Engineer.

6.03 *Contractor's Insurance*

- A. *Required Insurance:* Contractor shall purchase and maintain Worker's Compensation, Commercial General Liability, and other insurance pursuant to the specific requirements of the Supplementary Conditions.

- B. *General Provisions:* The policies of insurance required by this Paragraph 6.03 as supplemented

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must:

1. include at least the specific coverages required;
 2. be written for not less than the limits provided, or those required by Laws or Regulations, whichever is greater;
 3. remain in effect at least until the Work is complete (as set forth in Paragraph 15.06.D), and longer if expressly required elsewhere in this Contract, and at all times thereafter when Contractor may be correcting, removing, or replacing defective Work as a warranty or correction obligation, or otherwise, or returning to the Site to conduct other tasks arising from the Contract;
 4. apply with respect to the performance of the Work, whether such performance is by Contractor, any Subcontractor or Supplier, or by anyone directly or indirectly employed by any of them to perform any of the Work, or by anyone for whose acts any of them may be liable; and
 5. include all necessary endorsements to support the stated requirements.
- C. *Additional Insureds:* The Contractor's commercial general liability, automobile liability, employer's liability, umbrella or excess, pollution liability, and unmanned aerial vehicle liability policies, if required by this Contract, must:
1. include and list as additional insureds Owner and Engineer, and any individuals or entities identified as additional insureds in the Supplementary Conditions;
 2. include coverage for the respective officers, directors, members, partners, employees, and consultants of all such additional insureds;
 3. afford primary coverage to these additional insureds for all claims covered thereby (including as applicable those arising from both ongoing and completed operations);
 4. not seek contribution from insurance maintained by the additional insured; and
 5. as to commercial general liability insurance, apply to additional insureds with respect to liability caused in whole or in part by Contractor's acts or omissions, or the acts and omissions of those working on Contractor's behalf, in the performance of Contractor's operations.

6.04 *Builder's Risk and Other Property Insurance*

- A. *Builder's Risk:* Unless otherwise provided in the Supplementary Conditions, Contractor shall purchase and maintain builder's risk insurance upon the Work on a completed value basis, in the amount of the Work's full insurable replacement cost (subject to such deductible amounts as may be provided in the Supplementary Conditions or required by Laws and Regulations). The specific requirements applicable to the builder's risk insurance are set forth in the Supplementary Conditions.
- B. *Property Insurance for Facilities of Owner Where Work Will Occur:* Owner is responsible for obtaining and maintaining property insurance covering each existing structure, building, or facility in which any part of the Work will occur, or to which any part of the Work will attach or be adjoined. Such property insurance will be written on a special perils (all-risk) form, on a replacement cost basis, providing coverage consistent with that required for the builder's risk insurance, and will be maintained until the Work is complete, as set forth in Paragraph 15.06.D.

- C. *Property Insurance for Substantially Complete Facilities:* Promptly after Substantial Completion, and before actual occupancy or use of the substantially completed Work, Owner will obtain property insurance for such substantially completed Work, and maintain such property insurance at least until the Work is complete, as set forth in Paragraph 15.06.D. Such property insurance will be written on a special perils (all-risk) form, on a replacement cost basis, and provide coverage consistent with that required for the builder's risk insurance. The builder's risk insurance may terminate upon written confirmation of Owner's procurement of such property insurance.
- D. *Partial Occupancy or Use by Owner:* If Owner will occupy or use a portion or portions of the Work prior to Substantial Completion of all the Work, as provided in Paragraph 15.04, then Owner (directly, if it is the purchaser of the builder's risk policy, or through Contractor) will provide advance notice of such occupancy or use to the builder's risk insurer, and obtain an endorsement consenting to the continuation of coverage prior to commencing such partial occupancy or use.
- E. *Insurance of Other Property; Additional Insurance:* If the express insurance provisions of the Contract do not require or address the insurance of a property item or interest, then the entity or individual owning such property item will be responsible for insuring it. If Contractor elects to obtain other special insurance to be included in or supplement the builder's risk or property insurance policies provided under this Paragraph 6.04, it may do so at Contractor's expense.

6.05 *Property Losses; Subrogation*

- A. The builder's risk insurance policy purchased and maintained in accordance with Paragraph 6.04 (or an installation floater policy if authorized by the Supplementary Conditions), will contain provisions to the effect that in the event of payment of any loss or damage the insurer will have no rights of recovery against any insureds thereunder, or against Engineer or its consultants, or their officers, directors, members, partners, employees, agents, consultants, or subcontractors.
 - 1. Owner and Contractor waive all rights against each other and the respective officers, directors, members, partners, employees, agents, consultants, and subcontractors of each and any of them, for all losses and damages caused by, arising out of, or resulting from any of the perils, risks, or causes of loss covered by such policies and any other property insurance applicable to the Work; and, in addition, waive all such rights against Engineer, its consultants, all individuals or entities identified in the Supplementary Conditions as builder's risk or installation floater insureds, and the officers, directors, members, partners, employees, agents, consultants, and subcontractors of each and any of them, under such policies for losses and damages so caused.
 - 2. None of the above waivers extends to the rights that any party making such waiver may have to the proceeds of insurance held by Owner or Contractor as trustee or fiduciary, or otherwise payable under any policy so issued.
- B. Any property insurance policy maintained by Owner covering any loss, damage, or consequential loss to Owner's existing structures, buildings, or facilities in which any part of the Work will occur, or to which any part of the Work will attach or adjoin; to adjacent structures, buildings, or facilities of Owner; or to part or all of the completed or substantially completed Work, during partial occupancy or use pursuant to Paragraph 15.04, after Substantial Completion pursuant to Paragraph 15.03, or after final payment pursuant to Paragraph 15.06, will contain provisions to the effect that in the event of payment of any loss

or damage the insurer will have no rights of recovery against any insureds thereunder, or against Contractor, Subcontractors, or Engineer, or the officers, directors, members, partners, employees, agents, consultants, or subcontractors of each and any of them, and that the insured is allowed to waive the insurer's rights of subrogation in a written contract executed prior to the loss, damage, or consequential loss.

1. Owner waives all rights against Contractor, Subcontractors, and Engineer, and the officers, directors, members, partners, employees, agents, consultants, and subcontractors of each and any of them, for all losses and damages caused by, arising out of, or resulting from fire or any of the perils, risks, or causes of loss covered by such policies.
- C. The waivers in this Paragraph 6.05 include the waiver of rights due to business interruption, loss of use, or other consequential loss extending beyond direct physical loss or damage to Owner's property or the Work caused by, arising out of, or resulting from fire or other insured peril, risk, or cause of loss.
- D. Contractor shall be responsible for assuring that each Subcontract contains provisions whereby the Subcontractor waives all rights against Owner, Contractor, all individuals or entities identified in the Supplementary Conditions as insureds, the Engineer and its consultants, and the officers, directors, members, partners, employees, agents, consultants, and subcontractors of each and any of them, for all losses and damages caused by, arising out of, relating to, or resulting from fire or other peril, risk, or cause of loss covered by builder's risk insurance, installation floater, and any other property insurance applicable to the Work.

6.06 *Receipt and Application of Property Insurance Proceeds*

- A. Any insured loss under the builder's risk and other policies of property insurance required by Paragraph 6.04 will be adjusted and settled with the named insured that purchased the policy. Such named insured shall act as fiduciary for the other insureds and give notice to such other insureds that adjustment and settlement of a claim is in progress. Any other insured may state its position regarding a claim for insured loss in writing within 15 days after notice of such claim.
- B. Proceeds for such insured losses may be made payable by the insurer either jointly to multiple insureds, or to the named insured that purchased the policy in its own right and as fiduciary for other insureds, subject to the requirements of any applicable mortgage clause. A named insured receiving insurance proceeds under the builder's risk and other policies of insurance required by Paragraph 6.04 shall maintain such proceeds in a segregated account and distribute such proceeds in accordance with such agreement as the parties in interest may reach, or as otherwise required under the dispute resolution provisions of this Contract or applicable Laws and Regulations.
- C. If no other special agreement is reached, Contractor shall repair or replace the damaged Work, using allocated insurance proceeds.

ARTICLE 7—CONTRACTOR'S RESPONSIBILITIES

7.01 *Contractor's Means and Methods of Construction*

- A. Contractor shall be solely responsible for the means, methods, techniques, sequences, and procedures of construction.

- B. If the Contract Documents note, or Contractor determines, that professional engineering or other design services are needed to carry out Contractor's responsibilities for construction means, methods, techniques, sequences, and procedures, or for Site safety, then Contractor shall cause such services to be provided by a properly licensed design professional, at Contractor's expense. Such services are not Owner-delegated professional design services under this Contract, and neither Owner nor Engineer has any responsibility with respect to (1) Contractor's determination of the need for such services, (2) the qualifications or licensing of the design professionals retained or employed by Contractor, (3) the performance of such services, or (4) any errors, omissions, or defects in such services.

7.02 *Supervision and Superintendence*

- A. Contractor shall supervise, inspect, and direct the Work competently and efficiently, devoting such attention thereto and applying such skills and expertise as may be necessary to perform the Work in accordance with the Contract Documents.
- B. At all times during the progress of the Work, Contractor shall assign a competent resident superintendent who will not be replaced without written notice to Owner and Engineer except under extraordinary circumstances.

7.03 *Labor; Working Hours*

- A. Contractor shall provide competent, suitably qualified personnel to survey and lay out the Work and perform construction as required by the Contract Documents. Contractor shall maintain good discipline and order at the Site.
- B. Contractor shall be fully responsible to Owner and Engineer for all acts and omissions of Contractor's employees; of Suppliers and Subcontractors, and their employees; and of any other individuals or entities performing or furnishing any of the Work, just as Contractor is responsible for Contractor's own acts and omissions.
- C. Except as otherwise required for the safety or protection of persons or the Work or property at the Site or adjacent thereto, and except as otherwise stated in the Contract Documents, all Work at the Site will be performed during regular working hours, Monday through Friday. Contractor will not perform Work on a Saturday, Sunday, or any legal holiday. Contractor may perform Work outside regular working hours or on Saturdays, Sundays, or legal holidays only with Owner's written consent, which will not be unreasonably withheld.

7.04 *Services, Materials, and Equipment*

- A. Unless otherwise specified in the Contract Documents, Contractor shall provide and assume full responsibility for all services, materials, equipment, labor, transportation, construction equipment and machinery, tools, appliances, fuel, power, light, heat, telephone, water, sanitary facilities, temporary facilities, and all other facilities and incidentals necessary for the performance, testing, start up, and completion of the Work, whether or not such items are specifically called for in the Contract Documents.
- B. All materials and equipment incorporated into the Work must be new and of good quality, except as otherwise provided in the Contract Documents. All special warranties and guarantees required by the Specifications will expressly run to the benefit of Owner. If required by Engineer, Contractor shall furnish satisfactory evidence (including reports of required tests) as to the source, kind, and quality of materials and equipment.
- C. All materials and equipment must be stored, applied, installed, connected, erected,

protected, used, cleaned, and conditioned in accordance with instructions of the applicable Supplier, except as otherwise may be provided in the Contract Documents.

7.05 "Or Equals"

- A. *Contractor's Request; Governing Criteria:* Whenever an item of equipment or material is specified or described in the Contract Documents by using the names of one or more proprietary items or specific Suppliers, the Contract Price has been based upon Contractor furnishing such item as specified. The specification or description of such an item is intended to establish the type, function, appearance, and quality required. Unless the specification or description contains or is followed by words reading that no like, equivalent, or "or equal" item is permitted, Contractor may request that Engineer authorize the use of other items of equipment or material, or items from other proposed Suppliers, under the circumstances described below.
1. If Engineer in its sole discretion determines that an item of equipment or material proposed by Contractor is functionally equal to that named and sufficiently similar so that no change in related Work will be required, Engineer will deem it an "or equal" item. For the purposes of this paragraph, a proposed item of equipment or material will be considered functionally equal to an item so named if:
 - a. in the exercise of reasonable judgment Engineer determines that the proposed item:
 - 1) is at least equal in materials of construction, quality, durability, appearance, strength, and design characteristics;
 - 2) will reliably perform at least equally well the function and achieve the results imposed by the design concept of the completed Project as a functioning whole;
 - 3) has a proven record of performance and availability of responsive service; and
 - 4) is not objectionable to Owner.
 - b. Contractor certifies that, if the proposed item is approved and incorporated into the Work:
 - 1) there will be no increase in cost to the Owner or increase in Contract Times; and
 - 2) the item will conform substantially to the detailed requirements of the item named in the Contract Documents.
- B. *Contractor's Expense:* Contractor shall provide all data in support of any proposed "or equal" item at Contractor's expense.
- C. *Engineer's Evaluation and Determination:* Engineer will be allowed a reasonable time to evaluate each "or-equal" request. Engineer may require Contractor to furnish additional data about the proposed "or-equal" item. Engineer will be the sole judge of acceptability. No "or-equal" item will be ordered, furnished, installed, or utilized until Engineer's review is complete and Engineer determines that the proposed item is an "or-equal," which will be evidenced by an approved Shop Drawing or other written communication. Engineer will advise Contractor in writing of any negative determination.
- D. *Effect of Engineer's Determination:* Neither approval nor denial of an "or-equal" request will result in any change in Contract Price. The Engineer's denial of an "or-equal" request will be final and binding and may not be reversed through an appeal under any provision of the Contract.

- E. *Treatment as a Substitution Request*: If Engineer determines that an item of equipment or material proposed by Contractor does not qualify as an “or-equal” item, Contractor may request that Engineer consider the item a proposed substitute pursuant to Paragraph 7.06.

7.06 Substitutes

- A. *Contractor’s Request; Governing Criteria*: Unless the specification or description of an item of equipment or material required to be furnished under the Contract Documents contains or is followed by words reading that no substitution is permitted, Contractor may request that Engineer authorize the use of other items of equipment or material under the circumstances described below. To the extent possible such requests must be made before commencement of related construction at the Site.
1. Contractor shall submit sufficient information as provided below to allow Engineer to determine if the item of material or equipment proposed is functionally equivalent to that named and an acceptable substitute therefor. Engineer will not accept requests for review of proposed substitute items of equipment or material from anyone other than Contractor.
 2. The requirements for review by Engineer will be as set forth in Paragraph 7.06.B, as supplemented by the Specifications, and as Engineer may decide is appropriate under the circumstances.
 3. Contractor shall make written application to Engineer for review of a proposed substitute item of equipment or material that Contractor seeks to furnish or use. The application:
 - a. will certify that the proposed substitute item will:
 - 1) perform adequately the functions and achieve the results called for by the general design;
 - 2) be similar in substance to the item specified; and
 - 3) be suited to the same use as the item specified.
 - b. will state:
 - 1) the extent, if any, to which the use of the proposed substitute item will necessitate a change in Contract Times;
 - 2) whether use of the proposed substitute item in the Work will require a change in any of the Contract Documents (or in the provisions of any other direct contract with Owner for other work on the Project) to adapt the design to the proposed substitute item; and
 - 3) whether incorporation or use of the proposed substitute item in connection with the Work is subject to payment of any license fee or royalty.
 - c. will identify:
 - 1) all variations of the proposed substitute item from the item specified; and
 - 2) available engineering, sales, maintenance, repair, and replacement services.
 - d. will contain an itemized estimate of all costs or credits that will result directly or indirectly from use of such substitute item, including but not limited to changes in

Contract Price, shared savings, costs of redesign, and claims of other contractors affected by any resulting change.

- B. *Engineer's Evaluation and Determination*: Engineer will be allowed a reasonable time to evaluate each substitute request, and to obtain comments and direction from Owner. Engineer may require Contractor to furnish additional data about the proposed substitute item. Engineer will be the sole judge of acceptability. No substitute will be ordered, furnished, installed, or utilized until Engineer's review is complete and Engineer determines that the proposed item is an acceptable substitute. Engineer's determination will be evidenced by a Field Order or a proposed Change Order accounting for the substitution itself and all related impacts, including changes in Contract Price or Contract Times. Engineer will advise Contractor in writing of any negative determination.
- C. *Special Guarantee*: Owner may require Contractor to furnish at Contractor's expense a special performance guarantee or other surety with respect to any substitute.
- D. *Reimbursement of Engineer's Cost*: Engineer will record Engineer's costs in evaluating a substitute proposed or submitted by Contractor. Whether or not Engineer approves a substitute so proposed or submitted by Contractor, Contractor shall reimburse Owner for the reasonable charges of Engineer for evaluating each such proposed substitute. Contractor shall also reimburse Owner for the reasonable charges of Engineer for making changes in the Contract Documents (or in the provisions of any other direct contract with Owner) resulting from the acceptance of each proposed substitute.
- E. *Contractor's Expense*: Contractor shall provide all data in support of any proposed substitute at Contractor's expense.
- F. *Effect of Engineer's Determination*: If Engineer approves the substitution request, Contractor shall execute the proposed Change Order and proceed with the substitution. The Engineer's denial of a substitution request will be final and binding and may not be reversed through an appeal under any provision of the Contract. Contractor may challenge the scope of reimbursement costs imposed under Paragraph 7.06.D, by timely submittal of a Change Bid.

7.07 *Concerning Subcontractors and Suppliers*

- A. Contractor may retain Subcontractors and Suppliers for the performance of parts of the Work. Such Subcontractors and Suppliers must be acceptable to Owner. The Contractor's retention of a Subcontractor or Supplier for the performance of parts of the Work will not relieve Contractor's obligation to Owner to perform and complete the Work in accordance with the Contract Documents.
- B. Contractor shall retain specific Subcontractors and Suppliers for the performance of designated parts of the Work if required by the Contract to do so.
- C. Subsequent to the submittal of Contractor's Bid or final negotiation of the terms of the Contract, Owner may not require Contractor to retain any Subcontractor or Supplier to furnish or perform any of the Work against which Contractor has reasonable objection.
- D. Prior to entry into any binding subcontract or purchase order, Contractor shall submit to Owner the identity of the proposed Subcontractor or Supplier (unless Owner has already deemed such proposed Subcontractor or Supplier acceptable during the bidding process or

otherwise). Such proposed Subcontractor or Supplier shall be deemed acceptable to Owner unless Owner raises a substantive, reasonable objection within 5 days.

- E. Owner may require the replacement of any Subcontractor or Supplier. Owner also may require Contractor to retain specific replacements; provided, however, that Owner may not require a replacement to which Contractor has a reasonable objection. If Contractor has submitted the identity of certain Subcontractors or Suppliers for acceptance by Owner, and Owner has accepted it (either in writing or by failing to make written objection thereto), then Owner may subsequently revoke the acceptance of any such Subcontractor or Supplier so identified solely on the basis of substantive, reasonable objection after due investigation. Contractor shall submit an acceptable replacement for the rejected Subcontractor or Supplier.
- F. If Owner requires the replacement of any Subcontractor or Supplier retained by Contractor to perform any part of the Work, then Contractor shall be entitled to an adjustment in Contract Price or Contract Times, with respect to the replacement; and Contractor shall initiate a Change Bid for such adjustment within 30 days of Owner's requirement of replacement.
- G. No acceptance by Owner of any such Subcontractor or Supplier, whether initially or as a replacement, will constitute a waiver of the right of Owner to the completion of the Work in accordance with the Contract Documents.
- H. On a monthly basis, Contractor shall submit to Engineer a complete list of all Subcontractors and Suppliers having a direct contract with Contractor, and of all other Subcontractors and Suppliers known to Contractor at the time of submittal.
- I. Contractor shall be solely responsible for scheduling and coordinating the work of Subcontractors and Suppliers.
- J. The divisions and sections of the Specifications and the identifications of any Drawings do not control Contractor in dividing the Work among Subcontractors or Suppliers, or in delineating the Work to be performed by any specific trade.
- K. All Work performed for Contractor by a Subcontractor or Supplier must be pursuant to an appropriate contractual agreement that specifically binds the Subcontractor or Supplier to the applicable terms and conditions of the Contract for the benefit of Owner and Engineer.
- L. Owner may furnish to any Subcontractor or Supplier, to the extent practicable, information about amounts paid to Contractor for Work performed for Contractor by the Subcontractor or Supplier.
- M. Contractor shall restrict all Subcontractors and Suppliers from communicating with Engineer or Owner, except through Contractor or in case of an emergency, or as otherwise expressly allowed in this Contract.

7.08 *Patent Fees and Royalties*

- A. Contractor shall pay all license fees and royalties and assume all costs incident to the use in the performance of the Work or the incorporation in the Work of any invention, design, process, product, or device which is the subject of patent rights or copyrights held by others. If an invention, design, process, product, or device is specified in the Contract Documents for use in the performance of the Work and if, to the actual knowledge of Owner or Engineer, its

use is subject to patent rights or copyrights calling for the payment of any license fee or royalty to others, the existence of such rights will be disclosed in the Contract Documents.

- B. To the fullest extent permitted by Laws and Regulations, Owner shall indemnify and hold harmless Contractor, and its officers, directors, members, partners, employees, agents, consultants, and subcontractors, from and against all claims, costs, losses, and damages (including but not limited to all fees and charges of engineers, architects, attorneys, and other professionals, and all court or arbitration or other dispute resolution costs) arising out of or relating to any infringement of patent rights or copyrights incident to the use in the performance of the Work or resulting from the incorporation in the Work of any invention, design, process, product, or device specified in the Contract Documents, but not identified as being subject to payment of any license fee or royalty to others required by patent rights or copyrights.
- C. To the fullest extent permitted by Laws and Regulations, Contractor shall indemnify and hold harmless Owner and Engineer, and the officers, directors, members, partners, employees, agents, consultants and subcontractors of each and any of them, from and against all claims, costs, losses, and damages (including but not limited to all fees and charges of engineers, architects, attorneys, and other professionals and all court or arbitration or other dispute resolution costs) arising out of or relating to any infringement of patent rights or copyrights incident to the use in the performance of the Work or resulting from the incorporation in the Work of any invention, design, process, product, or device not specified in the Contract Documents.

7.09 *Permits*

- A. Unless otherwise provided in the Contract Documents, Contractor shall obtain and pay for all construction permits, licenses, and certificates of occupancy. Owner shall assist Contractor, when necessary, in obtaining such permits and licenses. Contractor shall pay all governmental charges and inspection fees necessary for the prosecution of the Work which are applicable at the time of the submission of Contractor's Bid (or when Contractor became bound under a negotiated contract). Owner shall pay all charges of utility owners for connections for providing permanent service to the Work.

7.10 *Taxes*

- A. Contractor shall pay all sales, consumer, use, and other similar taxes required to be paid by Contractor in accordance with the Laws and Regulations of the place of the Project which are applicable during the performance of the Work.
- B. Owner is exempt from payment of sales and compensating use taxes of the State of Texas and of cities and counties thereof on all materials to be incorporated into the Work.
 - 1. Owner will furnish the required certificates of tax exemption to Contractor for use in the purchase of supplies and materials to be incorporated into the Work.
 - 2. Owner's exemption does not apply to construction tools, machinery, equipment, or other property purchased by or leased by Contractor, or to supplies or materials not incorporated into the Work.

7.11 *Laws and Regulations*

- A. Contractor shall give all notices required by and shall comply with all Laws and Regulations applicable to the performance of the Work. Neither Owner nor Engineer shall be responsible for monitoring Contractor's compliance with any Laws or Regulations.
- B. If Contractor performs any Work or takes any other action knowing or having reason to know that it is contrary to Laws or Regulations, Contractor shall bear all resulting costs and losses, and shall indemnify and hold harmless Owner and Engineer, and the officers, directors, members, partners, employees, agents, consultants, and subcontractors of each and any of them, from and against all claims, costs, losses, and damages (including but not limited to all fees and charges of engineers, architects, attorneys, and other professionals and all court or arbitration or other dispute resolution costs) arising out of or relating to such Work or other action. It is not Contractor's responsibility to make certain that the Work described in the Contract Documents is in accordance with Laws and Regulations, but this does not relieve Contractor of its obligations under Paragraph 3.03.
- C. Owner or Contractor may give written notice to the other party of any changes after the submission of Contractor's Bid (or after the date when Contractor became bound under a negotiated contract) in Laws or Regulations having an effect on the cost or time of performance of the Work, including but not limited to changes in Laws or Regulations having an effect on procuring permits and on sales, use, value-added, consumption, and other similar taxes. If Owner and Contractor are unable to agree on entitlement to or on the amount or extent, if any, of any adjustment in Contract Price or Contract Times resulting from such changes, then within 30 days of such written notice Contractor may submit a Change Bid, or Owner may initiate a Claim.

7.12 *Record Documents*

- A. Contractor shall maintain in a safe place at the Site one printed record copy of all Drawings, Specifications, Addenda, Change Orders, Work Change Directives, Field Orders, written interpretations and clarifications, and approved Shop Drawings. Contractor shall keep such record documents in good order and annotate them to show changes made during construction. These record documents, together with all approved Samples, will be available to Engineer for reference. Upon completion of the Work, Contractor shall deliver these record documents to Engineer.

7.13 *Safety and Protection*

- A. Contractor shall be solely responsible for initiating, maintaining, and supervising all safety precautions and programs in connection with the Work. Such responsibility does not relieve Subcontractors of their responsibility for the safety of persons or property in the performance of their work, nor for compliance with applicable safety Laws and Regulations.
- B. Contractor shall designate a qualified and experienced safety representative whose duties and responsibilities are the prevention of Work-related accidents and the maintenance and supervision of safety precautions and programs.
- C. Contractor shall take all necessary precautions for the safety of, and shall provide the necessary protection to prevent damage, injury, or loss to:
 - 1. all persons on the Site or who may be affected by the Work;

2. all the Work and materials and equipment to be incorporated therein, whether in storage on or off the Site; and
 3. other property at the Site or adjacent thereto, including trees, shrubs, lawns, walks, pavements, roadways, structures, other work in progress, utilities, and Underground Facilities not designated for removal, relocation, or replacement in the course of construction.
- D. All damage, injury, or loss to any property referred to in Paragraph 7.13.C.2 or 7.13.C.3 caused, directly or indirectly, in whole or in part, by Contractor, any Subcontractor, Supplier, or any other individual or entity directly or indirectly employed by any of them to perform any of the Work, or anyone for whose acts any of them may be liable, shall be remedied by Contractor at its expense (except damage or loss attributable to the fault of Drawings or Specifications or to the acts or omissions of Owner or Engineer or anyone employed by any of them, or anyone for whose acts any of them may be liable, and not attributable, directly or indirectly, in whole or in part, to the fault or negligence of Contractor or any Subcontractor, Supplier, or other individual or entity directly or indirectly employed by any of them).
 - E. Contractor shall comply with all applicable Laws and Regulations relating to the safety of persons or property, or to the protection of persons or property from damage, injury, or loss; and shall erect and maintain all necessary safeguards for such safety and protection.
 - F. Contractor shall notify Owner; the owners of adjacent property; the owners of Underground Facilities and other utilities (if the identity of such owners is known to Contractor); and other contractors and utility owners performing work at or adjacent to the Site, in writing, when Contractor knows that prosecution of the Work may affect them, and shall cooperate with them in the protection, removal, relocation, and replacement of their property or work in progress.
 - G. Contractor shall comply with the applicable requirements of Owner's safety programs, if any. Any Owner's safety programs that are applicable to the Work are identified or included in the Supplementary Conditions or Specifications.
 - H. Contractor shall inform Owner and Engineer of the specific requirements of Contractor's safety program with which Owner's and Engineer's employees and representatives must comply while at the Site.
 - I. Contractor's duties and responsibilities for safety and protection will continue until all the Work is completed, Engineer has issued a written notice to Owner and Contractor in accordance with Paragraph 15.06.C that the Work is acceptable, and Contractor has left the Site (except as otherwise expressly provided in connection with Substantial Completion).
 - J. Contractor's duties and responsibilities for safety and protection will resume whenever Contractor or any Subcontractor or Supplier returns to the Site to fulfill warranty or correction obligations, or to conduct other tasks arising from the Contract Documents.

7.14 Hazard Communication Programs

- A. Contractor shall be responsible for coordinating any exchange of safety data sheets (formerly known as material safety data sheets) or other hazard communication information required to be made available to or exchanged between or among employers at the Site in accordance with Laws or Regulations.

7.15 *Emergencies*

- A. In emergencies affecting the safety or protection of persons or the Work or property at the Site or adjacent thereto, Contractor is obligated to act to prevent damage, injury, or loss. Contractor shall give Engineer prompt written notice if Contractor believes that any significant changes in the Work or variations from the Contract Documents have been caused by an emergency or are required as a result of Contractor's response to an emergency. If Engineer determines that a change in the Contract Documents is required because of an emergency or Contractor's response, a Work Change Directive or Change Order will be issued.

7.16 *Submittals*

A. *Shop Drawing and Sample Requirements*

- 1. Before submitting a Shop Drawing or Sample, Contractor shall:
 - a. review and coordinate the Shop Drawing or Sample with other Shop Drawings and Samples and with the requirements of the Work and the Contract Documents;
 - b. determine and verify:
 - 1) all field measurements, quantities, dimensions, specified performance and design criteria, installation requirements, materials, catalog numbers, and similar information with respect to the Submittal;
 - 2) the suitability of all materials and equipment offered with respect to the indicated application, fabrication, shipping, handling, storage, assembly, and installation pertaining to the performance of the Work; and
 - 3) all information relative to Contractor's responsibilities for means, methods, techniques, sequences, and procedures of construction, and safety precautions and programs incident thereto;
 - c. confirm that the Submittal is complete with respect to all related data included in the Submittal.
- 2. Each Shop Drawing or Sample must bear a stamp or specific written certification that Contractor has satisfied Contractor's obligations under the Contract Documents with respect to Contractor's review of that Submittal, and that Contractor approves the Submittal.
- 3. With each Shop Drawing or Sample, Contractor shall give Engineer specific written notice of any variations that the Submittal may have from the requirements of the Contract Documents. This notice must be set forth in a written communication separate from the Submittal; and, in addition, in the case of a Shop Drawing by a specific notation made on the Shop Drawing itself.

- B. *Submittal Procedures for Shop Drawings and Samples:* Contractor shall label and submit Shop Drawings and Samples to Engineer for review and approval in accordance with the accepted Schedule of Submittals.

1. *Shop Drawings*

- a. Contractor shall submit the number of copies required in the Specifications.

- b. Data shown on the Shop Drawings must be complete with respect to quantities, dimensions, specified performance and design criteria, materials, and similar data to show Engineer the services, materials, and equipment Contractor proposes to provide, and to enable Engineer to review the information for the limited purposes required by Paragraph 7.16.C.

2. *Samples*

- a. Contractor shall submit the number of Samples required in the Specifications.
 - b. Contractor shall clearly identify each Sample as to material, Supplier, pertinent data such as catalog numbers, the use for which intended and other data as Engineer may require to enable Engineer to review the Submittal for the limited purposes required by Paragraph 7.16.C.
3. Where a Shop Drawing or Sample is required by the Contract Documents or the Schedule of Submittals, any related Work performed prior to Engineer's review and approval of the pertinent submittal will be at the sole expense and responsibility of Contractor.

C. *Engineer's Review of Shop Drawings and Samples*

- 1. Engineer will provide timely review of Shop Drawings and Samples in accordance with the accepted Schedule of Submittals. Engineer's review and approval will be only to determine if the items covered by the Submittals will, after installation or incorporation in the Work, comply with the requirements of the Contract Documents, and be compatible with the design concept of the completed Project as a functioning whole as indicated by the Contract Documents.
- 2. Engineer's review and approval will not extend to means, methods, techniques, sequences, or procedures of construction, or to safety precautions or programs incident thereto.
- 3. Engineer's review and approval of a separate item as such will not indicate approval of the assembly in which the item functions.
- 4. Engineer's review and approval of a Shop Drawing or Sample will not relieve Contractor from responsibility for any variation from the requirements of the Contract Documents unless Contractor has complied with the requirements of Paragraph 7.16.A.3 and Engineer has given written approval of each such variation by specific written notation thereof incorporated in or accompanying the Shop Drawing or Sample. Engineer will document any such approved variation from the requirements of the Contract Documents in a Field Order or other appropriate Contract modification.
- 5. Engineer's review and approval of a Shop Drawing or Sample will not relieve Contractor from responsibility for complying with the requirements of Paragraphs 7.16.A and B.
- 6. Engineer's review and approval of a Shop Drawing or Sample, or of a variation from the requirements of the Contract Documents, will not, under any circumstances, change the Contract Times or Contract Price, unless such changes are included in a Change Order.
- 7. Neither Engineer's receipt, review, acceptance, or approval of a Shop Drawing or Sample will result in such item becoming a Contract Document.

8. Contractor shall perform the Work in compliance with the requirements and commitments set forth in approved Shop Drawings and Samples, subject to the provisions of Paragraph 7.16.C.4.

D. Resubmittal Procedures for Shop Drawings and Samples

1. Contractor shall make corrections required by Engineer and shall return the required number of corrected copies of Shop Drawings and submit, as required, new Samples for review and approval. Contractor shall direct specific attention in writing to revisions other than the corrections called for by Engineer on previous Submittals.
2. Contractor shall furnish required Shop Drawing and Sample submittals with sufficient information and accuracy to obtain required approval of an item with no more than two resubmittals. Engineer will record Engineer's time for reviewing a third or subsequent resubmittal of a Shop Drawing or Sample, and Contractor shall be responsible for Engineer's charges to Owner for such time. Owner may impose a set-off against payments due Contractor to secure reimbursement for such charges.
3. If Contractor requests a change of a previously approved Shop Drawing or Sample, Contractor shall be responsible for Engineer's charges to Owner for its review time, and Owner may impose a set-off against payments due Contractor to secure reimbursement for such charges, unless the need for such change is beyond the control of Contractor.

E. Submittals Other than Shop Drawings, Samples, and Owner-Delegated Designs

1. The following provisions apply to all Submittals other than Shop Drawings, Samples, and Owner-delegated designs:
 - a. Contractor shall submit all such Submittals to the Engineer in accordance with the Schedule of Submittals and pursuant to the applicable terms of the Contract Documents.
 - b. Engineer will provide timely review of all such Submittals in accordance with the Schedule of Submittals and return such Submittals with a notation of either Accepted or Not Accepted. Any such Submittal that is not returned within the time established in the Schedule of Submittals will be deemed accepted.
 - c. Engineer's review will be only to determine if the Submittal is acceptable under the requirements of the Contract Documents as to general form and content of the Submittal.
 - d. If any such Submittal is not accepted, Contractor shall confer with Engineer regarding the reason for the non-acceptance and resubmit an acceptable document.
 2. Procedures for the submittal and acceptance of the Progress Schedule, the Schedule of Submittals, and the Schedule of Values are set forth in Paragraphs 2.03, 2.04, and 2.05.
- F. Owner-delegated Designs: Submittals pursuant to Owner-delegated designs are governed by the provisions of Paragraph 7.19.

7.17 Contractor's General Warranty and Guarantee

- A. Contractor warrants and guarantees to Owner that all Work will be in accordance with the Contract Documents and will not be defective. Engineer is entitled to rely on Contractor's warranty and guarantee.

- B. Owner's rights under this warranty and guarantee are in addition to, and are not limited by, Owner's rights under the correction period provisions of Paragraph 15.08. The time in which Owner may enforce its warranty and guarantee rights under this Paragraph 7.17 is limited only by applicable Laws and Regulations restricting actions to enforce such rights; provided, however, that after the end of the correction period under Paragraph 15.08:
 - 1. Owner shall give Contractor written notice of any defective Work within 60 days of the discovery that such Work is defective; and
 - 2. Such notice will be deemed the start of an event giving rise to a Claim under Paragraph 12.01.B, such that any related Claim must be brought within 30 days of the notice.
- C. Contractor's warranty and guarantee hereunder excludes defects or damage caused by:
 - 1. abuse, or improper modification, maintenance, or operation, by persons other than Contractor, Subcontractors, Suppliers, or any other individual or entity for whom Contractor is responsible; or
 - 2. normal wear and tear under normal usage.
- D. Contractor's obligation to perform and complete the Work in accordance with the Contract Documents is absolute. None of the following will constitute an acceptance of Work that is not in accordance with the Contract Documents, a release of Contractor's obligation to perform the Work in accordance with the Contract Documents, or a release of Owner's warranty and guarantee rights under this Paragraph 7.17:
 - 1. Observations by Engineer;
 - 2. Recommendation by Engineer or payment by Owner of any progress or final payment;
 - 3. The issuance of a certificate of Substantial Completion by Engineer or any payment related thereto by Owner;
 - 4. Use or occupancy of the Work or any part thereof by Owner;
 - 5. Any review and approval of a Shop Drawing or Sample submittal;
 - 6. The issuance of a notice of acceptability by Engineer;
 - 7. The end of the correction period established in Paragraph 15.08;
 - 8. Any inspection, test, or approval by others; or
 - 9. Any correction of defective Work by Owner.
- E. If the Contract requires the Contractor to accept the assignment of a contract entered into by Owner, then the specific warranties, guarantees, and correction obligations contained in the assigned contract will govern with respect to Contractor's performance obligations to Owner for the Work described in the assigned contract.

7.18 Indemnification

- A. To the fullest extent permitted by Laws and Regulations, and in addition to any other obligations of Contractor under the Contract or otherwise, Contractor shall indemnify and hold harmless Owner and Engineer, and the officers, directors, members, partners, employees, agents, consultants, and subcontractors of each and any of them, from losses, damages, costs, and judgments (including but not limited to all fees and charges of engineers,

architects, attorneys, and other professionals, and all court or arbitration or other dispute resolution costs) arising from third-party claims or actions relating to or resulting from the performance or furnishing of the Work, provided that any such claim, action, loss, cost, judgment or damage is attributable to bodily injury, sickness, disease, or death, or to damage to or destruction of tangible property (other than the Work itself), including the loss of use resulting therefrom, but only to the extent caused by any negligent act or omission of Contractor, any Subcontractor, any Supplier, or any individual or entity directly or indirectly employed by any of them to perform any of the Work, or anyone for whose acts any of them may be liable.

- B. In any and all claims against Owner or Engineer, or any of their officers, directors, members, partners, employees, agents, consultants, or subcontractors, by any employee (or the survivor or personal representative of such employee) of Contractor, any Subcontractor, any Supplier, or any individual or entity directly or indirectly employed by any of them to perform any of the Work, or anyone for whose acts any of them may be liable, the indemnification obligation under Paragraph 7.18.A will not be limited in any way by any limitation on the amount or type of damages, compensation, or benefits payable by or for Contractor or any such Subcontractor, Supplier, or other individual or entity under workers' compensation acts, disability benefit acts, or other employee benefit acts.

7.19 Delegation of Professional Design Services

- A. Owner may require Contractor to provide professional design services for a portion of the Work by express delegation in the Contract Documents. Such delegation will specify the performance and design criteria that such services must satisfy, and the Submittals that Contractor must furnish to Engineer with respect to the Owner-delegated design.
- B. Contractor shall cause such Owner-delegated professional design services to be provided pursuant to the professional standard of care by a properly licensed design professional, whose signature and seal must appear on all drawings, calculations, specifications, certifications, and Submittals prepared by such design professional. Such design professional must issue all certifications of design required by Laws and Regulations.
- C. If a Shop Drawing or other Submittal related to the Owner-delegated design is prepared by Contractor, a Subcontractor, or others for submittal to Engineer, then such Shop Drawing or other Submittal must bear the written approval of Contractor's design professional when submitted by Contractor to Engineer.
- D. Owner and Engineer shall be entitled to rely upon the adequacy, accuracy, and completeness of the services, certifications, and approvals performed or provided by the design professionals retained or employed by Contractor under an Owner-delegated design, subject to the professional standard of care and the performance and design criteria stated in the Contract Documents.
- E. Pursuant to this Paragraph 7.19, Engineer's review, approval, and other determinations regarding design drawings, calculations, specifications, certifications, and other Submittals furnished by Contractor pursuant to an Owner-delegated design will be only for the following limited purposes:
 - 1. Checking for conformance with the requirements of this Paragraph 7.19;
 - 2. Confirming that Contractor (through its design professionals) has used the performance and design criteria specified in the Contract Documents; and

3. Establishing that the design furnished by Contractor is consistent with the design concept expressed in the Contract Documents.
- F. Contractor shall not be responsible for the adequacy of performance or design criteria specified by Owner or Engineer.
- G. Contractor is not required to provide professional services in violation of applicable Laws and Regulations.

ARTICLE 8—OTHER WORK AT THE SITE

8.01 Other Work

- A. In addition to and apart from the Work under the Contract Documents, the Owner may perform other work at or adjacent to the Site. Such other work may be performed by Owner's employees, or through contracts between the Owner and third parties. Owner may also arrange to have third-party utility owners perform work on their utilities and facilities at or adjacent to the Site.
- B. If Owner performs other work at or adjacent to the Site with Owner's employees, or through contracts for such other work, then Owner shall give Contractor written notice thereof prior to starting any such other work. If Owner has advance information regarding the start of any third-party utility work that Owner has arranged to take place at or adjacent to the Site, Owner shall provide such information to Contractor.
- C. Contractor shall afford proper and safe access to the Site to each contractor that performs such other work, each utility owner performing other work, and Owner, if Owner is performing other work with Owner's employees, and provide a reasonable opportunity for the introduction and storage of materials and equipment and the execution of such other work.
- D. Contractor shall do all cutting, fitting, and patching of the Work that may be required to properly connect or otherwise make its several parts come together and properly integrate with such other work. Contractor shall not endanger any work of others by cutting, excavating, or otherwise altering such work; provided, however, that Contractor may cut or alter others' work with the written consent of Engineer and the others whose work will be affected.
- E. If the proper execution or results of any part of Contractor's Work depends upon work performed by others, Contractor shall inspect such other work and promptly report to Engineer in writing any delays, defects, or deficiencies in such other work that render it unavailable or unsuitable for the proper execution and results of Contractor's Work. Contractor's failure to so report will constitute an acceptance of such other work as fit and proper for integration with Contractor's Work except for latent defects and deficiencies in such other work.
- F. The provisions of this article are not applicable to work that is performed by third-party utilities or other third-party entities without a contract with Owner, or that is performed without having been arranged by Owner. If such work occurs, then any related delay, disruption, or interference incurred by Contractor is governed by the provisions of Paragraph 4.05.C.3.

8.02 Coordination

- A. If Owner intends to contract with others for the performance of other work at or adjacent to the Site, to perform other work at or adjacent to the Site with Owner's employees, or to arrange to have utility owners perform work at or adjacent to the Site, the following will be set forth in the Supplementary Conditions or provided to Contractor prior to the start of any such other work:
 - 1. The identity of the individual or entity that will have authority and responsibility for coordination of the activities among the various contractors;
 - 2. An itemization of the specific matters to be covered by such authority and responsibility; and
 - 3. The extent of such authority and responsibilities.
- B. Unless otherwise provided in the Supplementary Conditions, Owner shall have sole authority and responsibility for such coordination.

8.03 Legal Relationships

- A. If, in the course of performing other work for Owner at or adjacent to the Site, the Owner's employees, any other contractor working for Owner, or any utility owner that Owner has arranged to perform work, causes damage to the Work or to the property of Contractor or its Subcontractors, or delays, disrupts, interferes with, or increases the scope or cost of the performance of the Work, through actions or inaction, then Contractor shall be entitled to an equitable adjustment in the Contract Price or the Contract Times. Contractor must submit any Change Bid seeking an equitable adjustment in the Contract Price or the Contract Times under this paragraph within 30 days of the damaging, delaying, disrupting, or interfering event. The entitlement to, and extent of, any such equitable adjustment will take into account information (if any) regarding such other work that was provided to Contractor in the Contract Documents prior to the submittal of the Bid or the final negotiation of the terms of the Contract, and any remedies available to Contractor under Laws or Regulations concerning utility action or inaction. When applicable, any such equitable adjustment in Contract Price will be conditioned on Contractor assigning to Owner all Contractor's rights against such other contractor or utility owner with respect to the damage, delay, disruption, or interference that is the subject of the adjustment. Contractor's entitlement to an adjustment of the Contract Times or Contract Price is subject to the provisions of Paragraphs 4.05.D and 4.05.E.
- B. Contractor shall take reasonable and customary measures to avoid damaging, delaying, disrupting, or interfering with the work of Owner, any other contractor, or any utility owner performing other work at or adjacent to the Site.
 - 1. If Contractor fails to take such measures and as a result damages, delays, disrupts, or interferes with the work of any such other contractor or utility owner, then Owner may impose a set-off against payments due Contractor, and assign to such other contractor or utility owner the Owner's contractual rights against Contractor with respect to the breach of the obligations set forth in this Paragraph 8.03.B.
 - 2. When Owner is performing other work at or adjacent to the Site with Owner's employees, Contractor shall be liable to Owner for damage to such other work, and for the reasonable direct delay, disruption, and interference costs incurred by Owner as a result of Contractor's failure to take reasonable and customary measures with respect to Owner's

other work. In response to such damage, delay, disruption, or interference, Owner may impose a set-off against payments due Contractor.

- C. If Contractor damages, delays, disrupts, or interferes with the work of any other contractor, or any utility owner performing other work at or adjacent to the Site, through Contractor's failure to take reasonable and customary measures to avoid such impacts, or if any claim arising out of Contractor's actions, inactions, or negligence in performance of the Work at or adjacent to the Site is made by any such other contractor or utility owner against Contractor, Owner, or Engineer, then Contractor shall (1) promptly attempt to settle the claim as to all parties through negotiations with such other contractor or utility owner, or otherwise resolve the claim by arbitration or other dispute resolution proceeding or at law, and (2) indemnify and hold harmless Owner and Engineer, and the officers, directors, members, partners, employees, agents, consultants and subcontractors of each and any of them from and against any such claims, and against all costs, losses, and damages (including but not limited to all fees and charges of engineers, architects, attorneys, and other professionals and all court or arbitration or other dispute resolution costs) arising out of or relating to such damage, delay, disruption, or interference.

ARTICLE 9—OWNER'S RESPONSIBILITIES

9.01 *Communications to Contractor*

- A. Except as otherwise provided in these General Conditions, Owner shall issue all communications to Contractor through Engineer.

9.02 *Replacement of Engineer*

- A. Owner may at its discretion appoint an engineer to replace Engineer, provided Contractor makes no reasonable objection to the replacement engineer. The replacement engineer's status under the Contract Documents will be that of the former Engineer.

9.03 *Furnish Data*

- A. Owner shall promptly furnish the data required of Owner under the Contract Documents.

9.04 *Pay When Due*

- A. Owner shall make payments to Contractor when they are due as provided in the Agreement.

9.05 *Lands and Easements; Reports, Tests, and Drawings*

- A. Owner's duties with respect to providing lands and easements are set forth in Paragraph 5.01.
B. Owner's duties with respect to providing engineering surveys to establish reference points are set forth in Paragraph 4.03.
C. Article 5 refers to Owner's identifying and making available to Contractor copies of reports of explorations and tests of conditions at the Site, and drawings of physical conditions relating to existing surface or subsurface structures at the Site.

9.06 *Insurance*

- A. Owner's responsibilities, if any, with respect to purchasing and maintaining liability and property insurance are set forth in Article 6.

9.07 Change Orders

- A. Owner's responsibilities with respect to Change Orders are set forth in Article 11.

9.08 Inspections, Tests, and Approvals

- A. Owner's responsibility with respect to certain inspections, tests, and approvals is set forth in Paragraph 14.02.B.

9.09 Limitations on Owner's Responsibilities

- A. The Owner shall not supervise, direct, or have control or authority over, nor be responsible for, Contractor's means, methods, techniques, sequences, or procedures of construction, or the safety precautions and programs incident thereto, or for any failure of Contractor to comply with Laws and Regulations applicable to the performance of the Work. Owner will not be responsible for Contractor's failure to perform the Work in accordance with the Contract Documents.

9.10 Undisclosed Hazardous Environmental Condition

- A. Owner's responsibility in respect to an undisclosed Hazardous Environmental Condition is set forth in Paragraph 5.06.

9.11 Evidence of Financial Arrangements

- A. Upon request of Contractor, Owner shall furnish Contractor reasonable evidence that financial arrangements have been made to satisfy Owner's obligations under the Contract (including obligations under proposed changes in the Work).

9.12 Safety Programs

- A. While at the Site, Owner's employees and representatives shall comply with the specific applicable requirements of Contractor's safety programs of which Owner has been informed.
- B. Owner shall furnish copies of any applicable Owner safety programs to Contractor.

ARTICLE 10—ENGINEER'S STATUS DURING CONSTRUCTION

10.01 Owner's Representative

- A. Engineer will be Owner's representative during the construction period. The duties and responsibilities and the limitations of authority of Engineer as Owner's representative during construction are set forth in the Contract.

10.02 Visits to Site

- A. Engineer will make visits to the Site at intervals appropriate to the various stages of construction as Engineer deems necessary in order to observe, as an experienced and qualified design professional, the progress that has been made and the quality of the various aspects of Contractor's executed Work. Based on information obtained during such visits and observations, Engineer, for the benefit of Owner, will determine, in general, if the Work is proceeding in accordance with the Contract Documents. Engineer will not be required to make exhaustive or continuous inspections on the Site to check the quality or quantity of the Work. Engineer's efforts will be directed toward providing for Owner a greater degree of confidence that the completed Work will conform generally to the Contract Documents. On

the basis of such visits and observations, Engineer will keep Owner informed of the progress of the Work and will endeavor to guard Owner against defective Work.

- B. Engineer's visits and observations are subject to all the limitations on Engineer's authority and responsibility set forth in Paragraph 10.07. Particularly, but without limitation, during or as a result of Engineer's visits or observations of Contractor's Work, Engineer will not supervise, direct, control, or have authority over or be responsible for Contractor's means, methods, techniques, sequences, or procedures of construction, or the safety precautions and programs incident thereto, or for any failure of Contractor to comply with Laws and Regulations applicable to the performance of the Work.

10.03 Resident Project Representative

- A. If Owner and Engineer have agreed that Engineer will furnish a Resident Project Representative to represent Engineer at the Site and assist Engineer in observing the progress and quality of the Work, then the authority and responsibilities of any such Resident Project Representative will be as provided in the Supplementary Conditions, and limitations on the responsibilities thereof will be as provided in the Supplementary Conditions and in Paragraph 10.07.
- B. If Owner designates an individual or entity who is not Engineer's consultant, agent, or employee to represent Owner at the Site, then the responsibilities and authority of such individual or entity will be as provided in the Supplementary Conditions.
- C. The Resident Project Representative (RPR) will be Engineer's representative at the Site. RPR's dealings in matters pertaining to the Work in general will be with Engineer and Contractor. RPR's dealings with Subcontractors will only be through or with the full knowledge or approval of Contractor. The RPR will:
 - 1. *Conferences and Meetings:* Attend meetings with Contractor, such as preconstruction conferences, progress meetings, job conferences, and other Project-related meetings (but not including Contractor's safety meetings), and as appropriate prepare and circulate copies of minutes thereof.
 - 2. *Safety Compliance:* Comply with Site safety programs, as they apply to RPR, and if required to do so by such safety programs, receive safety training specifically related to RPR's own personal safety while at the Site.
 - 3. *Liaison*
 - a. Serve as Engineer's liaison with Contractor. Working principally through Contractor's authorized representative or designee, assist in providing information regarding the provisions and intent of the Contract Documents.
 - b. Assist Engineer in serving as Owner's liaison with Contractor when Contractor's operations affect Owner's on-Site operations.
 - c. Assist in obtaining from Owner additional details or information, when required for Contractor's proper execution of the Work.
 - 4. *Review of Work; Defective Work*
 - a. Conduct on-Site observations of the Work to assist Engineer in determining, to the extent set forth in Paragraph 10.02, if the Work is in general proceeding in accordance with the Contract Documents.

- b. Observe whether any Work in place appears to be defective.
- c. Observe whether any Work in place should be uncovered for observation, or requires special testing, inspection, or approval.

5. *Inspections and Tests*

- a. Observe Contractor-arranged inspections required by Laws and Regulations, including but not limited to those performed by public or other agencies having jurisdiction over the Work.
- b. Accompany visiting inspectors representing public or other agencies having jurisdiction over the Work.

6. *Payment Requests: Review Applications for Payment with Contractor.*

7. *Completion*

- a. Participate in Engineer's visits regarding Substantial Completion.
- b. Assist in the preparation of a punch list of items to be completed or corrected.
- c. Participate in Engineer's visit to the Site in the company of Owner and Contractor regarding completion of the Work and prepare a final punch list of items to be completed or corrected by Contractor.
- d. Observe whether items on the final punch list have been completed or corrected.

D. The RPR will not:

- 1. Authorize any deviation from the Contract Documents or substitution of materials or equipment (including "or-equal" items).
- 2. Exceed limitations of Engineer's authority as set forth in the Contract Documents.
- 3. Undertake any of the responsibilities of Contractor, Subcontractors, or Suppliers.
- 4. Advise on, issue directions relative to, or assume control over any aspect of the means, methods, techniques, sequences, or procedures of construction.
- 5 Advise on, issue directions regarding, or assume control over security or safety practices, precautions, and programs in connection with the activities or operations of Owner or Contractor.
- 6. Participate in specialized field or laboratory tests or inspections conducted off-site by others except as specifically authorized by Engineer.
- 7. Authorize Owner to occupy the Project in whole or in part.

10.04 *Engineer's Authority*

- A. Engineer has the authority to reject Work in accordance with Article 14.
- B. Engineer's authority as to Submittals is set forth in Paragraph 7.16.
- C. Engineer's authority as to design drawings, calculations, specifications, certifications, and other Submittals from Contractor in response to Owner's delegation (if any) to Contractor of professional design services, is set forth in Paragraph 7.19.
- D. Engineer's authority as to changes in the Work is set forth in Article 11.

E. Engineer's authority as to Applications for Payment is set forth in Article 15.

10.05 Determinations for Unit Price Work

A. Engineer will determine the actual quantities and classifications of Unit Price Work performed by Contractor as set forth in Paragraph 13.03.

10.06 Decisions on Requirements of Contract Documents and Acceptability of Work

A. Engineer will render decisions regarding the requirements of the Contract Documents, and judge the acceptability of the Work, pursuant to the specific procedures set forth herein for initial interpretations, Change Bids, and acceptance of the Work. In rendering such decisions and judgments, Engineer will not show partiality to Owner or Contractor, and will not be liable to Owner, Contractor, or others in connection with any proceedings, interpretations, decisions, or judgments conducted or rendered in good faith.

10.07 Limitations on Engineer's Authority and Responsibilities

- A. Neither Engineer's authority or responsibility under this Article 10 or under any other provision of the Contract, nor any decision made by Engineer in good faith either to exercise or not exercise such authority or responsibility or the undertaking, exercise, or performance of any authority or responsibility by Engineer, will create, impose, or give rise to any duty in contract, tort, or otherwise owed by Engineer to Contractor, any Subcontractor, any Supplier, any other individual or entity, or to any surety for or employee or agent of any of them.
- B. Engineer will not supervise, direct, control, or have authority over or be responsible for Contractor's means, methods, techniques, sequences, or procedures of construction, or the safety precautions and programs incident thereto, or for any failure of Contractor to comply with Laws and Regulations applicable to the performance of the Work. Engineer will not be responsible for Contractor's failure to perform the Work in accordance with the Contract Documents.
- C. Engineer will not be responsible for the acts or omissions of Contractor or of any Subcontractor, any Supplier, or of any other individual or entity performing any of the Work.
- D. Engineer's review of the final Application for Payment and accompanying documentation, and all maintenance and operating instructions, schedules, guarantees, bonds, certificates of inspection, tests and approvals, and other documentation required to be delivered by Contractor under Paragraph 15.06.A, will only be to determine generally that their content complies with the requirements of, and in the case of certificates of inspections, tests, and approvals, that the results certified indicate compliance with the Contract Documents.
- E. The limitations upon authority and responsibility set forth in this Paragraph 10.07 also apply to the Resident Project Representative, if any.

10.08 Compliance with Safety Program

A. While at the Site, Engineer's employees and representatives will comply with the specific applicable requirements of Owner's and Contractor's safety programs of which Engineer has been informed.

ARTICLE 11—CHANGES TO THE CONTRACT

11.01 *Amending and Supplementing the Contract*

- A. The Contract may be amended or supplemented by a Change Order, a Work Change Directive, or a Field Order.
- B. If an amendment or supplement to the Contract includes a change in the Contract Price or the Contract Times, such amendment or supplement must be set forth in a Change Order.
- C. All changes to the Contract that involve (1) the performance or acceptability of the Work, (1) the design (as set forth in the Drawings, Specifications, or otherwise), or (3) other engineering or technical matters, must be supported by Engineer's recommendation. Owner and Contractor may amend other terms and conditions of the Contract without the recommendation of the Engineer.

11.02 *Change Orders*

- A. Owner and Contractor shall execute appropriate Change Orders covering:
 - 1. Changes in Contract Price or Contract Times which are agreed to by the parties, including any undisputed sum or amount of time for Work actually performed in accordance with a Work Change Directive;
 - 2. Changes in Contract Price resulting from an Owner set-off, unless Contractor has duly contested such set-off;
 - 3. Changes in the Work which are: (a) ordered by Owner pursuant to Paragraph 11.05, (b) required because of Owner's acceptance of defective Work under Paragraph 14.04 or Owner's correction of defective Work under Paragraph 14.07, or (c) agreed to by the parties, subject to the need for Engineer's recommendation if the change in the Work involves the design (as set forth in the Drawings, Specifications, or otherwise) or other engineering or technical matters; and
 - 4. Changes that embody the substance of any final and binding results under: Paragraph 11.03.B, resolving the impact of a Work Change Directive; Paragraph 11.09, concerning Change Bids; Article 12, Claims; Paragraph 13.02.D, final adjustments resulting from allowances; Paragraph 13.03.D, final adjustments relating to determination of quantities for Unit Price Work; and similar provisions.
- B. If Owner or Contractor refuses to execute a Change Order that is required to be executed under the terms of Paragraph 11.02.A, it will be deemed to be of full force and effect, as if fully executed.

11.03 *Work Change Directives*

- A. A Work Change Directive will not change the Contract Price or the Contract Times but is evidence that the parties expect that the modification ordered or documented by a Work Change Directive will be incorporated in a subsequently issued Change Order, following negotiations by the parties as to the Work Change Directive's effect, if any, on the Contract Price and Contract Times; or, if negotiations are unsuccessful, by a determination under the terms of the Contract Documents governing adjustments, expressly including Paragraph 11.07 regarding change of Contract Price.

- B. If Owner has issued a Work Change Directive and:
 - 1. Contractor believes that an adjustment in Contract Times or Contract Price is necessary, then Contractor shall submit any Change Bid seeking such an adjustment no later than 30 days after the completion of the Work set out in the Work Change Directive.
 - 2. Owner believes that an adjustment in Contract Times or Contract Price is necessary, then Owner shall submit any Claim seeking such an adjustment no later than 60 days after issuance of the Work Change Directive.

11.04 Field Orders

- A. Engineer may authorize minor changes in the Work if the changes do not involve an adjustment in the Contract Price or the Contract Times and are compatible with the design concept of the completed Project as a functioning whole as indicated by the Contract Documents. Such changes will be accomplished by a Field Order and will be binding on Owner and also on Contractor, which shall perform the Work involved promptly.
- B. If Contractor believes that a Field Order justifies an adjustment in the Contract Price or Contract Times, then before proceeding with the Work at issue, Contractor shall submit a Change Bid as provided herein.

11.05 Owner-Authorized Changes in the Work

- A. Without invalidating the Contract and without notice to any surety, Owner may, at any time or from time to time, order additions, deletions, or revisions in the Work. Changes involving the design (as set forth in the Drawings, Specifications, or otherwise) or other engineering or technical matters will be supported by Engineer's recommendation.
- B. Such changes in the Work may be accomplished by a Change Order, if Owner and Contractor have agreed as to the effect, if any, of the changes on Contract Times or Contract Price; or by a Work Change Directive. Upon receipt of any such document, Contractor shall promptly proceed with the Work involved; or, in the case of a deletion in the Work, promptly cease construction activities with respect to such deleted Work. Added or revised Work must be performed under the applicable conditions of the Contract Documents.
- C. Nothing in this Paragraph 11.05 obligates Contractor to undertake work that Contractor reasonably concludes cannot be performed in a manner consistent with Contractor's safety obligations under the Contract Documents or Laws and Regulations.

11.06 Unauthorized Changes in the Work

- A. Contractor shall not be entitled to an increase in the Contract Price or an extension of the Contract Times with respect to any work performed that is not required by the Contract Documents, as amended, modified, or supplemented, except in the case of an emergency as provided in Paragraph 7.15 or in the case of uncovering Work as provided in Paragraph 14.05.C.2.

11.07 Change of Contract Price

- A. The Contract Price may only be changed by a Change Order. Any Change Bid for an adjustment in the Contract Price must comply with the provisions of Paragraph 11.09. Any Claim for an adjustment of Contract Price must comply with the provisions of Article 12.

- B. An adjustment in the Contract Price will be determined as follows:
1. Where the Work involved is covered by unit prices contained in the Contract Documents, then by application of such unit prices to the quantities of the items involved (subject to the provisions of Paragraph 13.03);
 2. Where the Work involved is not covered by unit prices contained in the Contract Documents, then by a mutually agreed lump sum (which may include an allowance for overhead and profit not necessarily in accordance with Paragraph 11.07.C.2); or
 3. Where the Work involved is not covered by unit prices contained in the Contract Documents and the parties do not reach mutual agreement to a lump sum, then on the basis of the Cost of the Work (determined as provided in Paragraph 13.01) plus a Contractor's fee for overhead and profit (determined as provided in Paragraph 11.07.C).
- C. *Contractor's Fee*: When applicable, the Contractor's fee for overhead and profit will be determined as follows:
1. A mutually acceptable fixed fee; or
 2. If a fixed fee is not agreed upon, then a fee based on the following percentages of the various portions of the Cost of the Work:
 - a. For costs incurred under Paragraphs 13.01.B.1 and 13.01.B.2, the Contractor's fee will be 15 percent;
 - b. For costs incurred under Paragraph 13.01.B.3, the Contractor's fee will be 5 percent;
 - c. Where one or more tiers of subcontracts are on the basis of Cost of the Work plus a fee and no fixed fee is agreed upon, the intent of Paragraphs 11.07.C.2.a and 11.07.C.2.b is that the Contractor's fee will be based on: (1) a fee of 15 percent of the costs incurred under Paragraphs 13.01.B.1 and 13.01.B.2 by the Subcontractor that actually performs the Work, at whatever tier, and (2) with respect to Contractor itself and to any Subcontractors of a tier higher than that of the Subcontractor that actually performs the Work, a fee of 5 percent of the amount (fee plus underlying costs incurred) attributable to the next lower tier Subcontractor; provided, however, that for any such subcontracted Work the maximum total fee to be paid by Owner will be no greater than 27 percent of the costs incurred by the Subcontractor that actually performs the Work;
 - d. No fee will be payable on the basis of costs itemized under Paragraphs 13.01.B.4, 13.01.B.5, and 13.01.C;
 - e. The amount of credit to be allowed by Contractor to Owner for any change which results in a net decrease in Cost of the Work will be the amount of the actual net decrease in Cost of the Work and a deduction of an additional amount equal to 5 percent of such actual net decrease in Cost of the Work; and
 - f. When both additions and credits are involved in any one change or Change Bid, the adjustment in Contractor's fee will be computed by determining the sum of the costs in each of the cost categories in Paragraph 13.01.B (specifically, payroll costs, Paragraph 13.01.B.1; incorporated materials and equipment costs, Paragraph 13.01.B.2; Subcontract costs, Paragraph 13.01.B.3; special consultants costs, Paragraph 13.01.B.4; and other costs, Paragraph 13.01.B.5) and applying to

each such cost category sum the appropriate fee from Paragraphs 11.07.C.2.a through 11.07.C.2.e, inclusive.

11.08 Change of Contract Times

- A. The Contract Times may only be changed by a Change Order. Any Change Bid for an adjustment in the Contract Times must comply with the provisions of Paragraph 11.09. Any Claim for an adjustment in the Contract Times must comply with the provisions of Article 12.
- B. Delay, disruption, and interference in the Work, and any related changes in Contract Times, are addressed in and governed by Paragraph 4.05.

11.09 Change Bids

- A. *Purpose and Content:* Contractor shall submit a Change Bid to Engineer to request an adjustment in the Contract Times or Contract Price; contest an initial decision by Engineer concerning the requirements of the Contract Documents or relating to the acceptability of the Work under the Contract Documents; challenge a set-off against payment due; or seek other relief under the Contract. The Change Bid will specify any proposed change in Contract Times or Contract Price, or other proposed relief, and explain the reason for the proposed change, with citations to any governing or applicable provisions of the Contract Documents. Each Change Bid will address only one issue, or a set of closely related issues.

B. Change Bid Procedures

- 1. *Submittal:* Contractor shall submit each Change Bid to Engineer within 30 days after the start of the event giving rise thereto, or after such initial decision.
- 2. *Supporting Data:* The Contractor shall submit supporting data, including the proposed change in Contract Price or Contract Time (if any), to the Engineer and Owner within 15 days after the submittal of the Change Bid.
 - a. Change Bids based on or related to delay, interruption, or interference must comply with the provisions of Paragraphs 4.05.D and 4.05.E.
 - b. Change Bids related to a change of Contract Price must include full and detailed accounts of materials incorporated into the Work and labor and equipment used for the subject Work.

The supporting data must be accompanied by a written statement that the supporting data are accurate and complete, and that any requested time or price adjustment is the entire adjustment to which Contractor believes it is entitled as a result of said event.

- 3. *Engineer's Initial Review:* Engineer will advise Owner regarding the Change Bid and consider any comments or response from Owner regarding the Change Bid. If in its discretion Engineer concludes that additional supporting data is needed before conducting a full review and making a decision regarding the Change Bid, then Engineer may request that Contractor submit such additional supporting data by a date specified by Engineer, prior to Engineer beginning its full review of the Change Bid.
- 4. *Engineer's Full Review and Action on the Change Bid:* Upon receipt of Contractor's supporting data (including any additional data requested by Engineer), Engineer will conduct a full review of each Change Bid and, within 30 days after such receipt of the Contractor's supporting data, either approve the Change Bid in whole, deny it in

whole, or approve it in part and deny it in part. Such actions must be in writing, with a copy provided to Owner and Contractor. If Engineer does not take action on the Change Bid within 30 days, then either Owner or Contractor may at any time thereafter submit a letter to the other party indicating that as a result of Engineer's inaction the Change Bid is deemed denied, thereby commencing the time for appeal of the denial under Article 12.

5. *Binding Decision*: Engineer's decision is final and binding upon Owner and Contractor, unless Owner or Contractor appeals the decision by filing a Claim under Article 12.
- C. *Resolution of Certain Change Bids*: If the Change Bid does not involve the design (as set forth in the Drawings, Specifications, or otherwise), the acceptability of the Work, or other engineering or technical matters, then Engineer will notify the parties in writing that the Engineer is unable to resolve the Change Bid. For purposes of further resolution of such a Change Bid, such notice will be deemed a denial, and Contractor may choose to seek resolution under the terms of Article 12.
- D. *Post-Completion*: Contractor shall not submit any Change Bids after Engineer issues a written recommendation of final payment pursuant to Paragraph 15.06.B.

11.10 Notification to Surety

- A. If the provisions of any bond require notice to be given to a surety of any change affecting the general scope of the Work or the provisions of the Contract Documents (including, but not limited to, Contract Price or Contract Times), the giving of any such notice will be Contractor's responsibility. The amount of each applicable bond will be adjusted to reflect the effect of any such change.

ARTICLE 12—CLAIMS

12.01 Claims

- A. *Claims Process*: The following disputes between Owner and Contractor are subject to the Claims process set forth in this article:
 1. Appeals by Owner or Contractor of Engineer's decisions regarding Change Bids;
 2. Owner demands for adjustments in the Contract Price or Contract Times, or other relief under the Contract Documents;
 3. Disputes that Engineer has been unable to address because they do not involve the design (as set forth in the Drawings, Specifications, or otherwise), the acceptability of the Work, or other engineering or technical matters; and
 4. Subject to the waiver provisions of Paragraph 15.07, any dispute arising after Engineer has issued a written recommendation of final payment pursuant to Paragraph 15.06.B.
- B. *Submittal of Claim*: The party submitting a Claim shall deliver it directly to the other party to the Contract promptly (but in no event later than 30 days) after the start of the event giving rise thereto; in the case of appeals regarding Change Bids within 30 days of the decision under appeal. The party submitting the Claim shall also furnish a copy to the Engineer, for its information only. The responsibility to substantiate a Claim rests with the party making the Claim. In the case of a Claim by Contractor seeking an increase in the Contract Times or Contract Price, Contractor shall certify that the Claim is made in good faith, that the

supporting data are accurate and complete, and that to the best of Contractor's knowledge and belief the amount of time or money requested accurately reflects the full amount to which Contractor is entitled.

- C. *Review and Resolution*: The party receiving a Claim shall review it thoroughly, giving full consideration to its merits. The two parties shall seek to resolve the Claim through the exchange of information and direct negotiations. The parties may extend the time for resolving the Claim by mutual agreement. All actions taken on a Claim will be stated in writing and submitted to the other party, with a copy to Engineer.
- D. *Mediation*
1. At any time after initiation of a Claim, Owner and Contractor may mutually agree to mediation of the underlying dispute. The agreement to mediate will stay the Claim submittal and response process.
 2. If Owner and Contractor agree to mediation, then after 60 days from such agreement, either Owner or Contractor may unilaterally terminate the mediation process, and the Claim submittal and decision process will resume as of the date of the termination. If the mediation proceeds but is unsuccessful in resolving the dispute, the Claim submittal and decision process will resume as of the date of the conclusion of the mediation, as determined by the mediator.
 3. Owner and Contractor shall each pay one-half of the mediator's fees and costs.
- E. *Partial Approval*: If the party receiving a Claim approves the Claim in part and denies it in part, such action will be final and binding unless within 30 days of such action the other party invokes the procedure set forth in Article 17 for final resolution of disputes.
- F. *Denial of Claim*: If efforts to resolve a Claim are not successful, the party receiving the Claim may deny it by giving written notice of denial to the other party. If the receiving party does not take action on the Claim within 90 days, then either Owner or Contractor may at any time thereafter submit a letter to the other party indicating that as a result of the inaction, the Claim is deemed denied, thereby commencing the time for appeal of the denial. A denial of the Claim will be final and binding unless within 30 days of the denial the other party invokes the procedure set forth in Article 17 for the final resolution of disputes.
- G. *Final and Binding Results*: If the parties reach a mutual agreement regarding a Claim, whether through approval of the Claim, direct negotiations, mediation, or otherwise; or if a Claim is approved in part and denied in part, or denied in full, and such actions become final and binding; then the results of the agreement or action on the Claim will be incorporated in a Change Order or other written document to the extent they affect the Contract, including the Work, the Contract Times, or the Contract Price.

ARTICLE 13—COST OF THE WORK; ALLOWANCES; UNIT PRICE WORK

13.01 Cost of the Work

- A. *Purposes for Determination of Cost of the Work*: The term Cost of the Work means the sum of all costs necessary for the proper performance of the Work at issue, as further defined below. The provisions of this Paragraph 13.01 are used for two distinct purposes:

1. To determine Cost of the Work when Cost of the Work is a component of the Contract Price, under cost-plus-fee, time-and-materials, or other cost-based terms; or
 2. When needed to determine the value of a Change Order, Change Bid, Claim, set-off, or other adjustment in Contract Price. When the value of any such adjustment is determined on the basis of Cost of the Work, Contractor is entitled only to those additional or incremental costs required because of the change in the Work or because of the event giving rise to the adjustment.
- B. *Costs Included:* Except as otherwise may be agreed to in writing by Owner, costs included in the Cost of the Work will be in amounts no higher than those commonly incurred in the locality of the Project, will not include any of the costs itemized in Paragraph 13.01.C, and will include only the following items:
1. Payroll costs for employees in the direct employ of Contractor in the performance of the Work under schedules of job classifications agreed upon by Owner and Contractor in advance of the subject Work. Such employees include, without limitation, superintendents, foremen, safety managers, safety representatives, and other personnel employed full time on the Work. Payroll costs for employees not employed full time on the Work will be apportioned on the basis of their time spent on the Work. Payroll costs include, but are not limited to, salaries and wages plus the cost of fringe benefits, which include social security contributions, unemployment, excise, and payroll taxes, workers' compensation, health and retirement benefits, sick leave, and vacation and holiday pay applicable thereto. The expenses of performing Work outside of regular working hours, on Saturday, Sunday, or legal holidays, will be included in the above to the extent authorized by Owner.
 2. Cost of all materials and equipment furnished and incorporated in the Work, including costs of transportation and storage thereof, and Suppliers' field services required in connection therewith. All cash discounts accrue to Contractor unless Owner deposits funds with Contractor with which to make payments, in which case the cash discounts will accrue to Owner. All trade discounts, rebates, and refunds and returns from sale of surplus materials and equipment will accrue to Owner, and Contractor shall make provisions so that they may be obtained.
 3. Payments made by Contractor to Subcontractors for Work performed by Subcontractors. If required by Owner, Contractor shall obtain competitive Bids from subcontractors acceptable to Owner and Contractor and shall deliver such Bids to Owner, which will then determine, with the advice of Engineer, which Bids, if any, will be acceptable. If any subcontract provides that the Subcontractor is to be paid on the basis of Cost of the Work plus a fee, the Subcontractor's Cost of the Work and fee will be determined in the same manner as Contractor's Cost of the Work and fee as provided in this Paragraph 13.01.
 4. Costs of special consultants (including but not limited to engineers, architects, testing laboratories, surveyors, attorneys, and accountants) employed or retained for services specifically related to the Work.
 5. Other costs consisting of the following:
 - a. The proportion of necessary transportation, travel, and subsistence expenses of Contractor's employees incurred in discharge of duties connected with the Work.

- b. Cost, including transportation and maintenance, of all materials, supplies, equipment, machinery, appliances, office, and temporary facilities at the Site, which are consumed in the performance of the Work, and cost, less market value, of such items used but not consumed which remain the property of Contractor.
 - 1) In establishing included costs for materials such as scaffolding, plating, or sheeting, consideration will be given to the actual or the estimated life of the material for use on other projects; or rental rates may be established on the basis of purchase or salvage value of such items, whichever is less. Contractor will not be eligible for compensation for such items in an amount that exceeds the purchase cost of such item.
- c. *Construction Equipment Rental*
 - 1) Rentals of all construction equipment and machinery, and the parts thereof, in accordance with rental agreements approved by Owner as to price (including any surcharge or special rates applicable to overtime use of the construction equipment or machinery), and the costs of transportation, loading, unloading, assembly, dismantling, and removal thereof. All such costs will be in accordance with the terms of said rental agreements. The rental of any such equipment, machinery, or parts must cease when the use thereof is no longer necessary for the Work.
 - 2) The equipment rental rate book that governs the included costs for the rental of machinery and equipment owned by Contractor (or a related entity) under the Cost of the Work provisions of this Contract is the most current edition of the Rental Rate Blue Book for Construction Equipment.
 - 3) With respect to Work that is the result of a Change Order, Change Bid, Claim, set-off, or other adjustment in Contract Price ("changed Work"), included costs will be based on the time the equipment or machinery is in use on the changed Work and the costs of transportation, loading, unloading, assembly, dismantling, and removal when directly attributable to the changed Work. The cost of any such equipment or machinery, or parts thereof, must cease to accrue when the use thereof is no longer necessary for the changed Work.
- d. Sales, consumer, use, and other similar taxes related to the Work, and for which Contractor is liable, as imposed by Laws and Regulations.
- e. Deposits lost for causes other than negligence of Contractor, any Subcontractor, or anyone directly or indirectly employed by any of them or for whose acts any of them may be liable, and royalty payments and fees for permits and licenses.
- f. Losses and damages (and related expenses) caused by damage to the Work, not compensated by insurance or otherwise, sustained by Contractor in connection with the performance of the Work (except losses and damages within the deductible amounts of builder's risk or other property insurance established in accordance with

Paragraph 6.04), provided such losses and damages have resulted from causes other than the negligence of Contractor, any Subcontractor, or anyone directly or indirectly employed by any of them or for whose acts any of them may be liable. Such losses include settlements made with the written consent and approval of Owner. No such losses, damages, and expenses will be included in the Cost of the Work for the purpose of determining Contractor's fee.

- g. The cost of utilities, fuel, and sanitary facilities at the Site.
- h. Minor expenses such as communication service at the Site, express and courier services, and similar petty cash items in connection with the Work.
- i. The costs of premiums for all bonds and insurance that Contractor is required by the Contract Documents to purchase and maintain.

C. *Costs Excluded:* The term Cost of the Work does not include any of the following items:

- 1. Payroll costs and other compensation of Contractor's officers, executives, principals, general managers, engineers, architects, estimators, attorneys, auditors, accountants, purchasing and contracting agents, expeditors, timekeepers, clerks, and other personnel employed by Contractor, whether at the Site or in Contractor's principal or branch office for general administration of the Work and not specifically included in the agreed upon schedule of job classifications referred to in Paragraph 13.01.B.1 or specifically covered by Paragraph 13.01.B.4. The payroll costs and other compensation excluded here are to be considered administrative costs covered by the Contractor's fee.
- 2. The cost of purchasing, renting, or furnishing small tools and hand tools.
- 3. Expenses of Contractor's principal and branch offices other than Contractor's office at the Site.
- 4. Any part of Contractor's capital expenses, including interest on Contractor's capital employed for the Work and charges against Contractor for delinquent payments.
- 5. Costs due to the negligence of Contractor, any Subcontractor, or anyone directly or indirectly employed by any of them or for whose acts any of them may be liable, including but not limited to, the correction of defective Work, disposal of materials or equipment wrongly supplied, and making good any damage to property.
- 6. Expenses incurred in preparing and advancing Claims.
- 7. Other overhead or general expense costs of any kind and the costs of any item not specifically and expressly included in Paragraph 13.01.B.

D. *Contractor's Fee*

- 1. When the Work as a whole is performed on the basis of cost-plus-a-fee, then:
 - a. Contractor's fee for the Work set forth in the Contract Documents as of the Effective Date of the Contract will be determined as set forth in the Agreement.

- b. for any Work covered by a Change Order, Change Bid, Claim, set-off, or other adjustment in Contract Price on the basis of Cost of the Work, Contractor's fee will be determined as follows:
 - 1) When the fee for the Work as a whole is a percentage of the Cost of the Work, the fee will automatically adjust as the Cost of the Work changes.
 - 2) When the fee for the Work as a whole is a fixed fee, the fee for any additions or deletions will be determined in accordance with Paragraph 11.07.C.2.
 - 2. When the Work as a whole is performed on the basis of a stipulated sum, or any other basis other than cost-plus-a-fee, then Contractor's fee for any Work covered by a Change Order, Change Bid, Claim, set-off, or other adjustment in Contract Price on the basis of Cost of the Work will be determined in accordance with Paragraph 11.07.C.2.
 - E. *Documentation and Audit*: Whenever the Cost of the Work for any purpose is to be determined pursuant to this Article 13, Contractor and pertinent Subcontractors will establish and maintain records of the costs in accordance with generally accepted accounting practices. Subject to prior written notice, Owner will be afforded reasonable access, during normal business hours, to all Contractor's accounts, records, books, correspondence, instructions, drawings, receipts, vouchers, memoranda, and similar data relating to the Cost of the Work and Contractor's fee. Contractor shall preserve all such documents for a period of three years after the final payment by Owner. Pertinent Subcontractors will afford such access to Owner, and preserve such documents, to the same extent required of Contractor.

13.02 Allowances

- A. It is understood that Contractor has included in the Contract Price all allowances so named in the Contract Documents and shall cause the Work so covered to be performed for such sums and by such persons or entities as may be acceptable to Owner and Engineer.
- B. *Cash Allowances*: Contractor agrees that:
 - 1. the cash allowances include the cost to Contractor (less any applicable trade discounts) of materials and equipment required by the allowances to be delivered at the Site, and all applicable taxes; and
 - 2. Contractor's costs for unloading and handling on the Site, labor, installation, overhead, profit, and other expenses contemplated for the cash allowances have been included in the Contract Price and not in the allowances, and no demand for additional payment for any of the foregoing will be valid.
- C. *Owner's Contingency Allowance*: Contractor agrees that an Owner's contingency allowance, if any, is for the sole use of Owner to cover unanticipated costs.
- D. Prior to final payment, an appropriate Change Order will be issued as recommended by Engineer to reflect actual amounts due Contractor for Work covered by allowances, and the Contract Price will be correspondingly adjusted.

13.03 Unit Price Work

- A. Where the Contract Documents provide that all or part of the Work is to be Unit Price Work, initially the Contract Price will be deemed to include for all Unit Price Work an amount equal to the sum of the unit price for each separately identified item of Unit Price Work times the estimated quantity of each item as indicated in the Agreement.

- B. The estimated quantities of items of Unit Price Work are not guaranteed and are solely for the purpose of comparison of Bids and determining an initial Contract Price. Payments to Contractor for Unit Price Work will be based on actual quantities.
- C. Each unit price will be deemed to include an amount considered by Contractor to be adequate to cover Contractor's overhead and profit for each separately identified item.
- D. Engineer will determine the actual quantities and classifications of Unit Price Work performed by Contractor. Engineer will review with Contractor the Engineer's preliminary determinations on such matters before rendering a written decision thereon (by recommendation of an Application for Payment or otherwise). Engineer's written decision thereon will be final and binding (except as modified by Engineer to reflect changed factual conditions or more accurate data) upon Owner and Contractor, and the final adjustment of Contract Price will be set forth in a Change Order, subject to the provisions of the following paragraph.

E. Adjustments in Unit Price

- 1. Contractor or Owner shall be entitled to an adjustment in the unit price with respect to an item of Unit Price Work if:
 - a. the extended price of a particular item of Unit Price Work amounts to 5 percent or more of the Contract Price (based on estimated quantities at the time of Contract formation) and the variation in the quantity of that particular item of Unit Price Work actually furnished or performed by Contractor differs by more than 25 percent from the estimated quantity of such item indicated in the Agreement; and
 - b. Contractor's unit costs to perform the item of Unit Price Work have changed materially and significantly as a result of the quantity change.
- 2. The adjustment in unit price will account for and be coordinated with any related changes in quantities of other items of Work, and in Contractor's costs to perform such other Work, such that the resulting overall change in Contract Price is equitable to Owner and Contractor.
- 3. Adjusted unit prices will apply to all units of that item.

ARTICLE 14—TESTS AND INSPECTIONS; CORRECTION, REMOVAL, OR ACCEPTANCE OF DEFECTIVE WORK

14.01 Access to Work

- A. Owner, Engineer, their consultants and other representatives and personnel of Owner, independent testing laboratories, and authorities having jurisdiction have access to the Site and the Work at reasonable times for their observation, inspection, and testing. Contractor shall provide them proper and safe conditions for such access and advise them of Contractor's safety procedures and programs so that they may comply with such procedures and programs as applicable.

14.02 Tests, Inspections, and Approvals

- A. Contractor shall give Engineer timely notice of readiness of the Work (or specific parts thereof) for all required inspections and tests and shall cooperate with inspection and testing personnel to facilitate required inspections and tests.
- B. Owner shall retain and pay for the services of an independent inspector, testing laboratory, or other qualified individual or entity to perform all inspections and tests expressly required by the Contract Documents to be furnished and paid for by Owner, except that costs incurred in connection with tests or inspections of covered Work will be governed by the provisions of Paragraph 14.05.
- C. If Laws or Regulations of any public body having jurisdiction require any Work (or part thereof) specifically to be inspected, tested, or approved by an employee or other representative of such public body, Contractor shall assume full responsibility for arranging and obtaining such inspections, tests, or approvals, pay all costs in connection therewith, and furnish Engineer the required certificates of inspection or approval.
- D. Contractor shall be responsible for arranging, obtaining, and paying for all inspections and tests required:
 - 1. by the Contract Documents, unless the Contract Documents expressly allocate responsibility for a specific inspection or test to Owner;
 - 2. to attain Owner's and Engineer's acceptance of materials or equipment to be incorporated in the Work;
 - 3. by manufacturers of equipment furnished under the Contract Documents;
 - 4. for testing, adjusting, and balancing of mechanical, electrical, and other equipment to be incorporated into the Work; and
 - 5. for acceptance of materials, mix designs, or equipment submitted for approval prior to Contractor's purchase thereof for incorporation in the Work.

Such inspections and tests will be performed by independent inspectors, testing laboratories, or other qualified individuals or entities acceptable to Owner and Engineer.

- E. If the Contract Documents require the Work (or part thereof) to be approved by Owner, Engineer, or another designated individual or entity, then Contractor shall assume full responsibility for arranging and obtaining such approvals.
- F. If any Work (or the work of others) that is to be inspected, tested, or approved is covered by Contractor without written concurrence of Engineer, Contractor shall, if requested by

Engineer, uncover such Work for observation. Such uncovering will be at Contractor's expense unless Contractor had given Engineer timely notice of Contractor's intention to cover the same and Engineer had not acted with reasonable promptness in response to such notice.

14.03 *Defective Work*

- A. *Contractor's Obligation:* It is Contractor's obligation to assure that the Work is not defective.
- B. *Engineer's Authority:* Engineer has the authority to determine whether Work is defective, and to reject defective Work.
- C. *Notice of Defects:* Prompt written notice of all defective Work of which Owner or Engineer has actual knowledge will be given to Contractor.
- D. *Correction, or Removal and Replacement:* Promptly after receipt of written notice of defective Work, Contractor shall correct all such defective Work, whether or not fabricated, installed, or completed, or, if Engineer has rejected the defective Work, remove it from the Project and replace it with Work that is not defective.
- E. *Preservation of Warranties:* When correcting defective Work, Contractor shall take no action that would void or otherwise impair Owner's special warranty and guarantee, if any, on said Work.
- F. *Costs and Damages:* In addition to its correction, removal, and replacement obligations with respect to defective Work, Contractor shall pay all claims, costs, losses, and damages arising out of or relating to defective Work, including but not limited to the cost of the inspection, testing, correction, removal, replacement, or reconstruction of such defective Work, fines levied against Owner by governmental authorities because the Work is defective, and the costs of repair or replacement of work of others resulting from defective Work. Prior to final payment, if Owner and Contractor are unable to agree as to the measure of such claims, costs, losses, and damages resulting from defective Work, then Owner may impose a reasonable set-off against payments due under Article 15.

14.04 *Acceptance of Defective Work*

- A. If, instead of requiring correction or removal and replacement of defective Work, Owner prefers to accept it, Owner may do so (subject, if such acceptance occurs prior to final payment, to Engineer's confirmation that such acceptance is in general accord with the design intent and applicable engineering principles and will not endanger public safety). Contractor shall pay all claims, costs, losses, and damages attributable to Owner's evaluation of and determination to accept such defective Work (such costs to be approved by Engineer as to reasonableness), and for the diminished value of the Work to the extent not otherwise paid by Contractor. If any such acceptance occurs prior to final payment, the necessary revisions in the Contract Documents with respect to the Work will be incorporated in a Change Order. If the parties are unable to agree as to the decrease in the Contract Price, reflecting the diminished value of Work so accepted, then Owner may impose a reasonable set-off against payments due under Article 15. If the acceptance of defective Work occurs after final payment, Contractor shall pay an appropriate amount to Owner.

14.05 *Uncovering Work*

- A. Engineer has the authority to require additional inspection or testing of the Work, whether or not the Work is fabricated, installed, or completed.

- B. If any Work is covered contrary to the written request of Engineer, then Contractor shall, if requested by Engineer, uncover such Work for Engineer's observation, and then replace the covering, all at Contractor's expense.
- C. If Engineer considers it necessary or advisable that covered Work be observed by Engineer or inspected or tested by others, then Contractor, at Engineer's request, shall uncover, expose, or otherwise make available for observation, inspection, or testing as Engineer may require, that portion of the Work in question, and provide all necessary labor, material, and equipment.
 - 1. If it is found that the uncovered Work is defective, Contractor shall be responsible for all claims, costs, losses, and damages arising out of or relating to such uncovering, exposure, observation, inspection, and testing, and of satisfactory replacement or reconstruction (including but not limited to all costs of repair or replacement of work of others); and pending Contractor's full discharge of this responsibility the Owner shall be entitled to impose a reasonable set-off against payments due under Article 15.
 - 2. If the uncovered Work is not found to be defective, Contractor shall be allowed an increase in the Contract Price or an extension of the Contract Times, directly attributable to such uncovering, exposure, observation, inspection, testing, replacement, and reconstruction. If the parties are unable to agree as to the amount or extent thereof, then Contractor may submit a Change Bid within 30 days of the determination that the Work is not defective.

14.06 Owner May Stop the Work

- A. If the Work is defective, or Contractor fails to supply sufficient skilled workers or suitable materials or equipment, or fails to perform the Work in such a way that the completed Work will conform to the Contract Documents, then Owner may order Contractor to stop the Work, or any portion thereof, until the cause for such order has been eliminated; however, this right of Owner to stop the Work will not give rise to any duty on the part of Owner to exercise this right for the benefit of Contractor, any Subcontractor, any Supplier, any other individual or entity, or any surety for, or employee or agent of any of them.

14.07 Owner May Correct Defective Work

- A. If Contractor fails within a reasonable time after written notice from Engineer to correct defective Work, or to remove and replace defective Work as required by Engineer, then Owner may, after 7 days' written notice to Contractor, correct or remedy any such deficiency.
- B. In exercising the rights and remedies under this Paragraph 14.07, Owner shall proceed expeditiously. In connection with such corrective or remedial action, Owner may exclude Contractor from all or part of the Site, take possession of all or part of the Work and suspend Contractor's services related thereto, and incorporate in the Work all materials and equipment stored at the Site or for which Owner has paid Contractor but which are stored elsewhere. Contractor shall allow Owner, Owner's representatives, agents and employees, Owner's other contractors, and Engineer and Engineer's consultants access to the Site to enable Owner to exercise the rights and remedies under this paragraph.
- C. All claims, costs, losses, and damages incurred or sustained by Owner in exercising the rights and remedies under this Paragraph 14.07 will be charged against Contractor as set-offs against payments due under Article 15. Such claims, costs, losses, and damages will include

but not be limited to all costs of repair, or replacement of work of others destroyed or damaged by correction, removal, or replacement of Contractor's defective Work.

- D. Contractor shall not be allowed an extension of the Contract Times because of any delay in the performance of the Work attributable to the exercise by Owner of Owner's rights and remedies under this Paragraph 14.07.

ARTICLE 15—PAYMENTS TO CONTRACTOR; SET-OFFS; COMPLETION; CORRECTION PERIOD

15.01 Progress Payments

- A. *Basis for Progress Payments:* The Schedule of Values established as provided in Article 2 will serve as the basis for progress payments and will be incorporated into a form of Application for Payment acceptable to Engineer. Progress payments for Unit Price Work will be based on the number of units completed during the pay period, as determined under the provisions of Paragraph 13.03. Progress payments for cost-based Work will be based on Cost of the Work completed by Contractor during the pay period.

B. *Applications for Payments*

1. At least 20 days before the date established in the Agreement for each progress payment (but not more often than once a month), Contractor shall submit to Engineer for review an Application for Payment filled out and signed by Contractor covering the Work completed as of the date of the Application and accompanied by such supporting documentation as is required by the Contract Documents.
2. If payment is requested on the basis of materials and equipment not incorporated in the Work but delivered and suitably stored at the Site or at another location agreed to in writing, the Application for Payment must also be accompanied by: (a) a bill of sale, invoice, copies of subcontract or purchase order payments, or other documentation establishing full payment by Contractor for the materials and equipment; (b) at Owner's request, documentation warranting that Owner has received the materials and equipment free and clear of all Liens; and (c) evidence that the materials and equipment are covered by appropriate property insurance, a warehouse bond, or other arrangements to protect Owner's interest therein, all of which must be satisfactory to Owner.
3. Beginning with the second Application for Payment, each Application must include an affidavit of Contractor stating that all previous progress payments received by Contractor have been applied to discharge Contractor's legitimate obligations associated with prior Applications for Payment.
4. The amount of retainage with respect to progress payments will be as stipulated in the Agreement.

C. *Review of Applications*

1. Engineer will, within 10 days after receipt of each Application for Payment, including each resubmittal, either indicate in writing a recommendation of payment and present the Application to Owner, or return the Application to Contractor indicating in writing Engineer's reasons for refusing to recommend payment. In the latter case, Contractor may make the necessary corrections and resubmit the Application.

2. Engineer's recommendation of any payment requested in an Application for Payment will constitute a representation by Engineer to Owner, based on Engineer's observations of the executed Work as an experienced and qualified design professional, and on Engineer's review of the Application for Payment and the accompanying data and schedules, that to the best of Engineer's knowledge, information, and belief:
 - a. the Work has progressed to the point indicated;
 - b. the quality of the Work is generally in accordance with the Contract Documents (subject to an evaluation of the Work as a functioning whole prior to or upon Substantial Completion, the results of any subsequent tests called for in the Contract Documents, a final determination of quantities and classifications for Unit Price Work under Paragraph 13.03, and any other qualifications stated in the recommendation); and
 - c. the conditions precedent to Contractor's being entitled to such payment appear to have been fulfilled in so far as it is Engineer's responsibility to observe the Work.
3. By recommending any such payment Engineer will not thereby be deemed to have represented that:
 - a. inspections made to check the quality or the quantity of the Work as it has been performed have been exhaustive, extended to every aspect of the Work in progress, or involved detailed inspections of the Work beyond the responsibilities specifically assigned to Engineer in the Contract; or
 - b. there may not be other matters or issues between the parties that might entitle Contractor to be paid additionally by Owner or entitle Owner to withhold payment to Contractor.
4. Neither Engineer's review of Contractor's Work for the purposes of recommending payments nor Engineer's recommendation of any payment, including final payment, will impose responsibility on Engineer:
 - a. to supervise, direct, or control the Work;
 - b. for the means, methods, techniques, sequences, or procedures of construction, or the safety precautions and programs incident thereto;
 - c. for Contractor's failure to comply with Laws and Regulations applicable to Contractor's performance of the Work;
 - d. to make any examination to ascertain how or for what purposes Contractor has used the money paid by Owner; or
 - e. to determine that title to any of the Work, materials, or equipment has passed to Owner free and clear of any Liens.
5. Engineer may refuse to recommend the whole or any part of any payment if, in Engineer's opinion, it would be incorrect to make the representations to Owner stated in Paragraph 15.01.C.2.
6. Engineer will recommend reductions in payment (set-offs) necessary in Engineer's opinion to protect Owner from loss because:
 - a. the Work is defective, requiring correction or replacement;

- b. the Contract Price has been reduced by Change Orders;
- c. Owner has been required to correct defective Work in accordance with Paragraph 14.07, or has accepted defective Work pursuant to Paragraph 14.04;
- d. Owner has been required to remove or remediate a Hazardous Environmental Condition for which Contractor is responsible; or
- e. Engineer has actual knowledge of the occurrence of any of the events that would constitute a default by Contractor and therefore justify termination for cause under the Contract Documents.

D. Payment Becomes Due

- 1. Ten days after presentation of the Application for Payment to Owner with Engineer's recommendation, the amount recommended (subject to any Owner set-offs) will become due, and when due will be paid by Owner to Contractor.

E. Reductions in Payment by Owner

- 1. In addition to any reductions in payment (set-offs) recommended by Engineer, Owner is entitled to impose a set-off against payment based on any of the following:
 - a. Claims have been made against Owner based on Contractor's conduct in the performance or furnishing of the Work, or Owner has incurred costs, losses, or damages resulting from Contractor's conduct in the performance or furnishing of the Work, including but not limited to claims, costs, losses, or damages from workplace injuries, adjacent property damage, non-compliance with Laws and Regulations, and patent infringement;
 - b. Contractor has failed to take reasonable and customary measures to avoid damage, delay, disruption, and interference with other work at or adjacent to the Site;
 - c. Contractor has failed to provide and maintain required bonds or insurance;
 - d. Owner has been required to remove or remediate a Hazardous Environmental Condition for which Contractor is responsible;
 - e. Owner has incurred extra charges or engineering costs related to submittal reviews, evaluations of proposed substitutes, tests and inspections, or return visits to manufacturing or assembly facilities;
 - f. The Work is defective, requiring correction or replacement;
 - g. Owner has been required to correct defective Work in accordance with Paragraph 14.07, or has accepted defective Work pursuant to Paragraph 14.04;
 - h. The Contract Price has been reduced by Change Orders;
 - i. An event has occurred that would constitute a default by Contractor and therefore justify a termination for cause;
 - j. Liquidated or other damages have accrued as a result of Contractor's failure to achieve Milestones, Substantial Completion, or final completion of the Work;
 - k. Liens have been filed in connection with the Work, except where Contractor has delivered a specific bond satisfactory to Owner to secure the satisfaction and discharge of such Liens; or

- I. Other items entitle Owner to a set-off against the amount recommended.
 2. If Owner imposes any set-off against payment, whether based on its own knowledge or on the written recommendations of Engineer, Owner will give Contractor immediate written notice (with a copy to Engineer) stating the reasons for such action and the specific amount of the reduction, and promptly pay Contractor any amount remaining after deduction of the amount so withheld. Owner shall promptly pay Contractor the amount so withheld, or any adjustment thereto agreed to by Owner and Contractor, if Contractor remedies the reasons for such action. The reduction imposed will be binding on Contractor unless it duly submits a Change Bid contesting the reduction.
 3. Upon a subsequent determination that Owner's refusal of payment was not justified, the amount wrongfully withheld will be treated as an amount due as determined by Paragraph 15.01.D.1 and subject to interest as provided in the Agreement.
- F. For contracts in which the Contract Price is based on the Cost of Work, if Owner determines that progress payments made to date substantially exceed the actual progress of the Work (as measured by reference to the Schedule of Values), or present a potential conflict with the Guaranteed Maximum Price, then Owner may require that Contractor prepare and submit a plan for the remaining anticipated Applications for Payment that will bring payments and progress into closer alignment and take into account the Guaranteed Maximum Price (if any), through reductions in billings, increases in retainage, or other equitable measures. Owner will review the plan, discuss any necessary modifications, and implement the plan as modified for all remaining Applications for Payment.

15.02 Contractor's Warranty of Title

- A. Contractor warrants and guarantees that title to all Work, materials, and equipment furnished under the Contract will pass to Owner free and clear of (1) all Liens and other title defects, and (2) all patent, licensing, copyright, or royalty obligations, no later than 7 days after the time of payment by Owner.

15.03 Substantial Completion

- A. When Contractor considers the entire Work ready for its intended use Contractor shall notify Owner and Engineer in writing that the entire Work is substantially complete and request that Engineer issue a certificate of Substantial Completion. Contractor shall at the same time submit to Owner and Engineer an initial draft of punch list items to be completed or corrected before final payment.
- B. Promptly after Contractor's notification, Owner, Contractor, and Engineer shall make an inspection of the Work to determine the status of completion. If Engineer does not consider the Work substantially complete, Engineer will notify Contractor in writing giving the reasons therefor.
- C. If Engineer considers the Work substantially complete, Engineer will deliver to Owner a preliminary certificate of Substantial Completion which will fix the date of Substantial Completion. Engineer shall attach to the certificate a punch list of items to be completed or corrected before final payment. Owner shall have 7 days after receipt of the preliminary certificate during which to make written objection to Engineer as to any provisions of the certificate or attached punch list. If, after considering the objections to the provisions of the preliminary certificate, Engineer concludes that the Work is not substantially complete, Engineer will, within 14 days after submission of the preliminary certificate to Owner, notify

Contractor in writing that the Work is not substantially complete, stating the reasons therefor. If Owner does not object to the provisions of the certificate, or if despite consideration of Owner's objections Engineer concludes that the Work is substantially complete, then Engineer will, within said 14 days, execute and deliver to Owner and Contractor a final certificate of Substantial Completion (with a revised punch list of items to be completed or corrected) reflecting such changes from the preliminary certificate as Engineer believes justified after consideration of any objections from Owner.

- D. At the time of receipt of the preliminary certificate of Substantial Completion, Owner and Contractor will confer regarding Owner's use or occupancy of the Work following Substantial Completion, review the builder's risk insurance policy with respect to the end of the builder's risk coverage, and confirm the transition to coverage of the Work under a permanent property insurance policy held by Owner. Unless Owner and Contractor agree otherwise in writing, Owner shall bear responsibility for security, operation, protection of the Work, property insurance, maintenance, heat, and utilities upon Owner's use or occupancy of the Work.
- E. After Substantial Completion, the Contractor shall promptly begin work on the punch list of items to be completed or corrected prior to final payment. In appropriate cases Contractor may submit monthly Applications for Payment for completed punch list items, following the progress payment procedures set forth above.
- F. Owner shall have the right to exclude Contractor from the Site after the date of Substantial Completion subject to allowing Contractor reasonable access to remove its property and complete or correct items on the punch list.

15.04 Partial Use or Occupancy

- A. Prior to Substantial Completion of all the Work, Owner may use or occupy any substantially completed part of the Work which has specifically been identified in the Contract Documents, or which Owner, Engineer, and Contractor agree constitutes a separately functioning and usable part of the Work that can be used by Owner for its intended purpose without significant interference with Contractor's performance of the remainder of the Work, subject to the following conditions:
 - 1. At any time, Owner may request in writing that Contractor permit Owner to use or occupy any such part of the Work that Owner believes to be substantially complete. If and when Contractor agrees that such part of the Work is substantially complete, Contractor, Owner, and Engineer will follow the procedures of Paragraph 15.03.A through 15.03.E for that part of the Work.
 - 2. At any time, Contractor may notify Owner and Engineer in writing that Contractor considers any such part of the Work substantially complete and request Engineer to issue a certificate of Substantial Completion for that part of the Work.
 - 3. Within a reasonable time after either such request, Owner, Contractor, and Engineer shall make an inspection of that part of the Work to determine its status of completion. If Engineer does not consider that part of the Work to be substantially complete, Engineer will notify Owner and Contractor in writing giving the reasons therefor. If Engineer considers that part of the Work to be substantially complete, the provisions of Paragraph 15.03 will apply with respect to certification of Substantial Completion of that part of the Work and the division of responsibility in respect thereof and access thereto.

4. No use or occupancy or separate operation of part of the Work may occur prior to compliance with the requirements of Paragraph 6.04 regarding builder's risk or other property insurance.

15.05 *Final Inspection*

- A. Upon written notice from Contractor that the entire Work or an agreed portion thereof is complete, Engineer will promptly make a final inspection with Owner and Contractor and will notify Contractor in writing of all particulars in which this inspection reveals that the Work, or agreed portion thereof, is incomplete or defective. Contractor shall immediately take such measures as are necessary to complete such Work or remedy such deficiencies.

15.06 *Final Payment*

A. *Application for Payment*

1. After Contractor has, in the opinion of Engineer, satisfactorily completed all corrections identified during the final inspection and has delivered, in accordance with the Contract Documents, all maintenance and operating instructions, schedules, guarantees, bonds, certificates or other evidence of insurance, certificates of inspection, annotated record documents (as provided in Paragraph 7.12), and other documents, Contractor may make application for final payment.
2. The final Application for Payment must be accompanied (except as previously delivered) by:
 - a. all documentation called for in the Contract Documents;
 - b. consent of the surety, if any, to final payment;
 - c. satisfactory evidence that all title issues have been resolved such that title to all Work, materials, and equipment has passed to Owner free and clear of any Liens or other title defects, or will so pass upon final payment.
 - d. a list of all duly pending Change Bids and Claims; and
 - e. complete and legally effective releases or waivers (satisfactory to Owner) of all Lien rights arising out of the Work, and of Liens filed in connection with the Work.
3. In lieu of the releases or waivers of Liens specified in Paragraph 15.06.A.2 and as approved by Owner, Contractor may furnish receipts or releases in full and an affidavit of Contractor that: (a) the releases and receipts include all labor, services, material, and equipment for which a Lien could be filed; and (b) all payrolls, material and equipment bills, and other indebtedness connected with the Work for which Owner might in any way be responsible, or which might in any way result in liens or other burdens on Owner's property, have been paid or otherwise satisfied. If any Subcontractor or Supplier fails to furnish such a release or receipt in full, Contractor may furnish a bond or other collateral satisfactory to Owner to indemnify Owner against any Lien, or Owner at its option may issue joint checks payable to Contractor and specified Subcontractors and Suppliers.

- B. *Engineer's Review of Final Application and Recommendation of Payment:* If, on the basis of Engineer's observation of the Work during construction and final inspection, and Engineer's review of the final Application for Payment and accompanying documentation as required by the Contract Documents, Engineer is satisfied that the Work has been completed and Contractor's other obligations under the Contract have been fulfilled, Engineer will, within 10

days after receipt of the final Application for Payment, indicate in writing Engineer's recommendation of final payment and present the final Application for Payment to Owner for payment. Such recommendation will account for any set-offs against payment that are necessary in Engineer's opinion to protect Owner from loss for the reasons stated above with respect to progress payments. Otherwise, Engineer will return the Application for Payment to Contractor, indicating in writing the reasons for refusing to recommend final payment, in which case Contractor shall make the necessary corrections and resubmit the Application for Payment.

- C. *Notice of Acceptability:* In support of its recommendation of payment of the final Application for Payment, Engineer will also give written notice to Owner and Contractor that the Work is acceptable, subject to stated limitations in the notice and to the provisions of Paragraph 15.07.
- D. *Completion of Work:* The Work is complete (subject to surviving obligations) when it is ready for final payment as established by the Engineer's written recommendation of final payment and issuance of notice of the acceptability of the Work.
- E. *Final Payment Becomes Due:* Upon receipt from Engineer of the final Application for Payment and accompanying documentation, Owner shall set off against the amount recommended by Engineer for final payment any further sum to which Owner is entitled, including but not limited to set-offs for liquidated damages and set-offs allowed under the provisions of this Contract with respect to progress payments. Owner shall pay the resulting balance due to Contractor within 30 days of Owner's receipt of the final Application for Payment from Engineer.

15.07 Waiver of Claims

- A. By making final payment, Owner waives its claim or right to liquidated damages or other damages for late completion by Contractor, except as set forth in an outstanding Claim, appeal under the provisions of Article 17, set-off, or express reservation of rights by Owner. Owner reserves all other claims or rights after final payment.
- B. The acceptance of final payment by Contractor will constitute a waiver by Contractor of all claims and rights against Owner other than those pending matters that have been duly submitted as a Claim, or appealed under the provisions of Article 17.

15.08 Correction Period

- A. If within one year after the date of Substantial Completion (or such longer period of time as may be prescribed by the Supplementary Conditions or the terms of any applicable special guarantee required by the Contract Documents), Owner gives Contractor written notice that any Work has been found to be defective, or that Contractor's repair of any damages to the Site or adjacent areas has been found to be defective, then after receipt of such notice of defect Contractor shall promptly, without cost to Owner and in accordance with Owner's written instructions:
 - 1. correct the defective repairs to the Site or such adjacent areas;
 - 2. correct such defective Work;
 - 3. remove the defective Work from the Project and replace it with Work that is not defective, if the defective Work has been rejected by Owner, and

4. satisfactorily correct or repair or remove and replace any damage to other Work, to the work of others, or to other land or areas resulting from the corrective measures.
- B. Owner shall give any such notice of defect within 60 days of the discovery that such Work or repairs is defective. If such notice is given within such 60 days but after the end of the correction period, the notice will be deemed a notice of defective Work under Paragraph 7.17.B.
- C. If, after receipt of a notice of defect within 60 days and within the correction period, Contractor does not promptly comply with the terms of Owner's written instructions, or in an emergency where delay would cause serious risk of loss or damage, Owner may have the defective Work corrected or repaired or may have the rejected Work removed and replaced. Contractor shall pay all costs, losses, and damages (including but not limited to all fees and charges of engineers, architects, attorneys, and other professionals and all court or arbitration or other dispute resolution costs) arising out of or relating to such correction or repair or such removal and replacement (including but not limited to all costs of repair or replacement of work of others). Contractor's failure to pay such costs, losses, and damages within 10 days of invoice from Owner will be deemed the start of an event giving rise to a Claim under Paragraph 12.01.B, such that any related Claim must be brought within 30 days of the failure to pay.
- D. In special circumstances where a particular item of equipment is placed in continuous service before Substantial Completion of all the Work, the correction period for that item may start to run from an earlier date if so provided in the Specifications.
- E. Where defective Work (and damage to other Work resulting therefrom) has been corrected or removed and replaced under this paragraph, the correction period hereunder with respect to such Work will be extended for an additional period of one year after such correction or removal and replacement has been satisfactorily completed.
- F. Contractor's obligations under this paragraph are in addition to all other obligations and warranties. The provisions of this paragraph are not to be construed as a substitute for, or a waiver of, the provisions of any applicable statute of limitation or repose.

ARTICLE 16—SUSPENSION OF WORK AND TERMINATION

16.01 Owner May Suspend Work

- A. At any time and without cause, Owner may suspend the Work or any portion thereof for a period of not more than 90 consecutive days by written notice to Contractor and Engineer. Such notice will fix the date on which Work will be resumed. Contractor shall resume the Work on the date so fixed. Contractor shall be entitled to an adjustment in the Contract Price or an extension of the Contract Times directly attributable to any such suspension. Any Change Bid seeking such adjustments must be submitted no later than 30 days after the date fixed for resumption of Work.

16.02 Owner May Terminate for Cause

- A. The occurrence of any one or more of the following events will constitute a default by Contractor and justify termination for cause:

1. Contractor's persistent failure to perform the Work in accordance with the Contract Documents (including, but not limited to, failure to supply sufficient skilled workers or suitable materials or equipment, or failure to adhere to the Progress Schedule);
 2. Failure of Contractor to perform or otherwise to comply with a material term of the Contract Documents;
 3. Contractor's disregard of Laws or Regulations of any public body having jurisdiction; or
 4. Contractor's repeated disregard of the authority of Owner or Engineer.
- B. If one or more of the events identified in Paragraph 16.02.A occurs, then after giving Contractor (and any surety) 10 days' written notice that Owner is considering a declaration that Contractor is in default and termination of the Contract, Owner may proceed to:
1. declare Contractor to be in default, and give Contractor (and any surety) written notice that the Contract is terminated; and
 2. enforce the rights available to Owner under any applicable performance bond.
- C. Subject to the terms and operation of any applicable performance bond, if Owner has terminated the Contract for cause, Owner may exclude Contractor from the Site, take possession of the Work, incorporate in the Work all materials and equipment stored at the Site or for which Owner has paid Contractor but which are stored elsewhere, and complete the Work as Owner may deem expedient.
- D. Owner may not proceed with termination of the Contract under Paragraph 16.02.B if Contractor within 7 days of receipt of notice of intent to terminate begins to correct its failure to perform and proceeds diligently to cure such failure.
- E. If Owner proceeds as provided in Paragraph 16.02.B, Contractor shall not be entitled to receive any further payment until the Work is completed. If the unpaid balance of the Contract Price exceeds the cost to complete the Work, including all related claims, costs, losses, and damages (including but not limited to all fees and charges of engineers, architects, attorneys, and other professionals) sustained by Owner, such excess will be paid to Contractor. If the cost to complete the Work including such related claims, costs, losses, and damages exceeds such unpaid balance, Contractor shall pay the difference to Owner. Such claims, costs, losses, and damages incurred by Owner will be reviewed by Engineer as to their reasonableness and, when so approved by Engineer, incorporated in a Change Order. When exercising any rights or remedies under this paragraph, Owner shall not be required to obtain the lowest price for the Work performed.
- F. Where Contractor's services have been so terminated by Owner, the termination will not affect any rights or remedies of Owner against Contractor then existing or which may thereafter accrue, or any rights or remedies of Owner against Contractor or any surety under any payment bond or performance bond. Any retention or payment of money due Contractor by Owner will not release Contractor from liability.
- G. If and to the extent that Contractor has provided a performance bond under the provisions of Paragraph 6.01.A, the provisions of that bond will govern over any inconsistent provisions of Paragraphs 16.02.B and 16.02.D.

16.03 *Owner May Terminate for Convenience*

- A. Upon 7 days' written notice to Contractor and Engineer, Owner may, without cause and without prejudice to any other right or remedy of Owner, terminate the Contract. In such case, Contractor shall be paid for (without duplication of any items):
 - 1. completed and acceptable Work executed in accordance with the Contract Documents prior to the effective date of termination, including fair and reasonable sums for overhead and profit on such Work;
 - 2. expenses sustained prior to the effective date of termination in performing services and furnishing labor, materials, or equipment as required by the Contract Documents in connection with uncompleted Work, plus fair and reasonable sums for overhead and profit on such expenses; and
 - 3. other reasonable expenses directly attributable to termination, including costs incurred to prepare a termination for convenience cost Bid.
- B. Contractor shall not be paid for any loss of anticipated profits or revenue, post-termination overhead costs, or other economic loss arising out of or resulting from such termination.

16.04 *Contractor May Stop Work or Terminate*

- A. If, through no act or fault of Contractor, (1) the Work is suspended for more than 90 consecutive days by Owner or under an order of court or other public authority, or (2) Engineer fails to act on any Application for Payment within 30 days after it is submitted, or (3) Owner fails for 30 days to pay Contractor any sum finally determined to be due, then Contractor may, upon 7 days' written notice to Owner and Engineer, and provided Owner or Engineer do not remedy such suspension or failure within that time, terminate the contract and recover from Owner payment on the same terms as provided in Paragraph 16.03.
- B. In lieu of terminating the Contract and without prejudice to any other right or remedy, if Engineer has failed to act on an Application for Payment within 30 days after it is submitted, or Owner has failed for 30 days to pay Contractor any sum finally determined to be due, Contractor may, 7 days after written notice to Owner and Engineer, stop the Work until payment is made of all such amounts due Contractor, including interest thereon. The provisions of this paragraph are not intended to preclude Contractor from submitting a Change Bid for an adjustment in Contract Price or Contract Times or otherwise for expenses or damage directly attributable to Contractor's stopping the Work as permitted by this paragraph.

ARTICLE 17—FINAL RESOLUTION OF DISPUTES

17.01 *Methods and Procedures*

- A. *Disputes Subject to Final Resolution:* The following disputed matters are subject to final resolution under the provisions of this article:
 - 1. A timely appeal of an approval in part and denial in part of a Claim, or of a denial in full, pursuant to Article 12; and
 - 2. Disputes between Owner and Contractor concerning the Work, or obligations under the Contract Documents, that arise after final payment has been made.

- B. *Final Resolution of Disputes:* For any dispute subject to resolution under this article, Owner or Contractor may:
1. elect in writing to invoke the dispute resolution process provided for in the Supplementary Conditions;
 2. agree with the other party to submit the dispute to another dispute resolution process; or
 3. if no dispute resolution process is provided for in the Supplementary Conditions or mutually agreed to, give written notice to the other party of the intent to submit the dispute to a court of competent jurisdiction.

ARTICLE 18—MISCELLANEOUS

18.01 Giving Notice

- A. Whenever any provision of the Contract requires the giving of written notice to Owner, Engineer, or Contractor, it will be deemed to have been validly given only if delivered:
1. in person, by a commercial courier service or otherwise, to the recipient's place of business;
 2. by registered or certified mail, postage prepaid, to the recipient's place of business; or
 3. by e-mail to the recipient, with the words "Formal Notice" or similar in the e-mail's subject line.

18.02 Computation of Times

- A. When any period of time is referred to in the Contract by days, it will be computed to exclude the first and include the last day of such period. If the last day of any such period falls on a Saturday or Sunday or on a day made a legal holiday by the law of the applicable jurisdiction, such day will be omitted from the computation.

18.03 Cumulative Remedies

- A. The duties and obligations imposed by these General Conditions and the rights and remedies available hereunder to the parties hereto are in addition to, and are not to be construed in any way as a limitation of, any rights and remedies available to any or all of them which are otherwise imposed or available by Laws or Regulations, by special warranty or guarantee, or by other provisions of the Contract. The provisions of this paragraph will be as effective as if repeated specifically in the Contract Documents in connection with each particular duty, obligation, right, and remedy to which they apply.

18.04 Limitation of Damages

- A. With respect to any and all Change Bids, Claims, disputes subject to final resolution, and other matters at issue, neither Owner nor Engineer, nor any of their officers, directors, members, partners, employees, agents, consultants, or subcontractors, shall be liable to Contractor for any claims, costs, losses, or damages sustained by Contractor on or in connection with any other project or anticipated project.

18.05 No Waiver

- A. A party's non-enforcement of any provision will not constitute a waiver of that provision, nor will it affect the enforceability of that provision or of the remainder of this Contract.

18.06 Survival of Obligations

- A. All representations, indemnifications, warranties, and guarantees made in, required by, or given in accordance with the Contract, as well as all continuing obligations indicated in the Contract, will survive final payment, completion, and acceptance of the Work or termination of the Contract or of the services of Contractor.

18.07 Controlling Law

- A. This Contract is to be governed by the law of the state in which the Project is located.

18.08 Assignment of Contract

- A. Unless expressly agreed to elsewhere in the Contract, no assignment by a party to this Contract of any rights under or interests in the Contract will be binding on the other party without the written consent of the party sought to be bound; and, specifically but without limitation, money that may become due and money that is due may not be assigned without such consent (except to the extent that the effect of this restriction may be limited by law), and unless specifically stated to the contrary in any written consent to an assignment, no assignment will release or discharge the assignor from any duty or responsibility under the Contract.

18.09 Successors and Assigns

- A. Owner and Contractor each binds itself, its successors, assigns, and legal representatives to the other party hereto, its successors, assigns, and legal representatives in respect to all covenants, agreements, and obligations contained in the Contract Documents.

18.10 Headings

- A. Article and paragraph headings are inserted for convenience only and do not constitute parts of these General Conditions.

EXHIBIT A— FORESEEABLE BAD WEATHER DAYS

Month	Number of Foreseeable Bad Weather Days in Month Based on Precipitation as Rain Equivalent (inches) (1)	Ambient Outdoor Air Temperature (degrees F)	
		Number of Foreseeable Bad Weather Days in Month Based on Low Temperature (at 11:00 a.m.)	Number of Foreseeable Bad Weather Days in Month Based on High Temperature (at 3:00 p.m.)
January	0	4	0
February	0	2	0
March	1	1	0
April	1	0	0
May	1	0	0
June	1	0	0
July	0	0	0
August	0	0	0
September	1	0	0
October	1	0	0
November	0	1	0
December	0	3	0
Notes:			
1. Two inches of sleet equal one inch of rain. Five inches of wet, heavy snow equal one inch of rain. Fifteen inches of “dry” powder snow equals one inch of rain.			

IMPORTANT NOTICE

Conflict Of Interest Reporting Requirements

Compliance with LOCAL GOVERNMENT CODE TITLE 5. MATTERS AFFECTING PUBLIC OFFICERS AND EMPLOYEES SUBTITLE C. MATTERS AFFECTING PUBLIC OFFICERS AND EMPLOYEES OF MORE THAN ONE TYPE OF LOCAL GOVERNMENT CHAPTER 176. DISCLOSURE OF CERTAIN RELATIONSHIPS WITH LOCAL GOVERNMENT OFFICERS; PROVIDING PUBLIC ACCESS TO CERTAIN INFORMATION.

Form CIQ: This questionnaire reflects changes made to the law by H.B. 23, 84th Leg., Regular Session. This questionnaire shall be filed in accordance with Chapter 176, Local Government Code, by a vendor who has a business relationship as defined by Section 176.001(1-a) with a local governmental entity and the vendor meets requirements under Section 176.006(a). By law this questionnaire must be filed with the records administrator of the local governmental entity not later than the 7th business day after the date the vendor becomes aware of facts that require the statement to be filed. See Section 176.006(a-1), Local Government Code. A vendor commits an offense if the vendor knowingly violates Section 176.006, Local Government Code. An offense under this section is a misdemeanor.

Bidders are responsible for filing Conflict of Interest form "CIQ" in accordance with the above referenced statute. Failure to do so is a class C Misdemeanor. Contracts or Purchase Orders awarded to a vendor that has violated this law is subject to termination at such time that the violation is discovered with no recourse to the City of Midland. The Bidder will be subsequently removed from the Bidders list for a minimum of one year.

When there is no known conflict of interest as defined by the statute, it is not necessary to file/submit the Form CIQ. The form must be submitted if a conflict is subsequently discovered.

By submitting a response to this request, vendor represents that it complies with the requirements of Chapter 176 of the Texas Local Government Code.

For a current list of the local government officers go to: <http://www.midlandtexas.gov/>

Upon completion of the form, sign and submit with Bid or mail to:

City of Midland
Attn: City Secretary
PO Box 1152
Midland, Texas 79702

Date

CITY OF MIDLAND

**Consideration of Location of Bidder's Principal Place of Business
For Bids of \$50,000 up to \$100,000 for Services and \$500,000 for Commodities**

Affidavit of Eligibility

Pursuant to Texas Local Government Code 271.9051, in purchasing real property, personal property that is not affixed to real property, or services, if the City receives one or more Bids from a Bidder whose principal place of business is in the City of Midland and whose Bid is within five percent (5%) of the lowest Bid price received by the City from a Bidder who is not a resident of the City of Midland, the City may enter into a contract with:

- (1) the lowest Bidder; or
- (2) the Bidder whose principal place of business is in the City of Midland if the City Council determines, in writing, that the local Bidder offers the City the best combination of contract price and additional economic development opportunities for the City of Midland created by the contract award, including the employment of residents of the City of Midland and increased tax revenues to the City of Midland.

In order to receive consideration, Bidders must submit this affidavit to:

Regina Stephenson
Purchasing Manager
City of Midland
300 N. Loraine St.,
PO BOX 1152
Midland, TX 79702-1152

Complete all areas below. Incomplete affidavits may be rejected.

Local Business Name: _____

Local Address (must be within the City limits): _____

1. Is the above address the principal place of business for the business named above? ☐ Yes ☐ No
2. How many residents of the City of Midland are employed at the above business location? _____
3. Year your business was established in the City of Midland: _____
4. If you collect sales tax for ANY class of customer, provide the following Reseller information:

Reseller Permit Number: _____

Company Name and Address (as it appears on permit):

5. Does your business have more than one office in the State of Texas? ☐ Yes ☐ No
If Yes, identify the office location considered as the point-of sale for the purpose of sales tax calculation:

6. Was the local business required to pay business and/or real property tax for the most recent tax year?

☐ Yes ☐ No

If Yes, did the local business pay any of this tax to the City of Midland? ☐ Yes ☐ No

Under penalty of perjury, the undersigned states that the foregoing statements are true and correct. It is further acknowledged that any person, firm, corporation or entity intentionally submitting false information to the City in an attempt to qualify for eligibility shall be prohibited from Bidding on City of Midland products and services for a period of one (1) year.

Authorized Signature: _____ Date: _____

Printed Name and Title: _____

CONFLICT OF INTEREST QUESTIONNAIRE

For vendor doing business with local governmental entity

FORM CIQ

This questionnaire reflects changes made to the law by H.B. 23, 84th Leg., Regular Session.

This questionnaire is being filed in accordance with Chapter 176, Local Government Code, by a vendor who has a business relationship as defined by Section 176.001(1-a) with a local governmental entity and the vendor meets requirements under Section 176.006(a).

By law this questionnaire must be filed with the records administrator of the local governmental entity not later than the 7th business day after the date the vendor becomes aware of facts that require the statement to be filed. See Section 176.006(a-1), Local Government Code.

A vendor commits an offense if the vendor knowingly violates Section 176.006, Local Government Code. An offense under this section is a misdemeanor.

OFFICE USE ONLY

Date Received

1 Name of vendor who has a business relationship with local governmental entity.

2 ☐ Check this box if you are filing an update to a previously filed questionnaire. (The law requires that you file an updated completed questionnaire with the appropriate filing authority not later than the 7th business day after the date on which you became aware that the originally filed questionnaire was incomplete or inaccurate.)

3 Name of local government officer about whom the information is being disclosed.

Name of Officer

4 Describe each employment or other business relationship with the local government officer, or a family member of the officer, as described by Section 176.003(a)(2)(A). Also describe any family relationship with the local government officer. Complete subparts A and B for each employment or business relationship described. Attach additional pages to this Form CIQ as necessary.

A. Is the local government officer or a family member of the officer receiving or likely to receive taxable income, other than investment income, from the vendor?

☐ Yes ☐ No

B. Is the vendor receiving or likely to receive taxable income, other than investment income, from or at the direction of the local government officer or a family member of the officer AND the taxable income is not received from the local governmental entity?

☐ Yes ☐ No

5 Describe each employment or business relationship that the vendor named in Section 1 maintains with a corporation or other business entity with respect to which the local government officer serves as an officer or director, or holds an ownership interest of one percent or more.

6 ☐ Check this box if the vendor has given the local government officer or a family member of the officer one or more gifts as described in Section 176.003(a)(2)(B), excluding gifts described in Section 176.003(a-1).

7

~~PACKET~~ ~~5-189~~ ~~Signature of vendor doing business with the governmental entity~~

~~September 12, 2023~~

CONFLICT OF INTEREST QUESTIONNAIRE

For vendor doing business with local governmental entity

A complete copy of Chapter 176 of the Local Government Code may be found at <http://www.statutes.legis.state.tx.us/Docs/LG/htm/LG.176.htm>. For easy reference, below are some of the sections cited on this form.

Local Government Code § 176.001(1-a): "Business relationship" means a connection between two or more parties based on commercial activity of one of the parties. The term does not include a connection based on:

- (A) a transaction that is subject to rate or fee regulation by a federal, state, or local governmental entity or an agency of a federal, state, or local governmental entity;
- (B) a transaction conducted at a price and subject to terms available to the public; or
- (C) a purchase or lease of goods or services from a person that is chartered by a state or federal agency and that is subject to regular examination by, and reporting to, that agency.

Local Government Code § 176.003(a)(2)(A) and (B):

- (a) A local government officer shall file a conflicts disclosure statement with respect to a vendor if:

- (2) the vendor:

(A) has an employment or other business relationship with the local government officer or a family member of the officer that results in the officer or family member receiving taxable income, other than investment income, that exceeds \$2,500 during the 12-month period preceding the date that the officer becomes aware that

(i) a contract between the local governmental entity and vendor has been executed;
or

(ii) the local governmental entity is considering entering into a contract with the vendor;

(B) has given to the local government officer or a family member of the officer one or more gifts that have an aggregate value of more than \$100 in the 12-month period preceding the date the officer becomes aware that:

- (i) a contract between the local governmental entity and vendor has been executed; or
- (ii) the local governmental entity is considering entering into a contract with the vendor.

Local Government Code § 176.006(a) and (a-1)

- (a) A vendor shall file a completed conflict of interest questionnaire if the vendor has a business relationship with a local governmental entity and:

(1) has an employment or other business relationship with a local government officer of that local governmental entity, or a family member of the officer, described by Section 176.003(a)(2)(A);

(2) has given a local government officer of that local governmental entity, or a family member of the officer, one or more gifts with the aggregate value specified by Section 176.003(a)(2)(B), excluding any gift described by Section 176.003(a-1); or

(3) has a family relationship with a local government officer of that local governmental entity.

- (a-1) The completed conflict of interest questionnaire must be filed with the appropriate records administrator not later than the seventh business day after the later of:

- (1) the date that the vendor:

(A) begins discussions or negotiations to enter into a contract with the local governmental entity; or

(B) submits to the local governmental entity an application, response to a request for proposals or bids, correspondence, or another writing related to a potential contract with the local governmental entity; or

- (2) the date the vendor becomes aware:

(A) of an employment or other business relationship with a local government officer, or a family member of the officer, described by Subsection (a);

(B) that the vendor has given one or more gifts described by Subsection (a); or

(C) of a family relationship with a local government officer.

**SECTION 00 73 14 - SUPPLEMENTARY CONDITIONS OF THE CONSTRUCTION
CONTRACT**

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SECTION 00 73 14 - SUPPLEMENTARY CONDITIONS OF THE CONSTRUCTION CONTRACT

These Supplementary Conditions amend or supplement Section 00 72 00 – Standard General Conditions of the Construction Contract (EJCDC® C-700)(2018). The General Conditions remain in full force and effect except as amended.

The terms used in these Supplementary Conditions have the meanings stated in the General Conditions. Additional terms used in these Supplementary Conditions have the meanings stated below, which are applicable to both the singular and plural thereof.

The address system used in these Supplementary Conditions is the same as the address system used in the General Conditions, with the prefix "SC" added—for example, “ P a r a ~~5~~^{SC-4.05}’ h

ARTICLE 1—DEFINITIONS AND TERMINOLOGY

No suggested Supplementary Conditions in this Article.

ARTICLE 2—PRELIMINARY MATTERS

2.02 *Copies of Documents*

ARTICLE 5—SITE, SUBSURFACE AND PHYSICAL CONDITIONS, HAZARDOUS ENVIRONMENTAL CONDITIONS

5.03 *Subsurface and Physical Conditions*

SC-5.03 Add the following new paragraphs immediately after Paragraph 5.03.D:

- E. The following table lists the reports of explorations and tests of subsurface conditions at or adjacent to the Site that contain Technical Data, and specifically identifies the Technical Data in the report upon which Contractor may rely:

Report Title	Date of Report	Technical Data
None		

- F. The following table lists the Drawings of existing physical conditions at or adjacent to the Site, including those drawings depicting existing surface or subsurface structures at or adjacent

to the Site (except Underground Facilities), that contain Technical Data, and specifically identifies the Technical Data upon which Contractor may rely:

Drawings Title	Date of Drawings	Technical Data
None		

- G. Contractor may examine copies of reports and drawings identified in SC-5.03.E and SC-5.03.F that were not included with the Bidding Documents. Coordinate with Owner to examine documents, or request copies from Engineer.

5.06 Hazardous Environmental Conditions

SC-5.06 Add the following new paragraphs immediately after Paragraph 5.06.A.3:

4. The following table lists the reports known to Owner relating to Hazardous Environmental Conditions at or adjacent to the Site, and the Technical Data (if any) upon which Contractor may rely:

Report Title	Date of Report	Technical Data
None		

5. The following table lists the drawings known to Owner relating to Hazardous Environmental Conditions at or adjacent to the Site, and Technical Data (if any) contained in such Drawings upon which Contractor may rely: **If there are no such drawings, so indicate in the table.**

Drawings Title	Date of Drawings	Technical Data
None		

ARTICLE 6—BONDS AND INSURANCE

6.01 Performance, Payment, and Other Bonds

SC-6.01 Add the following paragraphs immediately after Paragraph 6.01.A:

- Required Performance Bond Form:* Division 00 contains Owner provided Performance Bond.
- Required Payment Bond Form:* Division 00 contains Owner provided Payment Bond.

6.03 Contractor's Insurance

SC-6.03 Supplement Paragraph 6.03 with the following provisions after Paragraph 6.03.C:

- D. *Other Additional Insureds:* As a supplement to the provisions of Paragraph 6.03.C of the General Conditions, the commercial general liability, automobile liability, umbrella or excess,

pollution liability, and unmanned aerial vehicle liability policies must include as additional insureds (in addition to Owner and Engineer) the following: **City of Midland and Parkhill.**

- E. *Workers' Compensation and Employer's Liability:* Contractor shall purchase and maintain workers' compensation and employer's liability

Workers' Compensation Insurance Coverage

A. Definitions:

1. Certificate of Coverage ("certificate") - A copy of a certificate of insurance, a certificate of authority to self-insure issued by the division, or a coverage agreement (For work in Texas DWC Form-81, DWC Form-82, DWC Form-83, or DWC Form - 84), showing statutory workers' compensation insurance coverage for the person's or entity's employees providing services on a project, for the duration of the project.
2. Duration of Project - includes the time from the beginning of the work on the project until the contractor's/person's work on the project has been completed and accepted by the governmental entity.
3. Persons Providing Services on Project ("subcontractor" in §406.096) - includes all persons or entities performing all or part of the services the contractor has undertaken to perform on the project, regardless of whether that person contracted directly with the contractor and regardless of whether that person has employees. This includes, without limitation, independent contractors, subcontractors, leasing companies, motor carriers, owner-operators, employees of any such entity, or employees of any entity which furnishes persons to provide services on the project. "Services" include, without limitation, providing, hauling, or delivering equipment or materials, or providing labor, transportation, or other service related to a project. "Services" does not include activities unrelated to the project, such as food/beverage vendors, office supply deliveries, and delivery of portable toilets.

- B. Contractor shall provide coverage, based on proper reporting of classification codes and payroll amounts and filing of any coverage agreements, meeting statutory requirements of Texas Labor Code, Section 401.011(44) for all employees of Contractor providing services on project, for duration of Project.
- C. Contractor must provide a certificate of coverage to governmental entity before awarded contract.
- D. If coverage period shown on Contractor's current certificate of coverage ends during duration of project, Contractor must, prior to end of coverage period, file a new certificate of coverage with governmental entity showing coverage is extended.
- E. Contractor shall obtain from each person providing services on project, and provide to governmental entity.

(1) a certificate of coverage, prior to persons beginning work on project, so governmental entity will have certificates of coverage covering all persons providing services on project; and

(2) no later than seven (7) days after receipt by Contractor, new certificate of coverage showing extension of coverage, if coverage period shown on current certificate of coverage ends during duration of project.

F. Contractor retains all required certificates of coverage for duration of project and for one year thereafter.

G. Contractor shall notify governmental entity in writing, by certified mail or personal delivery, within 10 days after Contractor knew or should have known, of any change that materially affects provision of coverage of any person providing services on project.

H. Contractor shall post on each project site a notice, in the text, form and manner prescribed by Texas Department of Insurance Compensation, informing all persons providing services on project they are required to be covered, and stating how persons may verify coverage and report lack of coverage.

I. Contractor shall contractually require each person with whom it contracts to provide services on project, to:

(1) provide coverage, based on proper reporting of classification codes and payroll amounts and filing of any coverage agreements, meeting statutory requirements of Texas Labor Code, Section 401.011(44) for all of its employees providing services on project, for duration of project;

(2) provide Contractor, prior to persons beginning work on project, a certificate of coverage showing coverage provided for all employees of persons providing services on project, for duration of project;

(3) provide Contractor, prior to end of coverage period, a new certificate of coverage showing extension of coverage, if coverage period shown on current certificate of coverage ends during duration of project;

(4) obtain from each person with whom contracted, and provide to Contractor:

(a) a certificate of coverage, prior to persons beginning work on project; and

(b) a new certificate of coverage showing extension of coverage, prior to end of coverage period, if coverage period shown on current certificate of coverage ends during duration of project;

(5) retain all required certificates of coverage for duration of project and for one year thereafter;

(6) notify governmental entity in writing, by certified mail or personal delivery, within 10 days after person knew or should have known, of any change that materially affects provision of coverage of any person providing services on project; and

(7) contractually require each person contracted, to perform as required by paragraphs (1) - (7), with certificates of coverage to be provided to person for whom they are providing services.

- J. By signing this contract or providing or causing to be provided a certificate of coverage, Contractor is representing to governmental entity all employees of Contractor who will provide services on project will be covered by workers' compensation coverage for duration of project, that coverage will be based on proper reporting of classification codes and payroll amounts, and all coverage agreements will be filed with appropriate insurance carrier or, in the case of a self-insured, with the division. Providing false or misleading information may subject Contractor to administrative penalties, criminal penalties, civil penalties, or other civil actions.
- K. Contractor's failure to comply with any of these provisions is a breach of contract by Contractor which entitles governmental entity to declare contract void if Contractor does not remedy breach within ten days after receipt of notice of breach from governmental entity.

W o r k e r s ' C o m p e n s a t i o n	Policy limits of not less than:
W o r k e r s ' C o m p e n s a t i o n	
State	Statutory
E m p l o y e r ' s L i a b i l i t y	
Each accident	\$500,000
Each employee	\$
Policy limit	\$

- F. *Commercial General Liability—Claims Covered:* Contractor shall purchase and maintain commercial general liability insurance, covering all operations by or on behalf of Contractor, on an occurrence basis, against claims for:

1. damages because of bodily injury, sickness or disease, or death of any person other than **C o n t r a c t o r ' s e m p l o y e e s**,
2. damages insured by reasonably available personal injury liability coverage, and
3. damages because of injury to or destruction of tangible property wherever located, including loss of use resulting therefrom.

- G. *Commercial General Liability—Form and Content:* **C o n t r a c t o r ' s c o m m e r c i a l** must be written on a 1996 (or later) Insurance Services Organization, Inc. (ISO) commercial general liability form (occurrence form) and include the following coverages and endorsements:

1. Products and completed operations coverage.
 - a. Such insurance must be maintained for three years after final payment.

- b. Contractor shall furnish Owner and each other additional insured (as identified in the Supplementary Conditions or elsewhere in the Contract) evidence of continuation of such insurance at final payment and three years thereafter.
2. Blanket contractual liability coverage, including but not limited to coverage of Contractor's obligations in Paragraph 7.18 Indemnity obligations.
 3. Severability of interests and no insured-versus-insured or cross-liability exclusions.
 4. Underground, explosion, and collapse coverage.
 5. Personal injury coverage.
 6. Additional insured endorsements that include both ongoing operations and products and completed operations coverage through ISO Endorsements CG 20 10 10 01 and CG 20 37 10 01 (together). If Contractor demonstrates to Owner that the specified ISO endorsements are not commercially available, then Contractor may satisfy this requirement by providing equivalent endorsements.
 7. For design professional additional insureds, ISO Endorsement CG 20 32 07 04 "Additional Insured—Engineers, Architects or Surveyors Not Engaged by the Named Insured" or its equivalent.
- H. *Commercial General Liability—Excluded Content:* The commercial general liability insurance policy, including its coverages, endorsements, and incorporated provisions, must not include any of the following:
1. Any modification of the standard definition of "insured contract" (excluding railroad protective liability exclusion if Contractor is required to indemnify a railroad or others with respect to Work within 50 feet of railroad property).
 2. Any exclusion for water intrusion or water damage.
 3. Any provisions resulting in the erosion of insurance limits by defense costs other than those already incorporated in ISO form CG 00 01.
 4. Any exclusion of coverage relating to earth subsidence or movement.
 5. Any exclusion for professional liability, strict liability, or statutory liability (other than worker's compensation).
 6. Any limitation or exclusion based on the nature of the work.
 7. Any professional liability exclusion broader in effect than the most recent edition of ISO form CG 22 79.
- I. *Commercial General Liability—Minimum Policy Limits*

Commercial General Liability	Policy limits of not less than:
Each Occurrence (bodily injury and property damage)	\$1,000,000
Personal and Advertising Injury	\$
General Aggregate	\$
Products—Completed Operations Aggregate	\$

- J. *Automobile Liability:* Contractor shall purchase and maintain automobile liability insurance for damages because of bodily injury or death of any person or property damage arising out

of the ownership, maintenance, or use of any motor vehicle. The automobile liability policy must be written on an occurrence basis.

Automobile Liability	Policy limits of not less than:
Bodily Injury	
Each Person	\$250,000
Each Accident	\$
Property Damage	
Each Accident	\$
or	
Combined Single Limit	\$250,000

- K. *Umbrella or Excess Liability:* Contractor shall purchase and maintain umbrella or excess liability insurance written over the liability, and automobile liability insurance described in the Paragraphs above. The coverage afforded must be at least as broad as that of each and every one of the underlying policies.

Excess or Umbrella Liability	Policy limits of not less than:
Each Occurrence	\$
General Aggregate	\$

- M. *Other Required Insurance:* None.

ARTICLE 7—C O N T R A C T R E S P O N S I B I L I T I E S

7.03 Labor; Working Hours

- SC-7.03 Amend the first and second sentences of Paragraph 7 . 0 3 . C t o s t a t e “ ...a l l must be performed during regular working hours, Monday through Friday. Contractor will not perform Work on a Saturday, or any l e g a l h o l i d a y . ”

- SC-7.03 Add the following new paragraph immediately after Paragraph 7.03.C:

- D. Contractor shall be responsible for the cost of any overtime pay or other expense incurred by t h e O w n e r f o r E n g i n e e r ' s s e r v i c e s (i n c l u d i n g any), Owner's representative, and construction observation services, occasioned by the performance of Work on Saturday, Sunday, any legal holiday, or as overtime on any regular work day. If Contractor is responsible but does not pay, or if the parties are unable to agree as to the amount owed, then Owner may impose a reasonable set-off against payments due under Article 15.

- SC-7.03 Add the following new subparagraph immediately after Paragraph SC-7.03.D:

1. For purposes of administering the foregoing requirement, additional overtime costs are defined as any hours worked outside Monday through Friday, 8:00 P.M. through 5:00 P.M. each day, requiring inspection services. Construction activities requiring inspection services shall be at the sole discretion of the Owner.

7.10 Taxes

SC-7.10 Add a new paragraph immediately after Paragraph 7.10.A:

- A. Owner is exempt from payment of sales and compensating use taxes of the State of Texas and of cities and counties thereof on all materials to be incorporated into the Work.
 - 1. Owner will furnish the required certificates of tax exemption to Contractor for use in the purchase of supplies and materials to be incorporated into the Work.
 - 2. Owner's exemption does not apply to construction property purchased by or leased by Contractor, or to supplies or materials not incorporated into the Work.

7.13 *Safety and Protection*

ARTICLE 8—OTHER WORK AT THE SITE

8.02 *Coordination*

SC-8.02 Delete paragraph 8.02.B. in its entirety and insert the following in its place:

- A. Contractor shall coordinate work with City of Midland's Briarwood Street Reconstruction project. See Specification 01 10 00 "Summary."

ARTICLE 9—OWNER'S RESPONSIBILITIES

9.13 *Owner's Site Representative*

SC-9.13 Add the following new paragraph immediately after Paragraph 9.12 of the General Conditions:

9.13 *Owner's Site Representative*

- A. Owner will furnish an "Owner's Site Representative" to observe the progress and quality of the Work. The Owner's Site Representative shall not be an employee, agent, or representative of the Contractor. The authority and responsibilities of the Owner's Site Representative shall be determined and named by Owner. The authority and responsibilities of the Owner's Site Representative shall be provided in Specifications.

ARTICLE 10—ENGINEER'S STATUS DURING CONSTRUCTION

10.03 *Resident Project Representative*

SC-10.03 On this Project, by agreement with the Owner, the Engineer will not furnish a Resident Project Representative to represent Engineer at the Site or assist Engineer in observing the progress and quality of the Work.

ARTICLE 13—COST OF WORK; ALLOWANCES, UNIT PRICE WORK

13.03 *Unit Price Work*

SC-13.03 Delete Paragraph 13.03.E in its entirety and insert the following in its place:

- E. *Adjustments in Unit Price*
 - 1. Contractor or Owner shall be entitled to an adjustment in the unit price with respect to an item of Unit Price Work if:

- a. the extended price of a particular item of Unit Price Work amounts to 5 percent or more of the Contract Price (based on estimated quantities at the time of Contract formation) and the variation in the quantity of that particular item of Unit Price Work actually furnished or performed by Contractor differs by more than 25 percent from the estimated quantity of such item indicated in the Agreement; and
 - b. Contractor's unit costs to perform the item of Unit Price Work have changed materially and significantly as a result of the quantity change.
2. The adjustment in unit price will account for and be coordinated with any related changes in quantities of other items of Work, and in Contractor's costs of Work, such that the resulting overall change in Contract Price is equitable to Owner and Contractor.
 3. Adjusted unit prices will apply to all units of that item.

ARTICLE 15—PAYMENTS TO CONTRACTOR, SET OFFS; COMPLETIONS; CORRECTION PERIOD

15.01 Progress Payments

SC-15.01.D Delete Paragraph 15.01.D.1 in its entirety and insert the following in its place:

1. 30 days after presentation of the Application for recommendation, the amount recommended (subject to any Owner set-offs) will become due, and when due will be paid by Owner to Contractor.

15.03 Substantial Completion

SC-15.03 Add the following new subparagraph to Paragraph 15.03.B:

1. If some or all of the Work has been determined not to be at a point of Substantial Completion and will require re-inspection or re-testing by Engineer, the cost of such re-inspection or re-testing, including the cost of time, travel and living expenses, will be paid by Contractor to Owner. If Contractor does not pay, or the parties are unable to agree as to the amount owed, then Owner may impose a reasonable set-off against payments due under this Article 15.

SC 15.06.E Delete Paragraph 15.06.E in its entirety and insert the following in its place:

- E. Final Payment Becomes Due: Upon receipt from Engineer of the final Application for Payment and accompanying documentation, Owner shall set off against the amount recommended by Engineer for final payment any further sum to which Owner is entitled, including but not limited to set-offs for liquidated damages and set-offs allowed under the provisions of this Contract with respect to progress payments. Owner shall pay the resulting balance due to Contractor within 30 days of Owner's retention for Payment from Engineer. final Application

Briarwood Water and Wastewater Utility Extension

DIVISION 01, GENERAL REQUIREMENTS

SECTION 01 10 00 - SUMMARY

PART 1 - GENERAL

1.1 SUMMARY

- A. Section Includes:
 - 1. Project information.
 - 2. Contract description.
 - 3. Work by Owner or others.
 - 4. Owner-furnished products.
 - 5. Contractor's use of Site and premises.
 - 6. Future work.
 - 7. Work sequence.
 - 8. Owner's product Purchase contracts.
 - 9. Work restrictions.
 - 10. Owner occupancy.
 - 11. Permits.
 - 12. Specification conventions.
- B. Related Requirements:
 - 1. Division 01 Specification Sections apply to Work of this Section.
 - 2. Section 01 20 00 "Price and Payment Procedures."
 - 3. Section 01 32 16 "Construction Progress Schedule": Digital project management procedures and web-based project management software package.
 - 4. Section 01 50 00 "Temporary Facilities and Controls": Limitations and procedures governing temporary use of Owner's facilities.
 - 5. Section 01 70 00 "Execution and Closeout Requirements": Coordination of Owner-installed products.

1.2 PROJECT INFORMATION

- A. Name: Briarwood Water and Wastewater Utility Extension.
 - 1. Project Location: Midland, Texas.
- B. Owner: City of Midland.
 - 1. Owner's Representative: Carl Craigo, PE.
- C. Project Architect/Engineer: Parkhill.
 - 1. Engineer's Representative: Kevin W. Krueger, PE.
- D. Construction Manager: City of Midland.
 - 1. Construction Manager Representative: TBD.
 - 2. Construction Manager as advisor (CMa): Construction Manager has been engaged for this Project to serve as an advisor to Owner and to provide assistance in administering the Contract for construction between Owner and Contractor, according to a separate contract between Owner and Construction Manager.
- E. Web-Based Project Software: Project software will be used for purposes of managing communication and documents during the construction stage.
 - 1. See Section 01 32 16 "Construction Progress Schedule" for requirements for using web-based Project software.

1.3 CONTRACT DESCRIPTION

- A. Work of the Project includes the extension of an 24-inch gravity wastewater main and associated appurtenances from Golden Gate Avenue approximately 8,900 feet west to Highway 158, and the extension of 16-inch water main and associated appurtenances from near North County Road 1248 approximately 3,800 feet west to Trobaugh Boulevard, proceeding within an undeveloped city wasement and terminating approximately 9,500.
- B. Perform Work of Contract under separate Contract with Owner according to Conditions of Contract.

1.4 WORK BY OWNER OR OTHERS

- A. Owner will award a contract for the reconstruction of Briarwood Avenue within the work limits of this utility replacement contract. Contractor shall be responsible to coordinate utility installation and completion with street reconstruction contractor. Street reconstruction contract documents are available for inspection at Owner's office. (City Hall, Engineering).
- B. Milestone (Project Phasing). Utility installation work shall be installed in phases as follows:
 - 1. All Water Improvements work included in this Contract shall be completed no later than 180 calendar days following Notice to Proceed effective date. Wastewater Improvements from Station 1+50 to 2+50 shall be compelted no later than 180 calendar days following Notice to Proceed effective date. Completion shall be defined as all utility featers installed to the point that roadway work can proceed without interruption.
 - 2. The remaining contract work shall be completed per time limits stated in Contract documents.
- C. Coordinate work with utilities of Owner and public or private entities.

1.5 CONTRACTOR'S USE OF SITE AND PREMISES

- A. Limits on Use of Site: Limit use of Project Site to areas within the Contract limits indicated. Do not disturb portions of Project Site beyond areas in which Work is indicated.
- B. Limits on Use of Site: Confine construction operations to City owned easement shown in construction plans. Contractor shall protect existing utilities within the easement.
 - 1. Limit use of Site to allow:
 - a. Work by Owner.
 - b. Work by Others.
 - 2. Entrances: Keep entrance serving premises clear and available to Owner, Owner's employees, and emergency vehicles at all times. Do not use this area for parking or for storage of materials.
 - a. Schedule deliveries to minimize use of entrances by construction operations.
 - b. Schedule deliveries to minimize space and time requirements for storage of materials and equipment on Site.
- C. Construction Operations: Limited to areas indicated on Drawings.

1.6 WORK SEQUENCE

- A. Sequencing of Construction Plan: Before start of construction, submit 3 copies of construction schedule for acceptance by Owner. After acceptance of plan, comply with accepted plan when coordinating construction sequencing unless deviations are accepted by Owner in writing. Construction plan shall incorporate project Milestone and coordination per Section 1.4 "Work by Owner or Others."

1.7 WORK RESTRICTIONS

- A. Comply with restrictions on construction operations.
 - 1. Comply with limitations on use of public streets, work on public streets, rights of way, and other requirements of authorities having jurisdiction (AHJ).
- B. On-Site Work Hours: Limit Work to between 6:00 a.m. to 8:00 p.m., Monday through Friday, unless otherwise indicated. Work hours may be modified to meet Project requirements if approved by Owner and AHJ.
- C. Existing Utility Interruptions: Do not interrupt utilities serving facilities occupied by Owner or others unless permitted under the following conditions, and only after arranging for temporary utility services according to requirements indicated:
 - 1. Notify Owner not less than 14 days in advance of proposed utility interruptions.
 - 2. Obtain Owner's written permission before proceeding with utility interruptions.
- D. Smoking and Controlled Substance Restrictions: Use of alcoholic beverages, marijuana, and other controlled substances on Project Site is not permitted.

1.8 PERMITS

- A. Furnish all necessary permits for construction of Work, including the following:
 - 1. Stormwater permit.

1.9 SPECIFICATION CONVENTIONS

- A. Specification Content: Specifications use certain conventions for the style of language and the intended meaning of certain terms, words, and phrases when used in particular situations. These conventions are as follows:
 - 1. Imperative mood and streamlined language are generally used in the Specifications. Words "shall," "shall be," or "shall comply with," depending on the context, are implied where a colon (:) is used within a sentence or phrase.
 - 2. Text Color: Text used in the Specifications, including units of measure, manufacturer and product names, and other text may appear in multiple colors or underlined as part of a hyperlink; no emphasis is implied by text with these characteristics.
 - 3. Hypertext: Text used in the Specifications may contain hyperlinks. Hyperlinks may allow for access to linked information that is not residing in the Specifications. Unless otherwise indicated, linked information is not part of the Contract Documents.
- B. Drawing Coordination: Requirements for materials and products identified on Drawings are described in detail in the Specifications. One or more of the following are used on Drawings to identify materials and products:
 - 1. Terminology: Materials and products are identified by the typical generic terms used in the individual Specifications Sections.

-
2. Abbreviations: Materials and products are identified by abbreviations scheduled on Drawings.
 3. Keynoting: Materials and products are identified by reference keynotes referencing Specification Section numbers found in this Project Manual.

PART 2 - PRODUCTS (Not Used)

PART 3 - EXECUTION (Not Used)

END OF SECTION

SECTION 01 20 00 - PRICE AND PAYMENT PROCEDURES

PART 1 - GENERAL

1.1 SUMMARY

- A. Section Includes:
 - 1. Cash allowances.
 - 2. Contingency allowances.
 - 3. Testing and inspection allowances.
 - 4. Schedule of Values.
 - 5. Application for Payment.
 - 6. Change procedures.
 - 7. Defect assessment.
 - 8. Unit prices.
 - 9. Alternates.
- B. Related Requirements:
 - 1. Other Division 01 Specification Sections apply to Work of this Section.

1.2 CASH ALLOWANCES

- A. Costs Included in Cash Allowances: Cost of product to Contractor or Subcontractor, less applicable trade discounts; delivery to Site and applicable taxes unless stated otherwise in Allowance Schedule.
- B. Costs Not Included in Cash Allowances but Included in Contract Sum/Price: Product handling at Site including unloading, uncrating, and storage; protection of products from elements and from damage; and labor for installation and finishing unless stated otherwise in Allowance Schedule.
- C. Engineer Responsibilities:
 - 1. Consult with Contractor for consideration and selection of products suppliers.
 - 2. Select products in consultation with Owner and transmit decision to Contractor.
 - 3. Prepare Change Order.
- D. Contractor Responsibilities:
 - 1. Assist Engineer in selection of products, and suppliers.
 - 2. Obtain proposals from suppliers and offer recommendations.
 - 3. Upon notification of selection by Engineer, execute purchase agreement with designated supplier.
 - 4. Arrange for and process Shop Drawings, Product Data, and Samples. Arrange for delivery.
 - 5. Promptly inspect products upon delivery for completeness, damage, and defects. Submit claims for transportation damage.
- E. Differences in costs will be adjusted by Change Order.
- F. Allowance Schedule: N/A.

1.3 CONTINGENCY ALLOWANCES

- A. Include in Contract a stipulated sum shown on Bid Package price Bid sheet for use upon Owner's instruction as a contingency allowance.

-
- B. Contractor's costs for products, delivery, installation, labor, insurance, payroll, taxes, bonding, equipment rental, overhead, and profit will be included in Change Orders authorizing expenditure of funds from this contingency allowance.
 - C. Funds will be drawn from contingency allowance only by Change Order.
 - D. At closeout of Contract, funds remaining in contingency allowance will be credited to Owner by Change Order.

1.4 SCHEDULE OF VALUES

- A. Submit electronic file to Project website of schedule on Progress Estimate schedule on EJCDC C-620 Contractor's standard form or electronic media printout will be considered for this use.
- B. Submit Schedule of Values as electronic file to Project website within 15 days after date of Owner-Contractor Agreement.
- C. Format: Use Table of Contents of this Project Manual. Identify each line item with number and title of major Specification Section. Also identify Site mobilization.
- D. Include in each line item amount of allowances as specified in this Section. For unit cost allowances, identify quantities taken from Contract Documents multiplied by unit cost to achieve total for each item.
- E. Include within each line item, direct proportional amount of Contractor's overhead and profit.
- F. Revise schedule to list approved Change Orders with each Application for Payment.

1.5 APPLICATION FOR PAYMENT

- A. Submit electronic file to Project website of each Application for Payment on EJCDC C-620 - Contractor's Application for Payment.
- B. Content and Format: Use Schedule of Values for listing items in Application for Payment.
- C. Submit updated construction schedule with each Application for Payment.
- D. Payment Period: Submit at intervals stipulated in the Agreement.
- E. Submit submittals with transmittal letter as specified in Section 01 33 00 "Submittal Procedures."
- F. Substantiating Data: When Engineer requires substantiating information, submit data justifying dollar amounts in question. Include the following with Application for Payment:
 - 1. Current construction photographs specified in Section 01 33 00 "Submittal Procedures."
 - 2. Affidavits attesting to off-Site stored products.
 - 3. Construction Progress Schedule, revised and current as specified in Section 01 33 00 "Submittal Procedures."

1.6 CHANGE PROCEDURES

- A. Submittals: Submit name of individual who is authorized to receive change documents and is responsible for informing others in Contractor's employ or Subcontractors of changes to the Work.
- B. Carefully study and compare Contract Documents before proceeding with fabrication and installation of Work. Promptly advise Architect/Engineer of any error, inconsistency, omission, or apparent discrepancy.
- C. Requests for Interpretation (RFI) and Clarifications: Allot time in construction scheduling for liaison with Architect/Engineer; establish procedures for handling queries and clarifications.
 - 1. Use CSI Form 13.2A - Request for Interpretation for requesting interpretations.

-
2. Engineer may respond with a direct answer on the Request for Interpretation form, Clarification Notice CSI Form 13.3A Clarification Notice, or Proposal Request CSI Form 13/6A - Change Order Request (Proposal).
- D. Engineer will advise of minor changes in the Work not involving adjustment to Contract Sum/Price or Contract Time by issuing supplemental instructions on EJCDC C-942.
 - E. Engineer may issue CSI Form 13/6A Notice of Change including a detailed description of proposed change with supplementary or revised Drawings and Specifications, a change in Contract Time for executing the change. Contractor will prepare and submit estimate within 14 days.
 - F. Contractor may propose changes by submitting a request for change to Engineer, describing proposed change and its full effect on Work. Include a statement describing reason for the change and the effect on Contract Sum/Price and Contract Time with full documentation and a statement describing effect on Work by separate or other Contractors.
 - G. Document requested substitutions according to Section 01 25 00 "Substitution Procedures."
 - H. Stipulated Sum/Price Change Order: Based on Proposal Request and Contractor's fixed price quotation or Contractor's request for Change Order as approved by Engineer.
 - I. Unit Price Change Order: For Contract unit prices and quantities, Change Order will be executed on a fixed unit price basis. For unit costs or quantities of units of that which are not predetermined, execute Work under Construction Change Directive. Changes in Contract Sum/Price or Contract Time will be computed as specified for Force Account Change Order.
 - J. Construction Change Directive: Engineer may issue directive, on EJCDC C-940 - Work Change Directive signed by Owner, instructing Contractor to proceed with change in Work, for subsequent inclusion in a Change Order. Document will describe changes in Work and designate method of determining any change in Contract Sum/Price or Contract Time. Promptly execute change.
 - K. Force Account Change Order: Submit itemized account and supporting data after completion of change, within time limits indicated in Conditions of Contract. Engineer will determine change allowable in Contract Sum/Price and Contract Time as provided in Contract Documents.
 - L. Maintain detailed records of Work done on force account basis. Provide full information required for evaluation of proposed changes and to substantiate costs for changes in the Work.
 - M. Document each quotation for change in Project Cost or Time with sufficient data to allow evaluation of quotation.
 - N. Change Order Forms: EJCDC C-941 - Change Order.
 - O. Execution of Change Orders: Engineer will issue Change Orders for signatures of parties as provided in Conditions of Contract.
 - P. Correlation of Contractor Submittals:
 1. Promptly revise Schedule of Values and Application for Payment forms to record each authorized Change Order as separate line item and adjust Contract Sum/Price.
 2. Promptly revise Progress Schedules to reflect change in Contract Time, revise subschedules to adjust times for other items of Work affected by the change, and resubmit.
 3. Promptly enter changes in Record Documents.

1.7 DEFECT ASSESSMENT

- A. Replace Work, or portions of Work, not conforming to specified requirements.
- B. If, in the opinion of Engineer, it is not practical to remove and replace Work, Engineer will direct appropriate remedy or adjust payment.

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- C. Individual Specification Sections may modify these options or may identify specific formula or percentage sum/price reduction.
 - D. Authority of Engineer to assess defects and identify payment adjustments is final.
 - E. Nonpayment for Rejected Products: Payment will not be made for rejected products for any of the following reasons:
 - 1. Products wasted or disposed of in a manner that is not acceptable.
 - 2. Products determined as unacceptable before or after placement.
 - 3. Products not completely unloaded from transporting vehicle.
 - 4. Products placed beyond lines and levels of the required Work.
 - 5. Products remaining on hand after completion of the Work.
 - 6. Loading, hauling, and disposing of rejected products.

1.8 UNIT PRICES

- A. Authority: Measurement methods are delineated in individual Specification Sections.
- B. Measurement methods delineated in individual Specification Sections complement criteria of this Section. In event of conflict, requirements of individual Specification Sections govern.
- C. Take measurements and compute quantities. Engineer will verify measurements and quantities.
- D. Unit Quantities: Quantities and measurements indicated on Bid Form are for Contract purposes only. Quantities and measurements supplied or placed in Work shall determine payment.
 - 1. When actual Work requires more or fewer quantities than those quantities indicated, provide required quantities at contracted unit sum/prices.
 - 2. When actual Work requires 25 percent or greater change in, also stated in EJCDC 123.03E, quantity than those quantities indicated, Owner or Contractor may claim a Contract Price adjustment.
- E. Payment Includes: Full compensation for required labor, products, tools, equipment, plant and facilities, transportation, services and incidentals; erection, application, or installation of item of Work; overhead and profit.
- F. Final payment for Work governed by unit prices will be made on basis of actual measurements and quantities accepted by Engineer multiplied by unit sum/price for Work incorporated in or made necessary by Work.
- G. Measurement of Quantities:
 - 1. Weigh Scales: Inspected, tested, and certified by applicable State of Texas weights and measures department within past year.
 - 2. Platform Scales: Of sufficient size and capacity to accommodate conveying vehicle.
 - 3. Metering Devices: Inspected, tested, and certified by applicable State of Texas department within past year.
 - 4. Measurement by Weight: Concrete reinforcing steel, rolled or formed steel, or other metal shapes will be measured by handbook weights. Welded assemblies will be measured by handbook or scale weight.
 - 5. Measurement by Volume: Measured by cubic dimension using mean length, width, and height or thickness.
 - 6. Measurement by Area: Measured by square dimension using mean length and width or radius.
 - 7. Linear Measurement: Measured by linear dimension, at item centerline or mean chord.
 - 8. Stipulated Sum/Price Measurement: Items measured by weight, volume, area, or linear means or combination, as appropriate, as completed item or unit of Work.

PART 2 - PRODUCTS (Not Used)

PART 3 - EXECUTION (Not Used)

END OF SECTION

SECTION 01 22 00 - MEASUREMENT AND PAYMENT

PART 1 - GENERAL

1.1 SUMMARY

- A. Section Includes:
 - 1. Procedures for measurement and payment.
 - 2. Mobilization demobilization.
 - 3. Unit price items.
 - 4. Lump sum items.
 - 5. Bid Form-specific payment items.
- B. Related Requirements:
 - 1. Section 00 11 13 "Request for Bids."
 - 2. Other Division 01 Specification Sections apply to Work of this Section.

1.2 PROCEDURES FOR MEASUREMENT AND PAYMENT

- A. Unit price bid on each item as stated in Section 00 11 13 "Request for Bids" includes furnishing all labor, superintendence, machinery, equipment, and materials, except as otherwise specified, necessary, or incidental to complete various item of Work per Drawings and Specifications.
- B. Cost of Work or materials shown on Drawings or called for in Specifications and on which no separate payment is made, included in bid prices on various pay items.
- C. Payment not made for any items not complete, including all associated incidental Work.

1.3 MOBILIZATION/DEMobilIZATION

- A. Payment made for mobilization and demobilization on lump sum basis.
- B. Bid amount for mobilization and demobilization shall not exceed 5 percent of total Bid Price.
- C. Work under this item consists of preparatory work and operations, including but not limited to those necessary for movement of personnel, equipment, supplies, and incidentals to Work; establish all offices, buildings, and other facilities necessary for Work; and all other work and operations performed or costs incurred prior to beginning work on various items of Work.
- D. Payment for mobilization and demobilization will be on a lump sum basis with partial payments as noted. The adjusted Contract Amount as used herein is defined as the total Contract amount less lump sum for mobilization and demobilization.
 - 1. First Application for Payment: 50 percent of lump sum.
 - 2. Second Application for Payment: 75 percent of the lump sum.
 - 3. When 10 percent of adjusted Contract amount is earned, 90 percent of mobilization and demobilization lump sum.
 - 4. Final Application for Payment: 100 percent of mobilization and demobilization lump sum.

1.4 UNIT PRICE ITEMS

- A. Unit price items, not otherwise included herein, paid at a unit price per unit.
- B. Payment will include all work and material for installing unit price item as specified.
- C. Measurement made in units shown on Section 00 11 13 "Request for Bids."

1.5 LUMP SUM ITEMS

- A. Lump sum items include all work and materials for installing lump sum item as specified.
- B. Payment based on percentage complete basis as agreed by Engineer and Contractor.
- C. Payment includes all work and material for installing lump sum Bid item as specified.

1.6 BID FORM-SPECIFIC PAYMENT ITEMS

- A. General
 - 1. Mobilization/Demobilization:
 - a. Measurement: None.
 - b. Payment: Lump sum basis for bonds, insurance, mobilizing and demobilizing. Mobilization will be limited to 3 percent of total Base Bid. Demobilization will be limited to 2 percent of total Base Bid. Owner shall be solely responsible to determine timing for demobilization payment.
 - 2. Asphalt Paving Removal and Replacement:
 - a. Measurement: Square yard basis of measured finished area based on defined limits as specified on Drawings and Specifications.
 - b. Payment: For each type specified, shown on Drawings, and included in Bid Form, per unit price for cutting, removing, disposing, furnishing, and installing base and subgrade, as well as furnishing and installing pavement and other incidental work. No payment for work outside maximum pavement limits indicated on Drawings and Specifications or pavement remove for Contractor convenience.
 - 3. Concrete Paving Removal and Replacement:
 - a. Measurement: Square yard basis of measured finished area based on defined limits as specified on Drawings and Specifications.
 - b. Payment: For each type specified, shown on Drawings, and included in Bid Form, per unit price for cutting, removing, disposing, furnishing, and installing base and subgrade, as well as furnishing and installing pavement and other incidental work. No payment for work outside maximum pavement limits indicated on Drawings and Specifications or pavement remove for Contractor convenience.
 - 4. Trench Safety, Including Plan (Water & Wastewater):
 - a. Measurement: Linear foot basis as measured along excavation center line for all trenches requiring trench safety.
 - b. Payment: For each type and size as shown on Drawings, and included in Bid Form, payment per each for removal, temporary relocation, replacement, re-installing, furnishing all required appurtenances, and installing at location(s) shown.
 - 5. Remove and Replace Mailbox:
 - a. Measurement: Per each basis.
 - b. Payment: For each type and size as specified, shown on Drawings, and included in Bid Form, payment per each for furnishing and installing at locations shown.

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6. Stormwater Pollution Prevention Plan and Erosion Control:
 - a. Measurement: None.
 - b. Payment: Lump sum basis for preparing SWPPP, filing Notice(s) of Intent (NOI), installing and maintaining erosion control measures, preparing reports and filing a Notice of Termination (NOT) as specified.
 7. Gravity Sewer Pipe :
 - a. Measurement: Linear foot basis as measured along surface from center-to-center of manholes or appurtenances.
 - b. Payment: For each type and size as specified, shown on Drawings, and included in Bid Form, payment per each for furnishing and installing at locations shown.
 8. Traffic Control:
 - a. Measurement: None.
 - b. Payment: Lump sum basis for preparing, implementing and maintaining an approved traffic control plan as specified.
- B. Wastewater
1. Eighteen-Inch ASTM F679 PS 115 Wastewater Main:
 - a. Measurement: Linear foot basis as measured along surface from center-to-center of manholes or appurtenances.
 - b. Payment: For each type and size as specified, shown on Drawings, and included in Bid Form, payment per each for furnishing and installing at locations shown.
 2. Twenty-Four-Inch ASTM F679 PS 115 Wastewater Main:
 - a. Measurement: Linear foot basis as measured along surface from center-to-center of manholes or appurtenances.
 - b. Payment: For each type and size as specified, shown on Drawings, and included in Bid Form, payment per each for furnishing and installing at locations shown.
 3. Twenty-Four-Inch ASTM D2241 PS 160 Wastewater Main:
 - a. Measurement: Linear foot basis as measured along surface from center-to-center of manholes or appurtenances.
 - b. Payment: For each type and size as specified, shown on Drawings, and included in Bid Form, payment per each for furnishing and installing at locations shown.
 4. Manholes (0-6 feet):
 - a. Measurement: Per each basis.
 - b. Payment: For each type and size as specified, shown on Drawings, and included in Bid Form, payment per each for furnishing and installing at locations shown.
 5. Extra Depth Manhole:
 - a. Measurement: Per vertical foot basis measured in excess of 6-foot depth.
 - b. Payment: For each type and size as specified, shown on Drawings, and included in Bid Form, payment per vertical foot.
 6. Warning Tape and Tracer Wire:
 - a. Measurement: Linear foot basis as measured along center line of installed utility.
 - b. Payment: For each type and size as specified, shown on Drawings, and included in Bid Form, payment per unit price for furnishing and installing.

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7. Thirty-Inch Steel Encasement for 18-inch WW Main:
 - a. Measurement: Per linear foot.
 - b. Payment: For each type and size as specified, shown on Drawings, and included in Bid Form, payment per each for furnishing and installing at locations shown.
 8. Thirty-Six-Inch Steel Encasement for 24-inch WW Main:
 - a. Measurement: Per linear foot.
 - b. Payment: For each type and size as specified, shown on Drawings, and included in Bid Form, payment per each for furnishing and installing at locations shown.
 9. Connect to Existing Wastewater Main:
 - a. Measurement: Per each
 - b. Payment: For each type and size as specified, shown on Drawings, and included in Bid Form, payment per each connection.
 10. Abandon Existing WW Mains:
 - a. Measurement: Per linear foot basis as measured along surface from center-to-center of manholes or appurtenances.
 - b. Payment: For each type and size as specified, shown in Drawings, and included in Bid Form, payment per each.
 11. Sewer Stubout Plug:
 - a. Measurement: Per each basis.
 - b. Payment: For each type and size as specified, shown on Drawings, and included in Bid Form, payment per each for furnishing and installing at location(s) shown.

C. Water

1. Six-Inch C900 PVC DR 18 Water Main:
 - a. Measurement: Linear foot basis as measured along center line of installed pipe, measured center-of-fitting to center-of-fitting or end-of-pipe without any deduction for length of intermediate fittings or valves.
 - b. Payment: For each type and size specified, shown on Drawings and included in Bid Form, payment per unit price for furnishing and installing at depths shown.
2. Twelve-Inch C900 PVC DR 18 Water Main:
 - a. Measurement: Linear foot basis as measured along center line of installed pipe, measured center-of-fitting to center-of-fitting or end-of-pipe without any deduction for length of intermediate fittings or valves.
 - b. Payment: For each type and size specified, shown on Drawings and included in Bid Form, payment per unit price for furnishing and installing at depths shown.
3. Sixteen-Inch C900 PVC DR 18 Water Main:
 - a. Measurement: Linear foot basis as measured along center line of installed pipe, measured center-of-fitting to center-of-fitting or end-of-pipe without any deduction for length of intermediate fittings or valves.
 - b. Payment: For each type and size specified, shown on Drawings and included in Bid Form, payment per unit price for furnishing and installing at depths shown.
4. Ductile Iron Fittings:
 - a. Measurement: Per ton of fittings supplied. Fitting weights are sum of various types of fittings multiplied by weight per fitting as listed in AWWA/ANSI CL153/A21.53.
 - b. Payment: Per ton of fittings installed.

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5. Tapping Sleeves:
 - a. Measurement: Per each basis.
 - b. Payment: For each type and size specified on Drawings and included in Bid Form, payment per each.
 6. Six-Inch Gate Valves and Boxes:
 - a. Measurement: Per each basis as installed.
 - b. Payment: For each type and size specified on Drawings and included in Bid Form, payment per each for furnishing and installing.
 7. Twelve-Inch Gate Valves and Boxes:
 - a. Measurement: Per each basis as installed.
 - b. Payment: For each type and size specified on Drawings and included in Bid Form, payment per each for furnishing and installing.
 8. Sixteen-Inch Horizontal Gate Valve and Vault:
 - a. Measurement: Per each basis as installed.
 - b. Payment: For each type and size specified on Drawings and included in Bid Form, payment per each for furnishing and installing.
 9. Two-Inch Combination Air Valve and Vault:
 - a. Measurement: Per each basis as installed.
 - b. Payment: For each type and size specified on Drawings and included in Bid Form, payment per each.
 10. Fire Hydrants:
 - a. Measurement: Per each basis.
 - b. Payment: For each type and size specified on Drawings and included in Bid Form, payment per each.
 11. Cap 6-Inch Main:
 - a. Measurement: Per each basis.
 - b. Payment: For each type and size specified on Drawings and included in Bid Form, payment per each.
 12. Cap 8-Inch Main:
 - a. Measurement: Per each basis.
 - b. Payment: For each type and size specified on Drawings and included in Bid Form, payment per each.
 13. Cap 12-Inch Main:
 - a. Measurement: Per each basis.
 - b. Payment: For each type and size specified on Drawings and included in Bid Form, payment per each.
 14. Cap 16-Inch Main:
 - a. Measurement: Per each basis.
 - b. Payment: For each type and size specified on Drawings and included in Bid Form, payment per each.
 15. Warning Tape and Tracer Wire:
 - a. Measurement: Linear foot basis as measured along center line of installed utility.
 - b. Payment: For each type and size as specified, shown on Drawings, and included in Bid Form, payment per unit price for furnishing and installing.
 16. Connect to Existing 8-Inch Water Main:
 - a. Measurement: Per each basis.
 - b. Payment: For each type and size specified on Drawings and included in Bid Form, payment per each.

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17. Connect to Existing 16-Inch Water Main:
 - a. Measurement: Per each basis.
 - b. Payment: For each type and size specified on Drawings and included in Bid Form, payment per each.
 18. Twelve-Inch Steel Encasement for 6-Inch Water Main:
 - a. Measurement: Per linear foot.
 - b. Payment: For each type and size as specified, shown on Drawings, and included in Bid Form, payment per each for furnishing and installing at locations shown.
 19. Twenty-Inch Steel Encasement for 12-Inch Water Main:
 - a. Measurement: Per linear foot.
 - b. Payment: For each type and size as specified, shown on Drawings, and included in Bid Form, payment per each for furnishing and installing at locations shown.
 20. Thirty-Inch Steel Encasement for 16-Inch Water Main:
 - a. Measurement: Per linear foot.
 - b. Payment: For each type and size as specified, shown on Drawings, and included in Bid Form, payment per each for furnishing and installing at locations shown.
 21. Remove and Relocate Existing Fire Hydrant:
 - a. Measurement: Per each basis.
 - b. Payment: For each type and size as specified, shown on Drawings, and included in Bid Form, payment per each for removal, relocating, re-installing, furnishing all required appurtenances, and installing at location(s) shown.
 22. Plug and Abandon Existing Line:
 - a. Measurement: Per linear foot basis as measured along surface from center-to-center of manholes or appurtenances.
 - b. Payment: For each type and size as specified, shown in Drawings, and included in Bid Form, payment per each.

PART 2 - PRODUCTS (Not Used)

PART 3 - EXECUTION (Not Used)

END OF SECTION

SECTION 01 25 00 - SUBSTITUTION PROCEDURES

PART 1 - GENERAL

1.1 SUMMARY

- A. Section includes:
 - 1. Quality assurance.
 - 2. Product options.
 - 3. Product substitution procedures.
- B. Related Requirements:
 - 1. Other Division 01 Specification Sections apply to Work of this Section.

1.2 QUALITY ASSURANCE

- A. Contract is based on products and standards established in Contract Documents without consideration of proposed substitutions.
- B. Products specified define standard of quality, type, function, dimension, appearance, and performance required.
- C. Substitution Proposals: Permitted for specified products except where specified otherwise. Do not substitute products unless substitution has been accepted and approved in writing by Owner.

1.3 PRODUCT OPTIONS

- A. See Section 01 60 00 "Product Requirements."

1.4 PRODUCT SUBSTITUTION PROCEDURES

- A. Document General Conditions of Bidding - Specifies time restrictions for submitting requests for substitutions during Bidding period.
- B. Substitutions may be considered when a product becomes unavailable through no fault of Contractor.
- C. Document each request with complete data, substantiating compliance of proposed substitution with Contract Documents, including:
 - 1. Manufacturer's name and address, product, trade name, model, or catalog number, performance and test data, and reference standards.
 - 2. Itemized point-by-point comparison of proposed substitution with specified product, listing variations in quality, performance, and other pertinent characteristics.
 - 3. Reference to Article and Paragraph numbers in Specification Section.
 - 4. Cost data comparing proposed substitution with specified product and amount of net change to Contract Sum.
 - 5. Changes required in other Work.
 - 6. Availability of maintenance service and source of replacement parts as applicable.
 - 7. Certified test data to show compliance with performance characteristics specified.
 - 8. Samples when applicable or requested.
 - 9. Other information as necessary to assist Architect/Engineer's evaluation.

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- D. A request constitutes a representation that Bidder:
 - 1. Has investigated proposed product and determined that it meets or exceeds quality level of specified product.
 - 2. Will provide same warranty for substitution as for specified product.
 - 3. Will coordinate installation and make changes to other Work that may be required for the Work to be complete with no additional cost to Owner.
 - 4. Waives claims for additional costs or time extension that may subsequently become apparent.
 - 5. Will coordinate installation of the accepted substitute, making such changes as may be required for the Work to be complete in all respects.
 - 6. Will reimburse Owner and Engineer for review or redesign services associated with reapproval by authorities having jurisdiction.
 - E. Substitutions will not be considered when they are indicated or implied on Shop Drawing or Product Data submittals without separate written request or when acceptance will require revision to Contract Documents.

1.5 INSTALLER SUBSTITUTION PROCEDURES

- A. Document General Conditions of Bidding - Specifies time restrictions for submitting requests for substitutions during Bidding period.
- B. Document each request with:
 - 1. Installer's qualifications.
 - 2. Installer's experience in work similar to that specified.
 - 3. Other information as necessary to assist Architect/Engineer's evaluation.

PART 2 - PRODUCTS (Not Used)

PART 3 - EXECUTION (Not Used)

END OF SECTION

SECTION 01 30 00 - ADMINISTRATIVE REQUIREMENTS

PART 1 - GENERAL

1.1 SUMMARY

- A. Section includes:
 - 1. Coordination and Project conditions.
 - 2. Preconstruction meeting.
 - 3. Site mobilization meeting.
 - 4. Progress meetings.
 - 5. Preinstallation meetings.
 - 6. Closeout meeting.
 - 7. Alteration procedures.
- B. Related Requirements:
 - 1. Other Division 01 Specification Sections apply to Work of this Section.

1.2 COORDINATION AND PROJECT CONDITIONS

- A. Coordinate scheduling, submittals, and Work of various Sections of Project Manual to ensure efficient and orderly sequence of installation of interdependent construction elements.
- B. Verify that utility requirements and characteristics of operating equipment are compatible with building utilities. Coordinate Work of various Sections having interdependent responsibilities for installing, connecting to, and placing operating equipment in service.
- C. Coordinate space requirements, supports, and installation of mechanical and electrical Work indicated diagrammatically on Drawings. Follow routing shown for pipes, ducts, and conduit as closely as practical; place runs parallel with lines of building. Use spaces efficiently to maximize accessibility for other installations, for maintenance, and for repairs.
 - 1. Coordination Drawings: Prepare as required to coordinate all portions of Work. Show relationship and integration of different construction elements that require coordination during fabrication or installation to fit in space provided or to function as intended. Indicate locations where space is limited for installation and access and where sequencing and coordination of installations are important.
- D. Coordination Meetings: In addition to other meetings specified in this Section, hold coordination meetings with personnel and Subcontractors to ensure coordination of Work.
- E. In finished areas except as otherwise indicated, conceal pipes, ducts, and wiring within construction. Coordinate locations of fixtures and outlets with finish elements.
- F. Coordinate completion and clean-up of Work of separate Sections in preparation for Substantial Completion.
- G. After Owner's occupancy of premises, coordinate access to Site for correction of defective Work and Work not complying with Contract Documents, to minimize disruption of Owner's activities.

1.3 PRECONSTRUCTION MEETING

- A. Engineer will schedule and preside over meeting after Notice of Award.
- B. Attendance Required: Architect/Engineer, Owner, Resident Project Representative, Construction Manager, major Subcontractors, and Contractor.

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- C. Minimum Agenda:
 - 1. Distribution of Contract Documents
 - 2. Submission of list of Subcontractors, list of products, schedule of values, submittal schedule, and Progress Schedule.
 - 3. Designation of personnel representing parties in Contract, Inspector, and Engineer.
 - 4. Communication procedures.
 - 5. Procedures and processing of requests for interpretations, field decisions, submittals, substitutions, Applications for Payments, proposal request, Change Orders, and Contract closeout procedures.
 - 6. Scheduling.
 - 7. Critical Work sequencing.
 - D. Construction Manager: Record minutes and distribute **copies** to participants within 7 days after meeting, with electronic copies each to Engineer, Owner, and those affected by decisions made.

1.4 SITE MOBILIZATION MEETING

- A. Owner will schedule meeting at Project Site prior to Contractor occupancy. Construction Manager presides over meeting.
- B. Attendance Required: Engineer, Owner, Contractor, Contractor's superintendent, Construction Manager, and major Subcontractors.
- C. Minimum Agenda:
 - 1. Use of premises by Owner and Contractor.
 - 2. Owner's requirements.
 - 3. Construction facilities and controls provided by Owner.
 - 4. Temporary utilities provided by Contractor.
 - 5. Survey pipeline layout.
 - 6. Security and housekeeping procedures.
 - 7. Schedules.
 - 8. Procedures for testing.
 - 9. Procedures for maintaining record documents.
- D. Construction Manager: Record minutes and distribute copies to participants within 7 days after meeting, with electronics copies each to Engineer, Owner, and those affected by decisions made.

1.5 PROGRESS MEETINGS

- A. Schedule and administer meetings throughout progress of the Work at maximum monthly intervals.
- B. Make arrangements for meetings, prepare agenda with copies for participants, and preside over meetings.
- C. Attendance Required: Job superintendent, major Subcontractors and suppliers, and Engineer, Owner, as appropriate to agenda topics for each meeting.
- D. Minimum Agenda:
 - 1. Review minutes of previous meetings.
 - 2. Review of Work progress.
 - 3. Field observations, problems, and decisions.
 - 4. Identification of problems impeding planned progress.
 - 5. Review of submittal schedule and status of submittals.
 - 6. Review of off-Site fabrication and delivery schedules.
 - 7. Maintenance of Progress Schedule.
 - 8. Corrective measures to regain projected schedules.

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9. Planned progress during succeeding work period.
 10. Coordination of projected progress.
 11. Maintenance of quality and work standards.
 12. Effect of proposed changes on Progress Schedule and coordination.
 13. Other business relating to Work.
- E. Construction Manager: Record minutes and distribute copies to participants within 7 days after meeting, with electronic copies each to Engineer, Owner, and those affected by decisions made.

1.6 PREINSTALLATION MEETINGS

- A. When required in individual Specification Sections, convene preinstallation meetings at Project Site before starting Work of specific Section.
- B. Require attendance of parties directly affecting, or affected by, Work of specific Section.
- C. Notify Engineer 7 days in advance of meeting date.
- D. Prepare agenda and preside over meeting:
 1. Review conditions of installation, preparation, and installation procedures.
 2. Review coordination with related Work.
- E. Record minutes and distribute copies to participants within 7 days after meeting, with electronic copies each to Engineer, Owner, and those affected by decisions made.

1.7 CLOSEOUT MEETING

- A. Schedule Project closeout meeting with sufficient time to prepare for requesting Substantial Completion. Preside over meeting and be responsible for minutes.
- B. Attendance Required: Contractor Construction Manager, major Subcontractors, Engineer, Owner, and others appropriate to agenda.
- C. Notify Architect/Engineer 7 days in advance of meeting date.
- D. Minimum Agenda:
 1. Start-up of facilities and systems.
 2. Operations and maintenance manuals.
 3. Testing, adjusting, and balancing.
 4. System demonstration and observation.
 5. Operation and maintenance instructions for Owner's personnel.
 6. Contractor's inspection of Work.
 7. Contractor's preparation of an initial "punch list."
 8. Procedure to request Engineer inspection to determine date of Substantial Completion.
 9. Completion time for correcting deficiencies.
 10. Inspections by authorities having jurisdiction.
 11. Partial release of retainage.
 12. Final cleaning.
 13. Preparation for final inspection.
 14. Closeout Submittals:
 - a. Project record documents.
 - b. Operating and maintenance documents.
 - c. Operating and maintenance materials.
 - d. Affidavits.
 15. Final Application for Payment.
 16. Contractor's demobilization of Site.
 17. Maintenance.

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- E. Record minutes and distribute copies to participants within 7 days after meeting, with electronic copies each to Engineer, Owner, and those affected by decisions made.

PART 2 - PRODUCTS (Not Used)

PART 3 - EXECUTION (Not Used)

END OF SECTION

SECTION 01 32 16 - CONSTRUCTION PROGRESS SCHEDULE

PART 1 - GENERAL

1.1 SUMMARY

- A. Section includes:
 - 1. Web-based project management software package.
 - 2. Digital Project data licensing.
 - 3. Submittals.
 - 4. Quality assurance.
 - 5. Format for network analysis schedules.
 - 6. Network analysis schedules.
 - 7. Bar chart schedules.
 - 8. Review and evaluation.
 - 9. Updating schedules.
 - 10. Distribution.
- B. Related Requirements:
 - 1. Other Division 01 Specification Sections apply to Work of this Section.

1.2 WEB-BASED PROJECT MANAGEMENT SOFTWARE PACKAGE

- A. Web-Based Project Management Software Package: Use Engineer's web-based Project management software package for purposes of hosting and managing Project communication and documentation until final completion.
 - 1. Web-based Project management software includes, at a minimum, the following features:
 - a. Compilation of Project data, including Contractor, Subcontractors, Engineer, Engineer's consultants, Owner, and other entities involved in Project. Include names of individuals and contact information.
 - b. Access control for each entity for each workflow process, to determine entity's digital rights to create, modify, view, and print documents.
 - c. Document workflow planning, allowing customization of workflow among Project entities.
 - d. Create, log, track, and notify Project members of Project communications required in other Specification Sections, including, but not limited to, RFIs, submittals, minor changes in the Work, Construction Change Directives, and Change Orders.
 - e. Track status of each Project communication in real time, and log time and date when responses are provided.
 - f. Procedures for handling PDFs or similar file formats, allowing markups by each entity. Provide security features to lock markups against changes once submitted.
 - g. Process and track payment applications.
 - h. Process and track contract modifications.
 - i. Create and distribute meeting minutes.
 - j. Document management for Drawings, Specifications, and coordination Drawings, including revision control.
 - k. Management of construction progress photographs.
 - l. Mobile device compatibility, including smartphones and tablets.

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- B. Provide up to 7 Project management software user licenses for use by Owner, Construction Manager, Engineer, and Engineer's consultants. Provide 8 hours of software training at Engineer's office for web-based Project software users.
 - 1. At completion of Project, provide digital archive in format that is readable by common desktop software applications and acceptable to Engineer. Provide data in locked format to prevent further changes.
 - 2. Manufacturers:
 - a. Newforma, Inc.
 - 3. Products: Provide one of the above Project management software packages under the current published licensing agreements.

1.3 DIGITAL PROJECT DATA LICENSING

- A. Architect's/Engineer's Data Files Not Available: Engineer will not provide Engineer's CAD Drawing digital data files for Contractor's use during construction.

1.4 SUBMITTALS

- A. Within 10 days after date established in Notice to Proceed, submit proposed preliminary network diagram defining planned operations for first 60 days of Work, with general outline for remainder of Work.
- B. Participate in review of preliminary and complete network diagrams jointly with Engineer.
- C. Within 20 days after joint review of proposed preliminary network diagram, submit draft of proposed complete network diagram for review. Include written certification that major Subcontractors have reviewed and accepted proposed schedule.
- D. Within 10 days after joint review, submit complete network analysis consisting of network diagrams and mathematical analyses.
- E. Submit updated network schedules with each Application for Payment and at least every 30 days.
- F. Post as electronic file to Project website.
- G. Schedule Updates:
 - 1. Overall percent complete, projected and actual.
 - 2. Completion progress by listed activity and sub-activity, to within 5 working days prior to submittal.
 - 3. Changes in Work scope and activities modified since submittal.
 - 4. Delays in submittals or resubmittals, deliveries, or Work.
 - 5. Adjusted or modified sequences of Work.
 - 6. Other identifiable changes.
 - 7. Revised projections of progress and completion.
- H. Narrative Progress Report:
 - 1. Submit with each monthly submission of Progress Schedule.
 - 2. Summary of Work completed during the past period between reports.
 - 3. Work planned during the next period.
 - 4. Explanation of differences between summary of Work completed and Work planned in previously submitted report.
 - 5. Current and anticipated delaying factors and estimated impact on other activities and completion milestones.
 - 6. Corrective action taken or proposed.

1.5 QUALITY ASSURANCE

- A. Scheduler: Contractor's personnel specializing in scheduling with 2 years' minimum experience in scheduling construction work of complexity comparable to the Project, and having use of computer facilities capable of delivering detailed graphic printout within 48 hours of request.
- B. Contractor's Administrative Personnel: 2 years' minimum experience in using and monitoring schedules on comparable Projects.

1.6 NETWORK ANALYSIS SCHEDULES

- A. Bar Chart Schedules
 - 1. Format: Bar chart Schedule, to include at least:
 - a. Identification and listing in chronological order of those activities reasonably required to complete the Work, including:
 - 1) Subcontract Work.
 - 2) Major equipment design, fabrication, factory testing, and delivery dates including required lead times.
 - 3) Move-in and other preliminary activities.
 - 4) Equipment and equipment system test and startup activities.
 - 5) Project closeout and cleanup.
 - 6) Work sequences, constraints, and milestones.
 - b. Listings identified by Specification Section number.
 - c. Identification of the following:
 - 2. Horizontal time frame by year, month, and week.
 - 3. Duration, early start, and completion for each activity and subactivity.
 - 4. Critical activities and Project float.
 - 5. Subschedules to further define critical portions of Work.

1.7 REVIEW AND EVALUATION

- A. Participate in joint review and evaluation of schedules with Engineer at each submittal.
- B. Evaluate Project status to determine Work behind schedule and Work ahead of schedule.
- C. After review, revise schedules incorporating results of review, and resubmit within 10 days.

1.8 UPDATING SCHEDULES

- A. Maintain schedules to record actual start and finish dates of completed activities.
- B. Indicate progress of each activity to date of revision, with projected completion date of each activity. Update schedules to depict current status of Work.
- C. Identify activities modified since previous submittal, major changes in Work, and other identifiable changes.
- D. Upon approval of a Change Order, include the change in the next schedule submittal.
- E. Indicate changes required to maintain Date of Substantial Completion.
- F. Submit sorts as required to support recommended changes.
- G. Prepare narrative report to define problem areas, anticipated delays, and impact on schedule. Report corrective action taken or proposed and its effect.

1.9 DISTRIBUTION

- A. Following joint review, distribute copies of updated schedules to Contractor's Project site file, Subcontractors, suppliers, Engineer, Owner , and other concerned parties.
- B. Instruct recipients to promptly report, in writing, problems anticipated by projections shown in schedules.

PART 2 - PRODUCTS (Not Used)

PART 3 - EXECUTION (Not Used)

END OF SECTION

SECTION 01 33 00 - SUBMITTAL PROCEDURES

PART 1 - GENERAL

1.1 SUMMARY

- A. Section Includes:
 - 1. Definitions.
 - 2. Submittal procedures.
 - 3. Construction progress schedules.
 - 4. Proposed product list.
 - 5. Product data.
 - 6. Use of electronic CAD files of Project Drawings.
 - 7. Shop Drawings.
 - 8. Samples.
 - 9. Other submittals.
 - 10. Design data.
 - 11. Test reports.
 - 12. Certificates.
 - 13. Manufacturer's instructions.
 - 14. Manufacturer's field reports.
 - 15. Erection Drawings.
 - 16. Construction photographs.
 - 17. Contractor review.
 - 18. Engineer review.
- B. Related Requirements:
 - 1. Other Division 01 Specification Sections apply to Work of this Section.

1.2 DEFINITIONS

- A. Action Submittals: Written and graphic information and physical samples that require Engineer's and Construction Manager's responsive action.
- B. Informational Submittals: Written and graphic information and physical Samples that do not require Engineer's and Construction Manager's responsive action. Submittals may be rejected for not complying with requirements.

1.3 SUBMITTAL PROCEDURES

- A. Transmit each submittal with CSI Form 12.1A - Submittal Transmittal or Engineer-accepted form.
- B. Mark revised submittals with original number and sequential alphabetic suffix.
- C. Identify: Project, Contractor, Subcontractor and supplier, pertinent Drawing and detail number, and Specification Section number appropriate to submittal.
- D. Apply Contractor's stamp, signed or initialed, certifying that review, approval, verification of products required, field dimensions, adjacent construction Work, and coordination of information is according to requirements of the Work and Contract Documents.
- E. Schedule submittals to expedite Project, and post electronic submittals as PDF electronic files to Project website. Coordinate submission of related items.
- F. For each submittal for review, allow 15 days excluding delivery time to and from Contractor.

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- G. Identify variations in Contract Documents and product or system limitations that may be detrimental to successful performance of completed Work.
 - H. Allow space on submittals for Contractor and Engineer review stamps.
 - I. When revised for resubmission, identify changes made since previous submission.
 - J. Distribute copies of reviewed submittals as appropriate. Instruct parties to promptly report inability to comply with requirements.
 - K. Submittals not requested will not be recognized nor processed.
 - L. Incomplete Submittals: Engineer will not review. Complete submittals for each item are required. Delays resulting from incomplete submittals are not the responsibility of Engineer.

1.4 CONSTRUCTION PROGRESS SCHEDULES

- A. Comply with Section 01 32 16 "Construction Progress Schedule."

1.5 PROPOSED PRODUCT LIST

- A. Within 15 days after date of Notice to Proceed, submit list of major products proposed for use, with name of manufacturer, trade name, and model number of each product.
- B. For products specified only by reference standards, indicate manufacturer, trade name, model or catalog designation, and reference standards.

1.6 PRODUCT DATA

- A. Product Data: Action Submittal: Submit to Engineer for review for assessing conformance with information given and design concept expressed in Contract Documents.
- B. Post electronic submittals as PDF electronic files to Project website.
- C. Mark each copy to identify applicable products, models, options, and other data. Supplement manufacturers' standard data to provide information specific to this Project.
- D. Indicate product utility and electrical characteristics, utility connection requirements, and location of utility outlets for service for functional equipment and appliances.
- E. After review, produce copies and distribute according to Section 01 33 00 "Submittal Procedures" Article and for record documents described in Section 01 70 00 "Execution and Closeout Requirements."

1.7 ELECTRONIC CAD FILES OF PROJECT DRAWINGS

- A. Electronic CAD Files of Project Drawings: May only be used to expedite production of Shop Drawings for the Project. Use for other Projects or purposes is not allowed.
- B. Electronic CAD Files of Project Drawings: Distributed only under the following conditions:
 - 1. Use of files is solely at receiver's risk. Engineer does not warrant accuracy of files. Receiving files in electronic form does not relieve receiver of responsibilities for measurements, dimensions, and quantities set forth in Contract Documents. In the event of ambiguity, discrepancy, or conflict between information on electronic media and that in Contract Documents, notify Engineer of discrepancy and use information in hard-copy Drawings and Specifications.
 - 2. CAD files do not necessarily represent the latest Contract Documents, existing conditions, and as-built conditions. Receiver is responsible for determining and complying with these conditions and for incorporating addenda and modifications.

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3. User is responsible for removing information not normally provided on Shop Drawings and removing references to Contract Documents. Shop Drawings submitted with information associated with other trades or with references to Contract Documents will not be reviewed and will be immediately returned.
 4. Receiver shall not hold Architect/Engineer responsible for data or file clean-up required to make files usable, nor for error or malfunction in translation, interpretation, or use of this electronic information.
 5. Receiver shall understand that even though Engineer has computer virus scanning software to detect presence of computer viruses, there is no guarantee that computer viruses are not present in files or in electronic media.
 6. Receiver shall not hold Engineer responsible for such viruses or their consequences, and shall hold Architect/Engineer harmless against costs, losses, or damage caused by presence of computer virus in files or media.
- C. Costs: \$100 per file, plus \$0.825 sales tax per request paid in advance by certified check or money order payable to Engineer.

1.8 SHOP DRAWINGS

- A. Shop Drawings: Action Submittal: Submit to Engineer for assessing conformance with information given and design concept expressed in Contract Documents.
- B. Indicate special utility and electrical characteristics, utility connection requirements, and location of utility outlets for service for functional equipment and appliances.
- C. When required by individual Specification Sections, provide Shop Drawings signed and sealed by a professional Engineer responsible for designing components shown on Shop Drawings.
 1. Include signed and sealed calculations to support design.
 2. Submit Shop Drawings and calculations in form suitable for submission to and approval by authorities having jurisdiction.
 3. Make revisions and provide additional information when required by authorities having jurisdiction.
- D. Post electronic submittals as PDF electronic files to Project website.
- E. After review, produce copies and distribute according to Section 01 33 00 "Submittal Procedures" Article and for record documents described in Section 01 70 00 "Execution and Closeout Requirements."

1.9 SAMPLES

- A. Samples: Action Submittal: Submit to Engineer for assessing conformance with information given and design concept expressed in Contract Documents.
- B. Samples for Selection as Specified in Product Sections:
 1. Submit to Engineer for aesthetic, color, and finish selection.
 2. Submit Samples of finishes, textures, and patterns for Engineer selection.
- C. Submit Samples to illustrate functional and aesthetic characteristics of products, with integral parts and attachment devices. Coordinate Sample submittals for interfacing work.
- D. Include identification on each Sample, with full Project information.
- E. Submit number of Samples specified in individual Specification Sections; Engineer will retain 1 Sample.
- F. Reviewed Samples that may be used in the Work are indicated in individual Specification Sections.
- G. Samples will not be used for testing purposes unless specifically stated in Specification Section.

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- H. After review, produce copies and distribute according to Section 01 33 00 "Submittal Procedures" Article and for record documents described in Section 01 70 00 "Execution and Closeout Requirements."

1.10 OTHER SUBMITTALS

- A. Closeout Submittals: Comply with Section 01 70 00 "Execution and Closeout Requirements."
- B. Informational Submittal: Submit data for Engineer's knowledge as Contract administrator or for Owner.
- C. Submit information for assessing conformance with information given and design concept expressed in Contract Documents.

1.11 TEST REPORTS

- A. Informational Submittal: Submit reports for Engineer's knowledge as Contract administrator or for Owner.
- B. Submit test reports for information for assessing conformance with information given and design concept expressed in Contract Documents.

1.12 CERTIFICATES

- A. Informational Submittal: Submit certification by manufacturer, installation/application Subcontractor, or Contractor to Engineer, in quantities specified for Product Data.
- B. Indicate material or product conforms to or exceeds specified requirements. Submit supporting reference data, affidavits, and certifications as appropriate.
- C. Certificates may be recent or previous test results on material or product but must be acceptable to Engineer.

1.13 MANUFACTURER'S INSTRUCTIONS

- A. Informational Submittal: Submit manufacturer's installation instructions for Engineer's knowledge as Contract administrator or for Owner.
- B. Submit printed instructions for delivery, storage, assembly, installation, startup, adjusting, and finishing, to Engineer in quantities specified for Product Data.
- C. Indicate special procedures, perimeter conditions requiring special attention, and special environmental criteria required for application or installation.

1.14 MANUFACTURER'S FIELD REPORTS

- A. Informational Submittal: Submit reports for Engineer's knowledge as Contract administrator or for Owner.
- B. Submit report within 5 days of observation to Engineer for information.
- C. Submit reports for information for assessing conformance with information given and design concept expressed in Contract Documents.

1.15 ERECTION DRAWINGS

- A. Informational Submittal: Submit Drawings for Engineer's knowledge as Contract administrator or for Owner.
- B. Submit Drawings for information assessing conformance with information given and design concept expressed in Contract Documents.

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- C. Data indicating inappropriate or unacceptable Work may be subject to action by Engineer or Owner.

1.16 CONSTRUCTION PHOTOGRAPHS

- A. Provide photographs of Site and construction throughout progress of Work produced by an experienced photographer acceptable to Engineer.
- B. Submit photographs showing pre-construction conditions with first Application for Payment. Payment application will not be considered complete without pre-construction photos.
- C. Digital Images: Deliver complete set of digital image electronic files on CD-ROM or post to Project Website to Owner with Project record documents. Identify electronic media with date photographs were taken. Submit images that have same aspect ratio as sensor, uncropped.
 - 1. Digital Images: Uncompressed TIFF format, produced by digital camera with minimum sensor size of 4.0 megapixels, and image resolution of not less than 1600 by 1200 pixels.
 - 2. Date and Time: Include date and time in filename for each image.

1.17 CONTRACTOR REVIEW

- A. Review for compliance with Contract Documents and approve submittals before transmitting to Engineer and Construction Manager.
- B. Contractor: Responsible for:
 - 1. Determination and verification of materials including manufacturer's catalog numbers.
 - 2. Determination and verification of field measurements and field construction criteria.
 - 3. Checking and coordinating information in submittal with requirements of Work and of Contract Documents.
 - 4. Determination of accuracy and completeness of dimensions and quantities.
 - 5. Confirmation and coordination of dimensions and field conditions at Site.
 - 6. Construction means, techniques, sequences, and procedures.
 - 7. Safety precautions.
 - 8. Coordination and performance of Work of all trades.
- C. Stamp, sign or initial, and date each submittal to certify compliance with requirements of Contract Documents.
- D. Do not fabricate products or begin Work for which submittals are required until approved submittals have been received from Engineer.

1.18 ARCHITECT/ENGINEER REVIEW

- A. Do not make "mass submittals" to Engineer. "Mass submittals" are defined as six or more submittals or items in one day or 15 or more submittals or items in one week. If "mass submittals" are received, Engineer's review time stated above will be extended as necessary to perform proper review. Engineer will review "mass submittals" based on priority determined by Engineer after consultation with Owner and Construction Manager.
- B. Informational submittals and other similar data are for Engineer's information, do not require Engineer's responsive action, and will not be reviewed or returned with comment.
- C. Submittals made by Contractor that are not required by Contract Documents may be returned without action.
- D. Submittal approval does not authorize changes to Contract requirements unless accompanied by Change Order, or Field Order.

PART 2 - PRODUCTS (Not Used)

PART 3 - EXECUTION (Not Used)

END OF SECTION

SECTION 01 40 00 - QUALITY REQUIREMENTS

PART 1 - GENERAL

1.1 SUMMARY

- A. Section includes:
 - 1. Quality control.
 - 2. Tolerances.
 - 3. References.
 - 4. Labeling.
 - 5. Mockup requirements.
 - 6. Testing and inspection services.
 - 7. Manufacturers' field services.
- B. Related Requirements:
 - 1. Other Division 01 Specification Sections apply to Work of this Section.

1.2 QUALITY CONTROL

- A. Monitor quality control over suppliers, manufacturers, products, services, Site conditions, and workmanship, to produce Work of specified quality.
- B. Comply with specified standards as the minimum quality for the Work except where more stringent tolerances, codes, or specified requirements indicate higher standards or more precise workmanship.
- C. Perform Work using persons qualified to produce required and specified quality.
- D. Products, materials, and equipment may be subject to inspection by Engineer and Owner at place of manufacture or fabrication. Such inspections shall not relieve Contractor of complying with requirements of Contract Documents.
- E. Supervise performance of Work in such manner and by such means to ensure that Work, whether completed or in progress, will not be subjected to harmful, dangerous, damaging, or otherwise deleterious exposure during construction period.

1.3 TOLERANCES

- A. Monitor fabrication and installation tolerance control of products to produce acceptable Work. Do not permit tolerances to accumulate.
- B. Comply with manufacturers' recommended tolerances and tolerance requirements in reference standards. When such tolerances conflict with Contract Documents, request clarification from Engineer before proceeding.
- C. Adjust products to appropriate dimensions; position before securing products in place.

1.4 REFERENCES

- A. For products or workmanship specified by association, trade, or other consensus standards, comply with requirements of standard except when more rigid requirements are specified or are required by applicable codes.
- B. Conform to reference standard by date of issue current as of date for receiving Bids except where specific date is established by code.
- C. Obtain copies of standards and maintain on Site when required by product Specification Sections.

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- D. When requirements of indicated reference standards conflict with Contract Documents, request clarification from Engineer before proceeding.
 - E. Neither contractual relationships, duties, or responsibilities of parties in Contract nor those of Engineer shall be altered from Contract Documents by mention or inference in reference documents.

1.5 LABELING

- A. Attach label from agency approved by authorities having jurisdiction for products, assemblies, and systems required to be labeled by applicable code.
- B. Label Information: Include manufacturer's or fabricator's identification, approved agency identification, and the following information, as applicable, on each label:
 - 1. Model number.
 - 2. Serial number.
 - 3. Performance characteristics.
- C. Manufacturer's Nameplates, Trademarks, Logos, and Other Identifying Marks on Products: Not allowed on surfaces exposed to view in public areas, interior or exterior.

1.6 MOCK-UP REQUIREMENTS

- A. Tests will be performed under provisions identified in this Section and identified in individual product Specification Sections.
- B. Assemble and erect specified or indicated items with specified or indicated attachment and anchorage devices, flashings, seals, and finishes.
- C. Accepted mockups shall be comparison standard for remaining Work.
- D. Where mockup has been accepted by Engineer and is specified in product Specification Sections to be removed, remove mockup and clear area when directed to do so by Engineer.

1.7 TESTING AND INSPECTION SERVICES

- A. Employ and pay for services of an independent testing agency or laboratory acceptable to Owner to perform specified testing.
 - 1. Before starting Work, submit testing laboratory name, address, and telephone number, and names of full-time Professional Engineer and responsible officer.
 - 2. Submit copy of report of laboratory facilities' inspection made by Materials Reference Laboratory of National Bureau of Standards during most recent inspection, with memorandum of remedies of deficiencies reported by inspection.
- B. Testing, inspections, and source quality control may occur on or off Project Site. Perform off-Site testing as required by Engineer or Owner.
- C. Reports shall be submitted by independent firm to Architect/Engineer, Contractor, and authorities having jurisdiction, in duplicate, indicating observations and results of tests and compliance or noncompliance with Contract Documents.
 - 1. Submit final report indicating correction of Work previously reported as noncompliant.
- D. Cooperate with independent firm; furnish samples of materials, design mix, equipment, tools, storage, safe access, and assistance by incidental labor as requested.
 - 1. Notify Engineer and independent firm 24 hours before expected time for operations requiring services.
 - 2. Make arrangements with independent firm and pay for additional Samples and tests required for Contractor's use.

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- E. Employment of testing agency or laboratory shall not relieve Contractor of obligation to perform Work according to requirements of Contract Documents.
 - F. Retesting or re-inspection required because of nonconformance with specified or indicated requirements shall be performed by same independent firm on instructions from Engineer. Payment for retesting or re-inspection will be charged to Contractor by deducting testing charges from Contract Sum/Price.
 - G. Agency Responsibilities:
 - 1. Test Samples of mixes submitted by Contractor.
 - 2. Provide qualified personnel at Site. Cooperate with Engineer and Contractor in performance of services.
 - 3. Perform indicated sampling and testing of products according to specified standards.
 - 4. Ascertain compliance of materials and mixes with requirements of Contract Documents.
 - 5. Promptly notify Engineer and Contractor of observed irregularities or nonconformance of Work or products.
 - 6. Perform additional tests required by Engineer.
 - 7. Attend preconstruction meetings and progress meetings.
 - H. Agency Reports: After each test, promptly submit 2 copies of report to Engineer, Contractor, and authorities having jurisdiction. When requested by Engineer, provide interpretation of test results. Include the following:
 - 1. Date issued.
 - 2. Project title and number.
 - 3. Name of inspector.
 - 4. Date and time of sampling or inspection.
 - 5. Identification of product and Specification Section.
 - 6. Location in Project.
 - 7. Type of inspection or test.
 - 8. Date of test.
 - 9. Results of tests.
 - 10. Conformance with Contract Documents.
 - I. Limits on Testing Authority:
 - 1. Agency or laboratory may not release, revoke, alter, or enlarge on requirements of Contract Documents.
 - 2. Agency or laboratory may not approve or accept any portion of Work.
 - 3. Agency or laboratory may not assume duties of Contractor.
 - 4. Agency or laboratory has no authority to stop Work.

1.8 MANUFACTURER'S FIELD SERVICES

- A. When specified in individual Specification Sections, require material or product suppliers or manufacturers to provide qualified staff personnel to observe Site conditions, conditions of surfaces and installation, quality of workmanship, startup of equipment, testing, adjusting, and balancing of equipment commissioning as applicable, and to initiate instructions when necessary.
- B. Submit qualifications of observer to Engineer 30 days in advance of required observations. Observer is subject to approval of Owner.
- C. Report observations and Site decisions or instructions given to applicators or installers that are supplemental or contrary to manufacturer's written instructions.
- D. Refer to Section 01 33 00 "Submittal Procedures," "Manufacturer's Field Reports" Article.

PART 2 - PRODUCTS - Not Used

PART 3 - EXECUTION - Not Used

END OF SECTION

SECTION 01 43 26 - TESTING LABORATORY SERVICES

PART 1 - GENERAL

1.1 SUMMARY

- A. Section Includes:
 - 1. References.
 - 2. Selection and payment.
 - 3. Quality Assurance.
 - 4. Contractor submittals.
 - 5. Laboratory responsibilities.
 - 6. Laboratory reports.
 - 7. Limits on testing laboratory authority.
 - 8. Contractor responsibilities.
 - 9. Schedule of inspections and tests.
- B. Related Sections:
 - 1. Other Division 01 Specification Sections apply to Work of this Section.

1.2 REFERENCES

- A. ASTM C1077 - Standard Practice for Agencies Testing Concrete and Concrete Aggregates for Use in Construction and Criteria for Testing Agency Evaluation.
- B. ASTM D3666 - Standard Specification for Minimum Requirements for Agencies Testing and Inspecting Road and Paving Materials.
- C. ASTM D3740 - Standard Practice for Minimum Requirements for Agencies Engaged in Testing/Inspection of Soil and Rock as Used in Engineering Design and Construction.
- D. ASTM E329 - Standard Specification for Minimum Requirements for Agencies Engaged in Construction Inspection, Testing, or Special Inspection.
- E. ISO/IEC 17025.

1.3 SELECTION AND PAYMENT

- A. Contractor shall employ and pay for services of an independent testing laboratory to perform specified inspection and testing.
- B. Employment of testing laboratory shall in no way relieve Contractor of obligation to perform work per Contract Document requirements.

1.4 QUALITY ASSURANCE

- A. Comply with requirements of ASTM C1077, D3666, D3740, E329, and ISO/IEC 17025.
- B. Laboratory: Authorized to operate in State of Texas.
- C. Laboratory Staff: Maintain a full-time, on-staff, registered Engineer to review services.

1.5 CONTRACTOR SUBMITTALS

- A. Before starting Work, submit testing laboratory name, address, and phone number, as well as names of full-time registered Engineer and responsible officer.
- B. Submit copy of laboratory facility inspection report made by Materials Reference Laboratory of National Bureau of Standards during most recent inspection, with remedy memorandum of deficiencies reported by inspection.

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- C. Submit Testing Laboratory firm's reports to the distribution list the Engineer provided at preconstruction conference, indicating observations and results of tests and indicating compliance or non-compliance with Contract Documents.
 - D. Testing and employment of testing agency or laboratory does not relieve Contractor from performing Work to Contract requirements.
 - E. Retest/reinspect required because of non-conformance to specified requirements using same testing agency or laboratory. Payment for retesting is Contractor responsibility.

1.6 LABORATORY RESPONSIBILITIES

- A. Test samples of mixes submitted by Contractor.
- B. Provide qualified personnel onsite. Cooperate with Engineer and Contractor in service performance.
- C. Perform specified inspection, sampling, and testing of Products per specified standards.
- D. Ascertain compliance of materials and mixes with Contract Document requirements.
- E. Promptly notify Engineer and Contractor of observed irregularities or non-conformance of Work or Products.
- F. Perform additional inspections and tests required by Engineer.

1.7 LABORATORY REPORTS

- A. After each inspection and test, promptly distribute reports to distribution list provided by Engineer at preconstruction conference.
- B. Include:
 - 1. Date issued.
 - 2. Project title and number.
 - 3. Name of inspector.
 - 4. Date and time of sampling or inspection.
 - 5. Identification of product and Specification Section.
 - 6. Location in Project.
 - 7. Type of inspection or test.
 - 8. Date of test.
 - 9. Results of tests.
 - 10. Conformance with Contract Documents.
- C. When requested by Engineer, provide interpretation of test results.

1.8 LIMITS ON TESTING LABORATORY AUTHORITY

- A. Laboratory may not release, revoke, alter, or enlarge Contract Document requirements.
- B. Laboratory may not approve or accept any portion of Work.
- C. Laboratory may not assume any duties of Contractor.
- D. Laboratory has no authority to stop the Work.

1.9 CONTRACTOR RESPONSIBILITIES

- A. Deliver to laboratory at designated location, adequate samples of materials proposed to use which require testing, along with proposed mix designs.
- B. Cooperate with laboratory personnel and provide access to Work and manufacturer facilities.
- C. Provide incidental labor and facilities to provide access to Work to test, obtain, and handle samples at site or source of products to test, facilitate tests and inspections, storage, and curing test samples.

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- D. Notify Engineer and laboratory 24 hours before expected time for operations requiring inspection and testing services.

1.10 SCHEDULE OF INSPECTIONS AND TESTS

- A. As indicated in individual Specifications and Special Provisions (Water Utilities).

PART 2 - PRODUCTS (Not Used)

PART 3 - EXECUTION (Not Used)

END OF SECTION

SECTION 01 50 00 - TEMPORARY FACILITIES AND CONTROLS

PART 1 - GENERAL

1.1 SUMMARY

- A. Section includes:
 - 1. Temporary facilities under Construction Management Agreement.
 - 2. Temporary Utilities:
 - a. Temporary electricity.
 - b. Temporary lighting for construction purposes.
 - c. Temporary ventilation.
 - d. Temporary water service.
 - e. Temporary sanitary facilities.
 - 3. Construction Facilities:
 - a. Field offices and sheds.
 - b. Vehicular access.
 - c. Parking.
 - d. Progress cleaning and waste removal.
 - e. Project identification.
 - f. Traffic regulation.
 - g. Fire-prevention facilities.
 - 4. Temporary Controls:
 - a. Barriers.
 - b. Enclosures and fencing.
 - c. Security.
 - d. Water control.
 - e. Dust control.
 - f. Erosion and sediment control.
 - g. Noise control.
 - h. Pest and rodent control.
 - i. Pollution control.
 - 5. Removal of utilities, facilities, and controls.
- B. Related Requirements:
 - 1. Other Division 01 Specification Sections apply to Work of this Section.

1.2 REFERENCES

- A. ASTM International:
 - 1. ASTM E 84 - Standard Test Method for Surface Burning Characteristics of Building Materials.
 - 2. ASTM E 90 - Standard Test Method for Laboratory Measurement of Airborne Sound Transmission Loss of Building Partitions and Elements.
 - 3. ASTM E 119 - Standard Test Methods for Fire Tests of Building Construction and Materials.

1.3 TEMPORARY ELECTRICITY

- A. Provide and pay for power service required from utility or other sources source as needed for construction operation.

1.4 TEMPORARY VENTILATION

- A. Ventilate enclosed areas to achieve curing of materials, to dissipate humidity, and to prevent accumulation of dust, fumes, vapors, or gases.

1.5 TEMPORARY WATER SERVICE

- A. Provide and pay for suitable quality water service as needed to maintain specified conditions for construction operations.

1.6 TEMPORARY SANITARY FACILITIES

- A. Provide and maintain required facilities and enclosures. Existing facility use is not permitted. Provide facilities at time of Project mobilization.

1.7 FIELD OFFICES AND SHEDS

- A. Storage Areas and Sheds: Size to storage requirements for products of individual Sections, allowing for access and orderly provision for maintenance and inspection of products to suit requirements in Section 01 60 00 "Product Requirements."
- B. Preparation: Fill and grade Sites for temporary structures sloped for drainage away from buildings.

1.8 VEHICULAR ACCESS

- A. Construct temporary access roads from public thoroughfares to serve construction area, of width and load-bearing capacity to accommodate unimpeded traffic for construction purposes.
- B. Construct temporary bridges and culverts to span low areas and allow unimpeded drainage.
- C. Extend and relocate vehicular access as Work progress requires and provide detours as necessary for unimpeded traffic flow.
- D. Locate as indicated on Drawings.
- E. Provide unimpeded access for emergency vehicles. Maintain 20 foot-wide driveways with turning space between and around combustible materials.
- F. Provide and maintain access to fire hydrants and control valves free of obstructions.
- G. Provide means of removing mud from vehicle wheels before entering streets.
- H. Do not use existing on-Site roads for construction traffic.

1.9 PARKING

- A. Provide temporary gravel surface parking areas to accommodate construction personnel.
- B. Locate as indicated on Drawings.
- C. If Site space is not adequate, provide additional off-Site parking.
- D. Use of existing on-Site streets and driveways used for construction traffic is not permitted. Tracked vehicles are not allowed on paved areas.
- E. Use of existing parking facilities used by construction personnel is not permitted.
- F. Do not allow heavy vehicles or construction equipment in parking areas.
- G. Do not allow vehicle parking on existing pavement.

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- H. Maintenance:
 - 1. Maintain traffic and parking areas in sound condition free of excavated material, construction equipment, products, mud, snow, ice, and the like.
 - 2. Maintain existing paved areas used for construction; promptly repair breaks, potholes, low areas, standing water, and other deficiencies, to maintain paving and drainage in original condition.
 - I. Removal, Repair:
 - 1. Remove temporary materials and construction at Substantial Completion.
 - 2. Remove underground Work and compacted materials to depth of 2 feet; fill and grade Site as indicated.
 - 3. Repair existing facilities damaged by use, to original condition.
 - J. Mud from Site vehicles: Provide means of removing mud from vehicle wheels before entering streets.

1.10 PROGRESS CLEANING AND WASTE REMOVAL

- A. Maintain areas free of waste materials, debris, and rubbish. Maintain Site in clean and orderly condition.
- B. Remove debris and rubbish from pipe chases, plenums, attics, crawl spaces, and other closed or remote spaces, before enclosing spaces.
- C. Broom and vacuum clean interior areas before starting surface finishing, and continue cleaning to eliminate dust.
- D. Collect and remove waste materials, debris, and rubbish from Site as needed and dispose of off-Site.
- E. Open free-fall chutes are not permitted. Terminate closed chutes into appropriate containers with lids.

1.11 PROJECT IDENTIFICATION

- A. Project Identification Sign:
 - 1. One painted sign of construction, design, and content shown on Drawings, location designated.
 - 2. Content:
 - a. Project number, title, and name of Owner.
 - b. Names and titles of authorities.
 - c. Names and titles of Engineer and Consultants.
 - d. Name of Prime Contractor.
- B. Project Informational Signs:
 - 1. Painted informational signs of same colors and lettering as Project identification sign or standard products; size lettering for legibility at 100-foot distance.
 - 2. Provide sign at each field office and storage shed,. Relocate as Work progress requires.
 - 3. No other signs are allowed without Owner's permission except those required by law.
- C. Design sign and structure to withstand 60-mph wind velocity.
- D. Finishes, Painting: Adequate to withstand weathering, fading, and chipping for duration of construction.
- E. Show content, layout, lettering, color.

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- F. Sign Materials:
 - 1. Structure and Framing: wood or metal, structurally adequate.
 - 2. Sign Surfaces: Exterior grade plywood with medium-density overlay, minimum of 3/4-inch thick, standard large sizes to minimize joints.
 - 3. Rough Hardware: Galvanized aluminum.
 - 4. Paint and Primers: Exterior quality, 2 coats; sign background of color.
 - 5. Lettering: Exterior quality paint, contrasting colors.
 - G. Installation:
 - 1. Install Project identification sign within 15 days after date established by Notice to Proceed.
 - 2. Erect at location of high public visibility adjacent to main entrance to Site.
 - 3. Erect supports and framing on secure foundation, rigidly braced and framed to resist wind loadings.
 - 4. Install sign surface plumb and level, with butt joints. Anchor securely.
 - 5. Paint exposed surfaces of sign, supports, and framing.
 - H. Maintenance: Maintain clean signs and supports; repair deterioration and damage.
 - I. Removal: Remove signs, framing, supports, and foundations at completion of Project and restore area.

1.12 TRAFFIC REGULATION

- A. Signs, Signals, and Devices:
 - 1. Post-Mounted and Wall-Mounted Traffic Control and Informational Signs: As approved by authorities having jurisdiction.
 - 2. Traffic Control Signals: As approved by local jurisdictions.
 - 3. Traffic Cones, Drums, Flares, and Lights: As approved by authorities having jurisdiction.
 - 4. Flag Person Equipment: As required by authorities having jurisdiction.
- B. Flag Persons: Provide trained and equipped flag persons to regulate traffic when construction operations or traffic encroach on public traffic lanes.
- C. Flares and Lights: Use flares and lights during hours of low visibility to delineate traffic lanes and to guide traffic.
- D. Haul Routes:
 - 1. Consult with authorities having jurisdiction and establish public thoroughfares to be used for haul routes and Site access. Contractor must notify City of Midland Utility Department, in writing, of any proposed dump site(s) for overburden for review and approval. Contractor must obtain approval of its truck route to Site before removal of overburden from Project Site.
- E. Traffic Signs and Signals:
 - 1. Provide signs at approaches to Site and on Site, at crossroads, detours, parking areas, and elsewhere as needed to direct construction and affected public traffic.
 - 2. Provide, operate, and maintain traffic control signals to direct and maintain orderly flow of traffic in areas under Contractor's control and areas affected by Contractor's operations.
 - 3. Relocate signs and signals as Work progresses, to maintain effective traffic control.
- F. Removal:
 - 1. Remove equipment and devices when no longer required.
 - 2. Repair damage caused by installation.
 - 3. Remove post settings to depth of 2 feet.

1.13 FIRE-PREVENTION FACILITIES

- A. Prohibit smoking within buildings under construction and demolition. Designate area on Site where smoking is permitted. Provide approved ashtrays in designated smoking areas.
- B. Establish fire watch for cutting, welding, and other hazardous operations capable of starting fires. Maintain fire watch before, during, and after hazardous operations until threat of fire does not exist.

1.14 SECURITY

- A. Security Program:
 - 1. Protect Work on existing premises from theft, vandalism, and unauthorized entry.
 - 2. Initiate program at Project mobilization.
 - 3. Maintain program throughout construction period until Final Completion.
- B. Entry Control:
 - 1. Restrict entrance of persons and vehicles to Project Site and existing facilities.
 - 2. Allow entrance only to authorized persons with proper identification.
 - 3. Maintain log of workers and visitors and make available to Owner on request.
 - 4. Owner will control entrance of persons and vehicles related to Owner's operations.

1.15 WATER CONTROL

- A. Grade Site to drain. Maintain excavations free of water. Provide, operate, and maintain necessary pumping equipment.
- B. Protect Site from puddles or running water. Provide water barriers as required to protect Site from soil erosion.

1.16 DUST CONTROL

- A. Execute Work by methods that minimize raising dust from construction operations.
- B. Provide positive means to prevent airborne dust from dispersing into atmosphere.

1.17 EROSION AND SEDIMENT CONTROL

- A. Follow requirements of Section 01 57 23 "Stormwater Pollution Control."
- B. Plan and execute construction by methods to control surface drainage from cuts and fills from borrow and waste disposal areas. Prevent erosion and sedimentation.
- C. Minimize surface area of bare soil exposed at one time.
- D. Provide temporary measures including berms, dikes, drains, and other devices to prevent water flow.
- E. Construct fill and waste areas by selective placement to avoid erosive surface silts and clays.
- F. Periodically inspect earthwork to detect evidence of erosion and sedimentation. Promptly apply corrective measures.

1.18 POLLUTION CONTROL

- A. Provide methods, means, and facilities to prevent contamination of soil, water, and atmosphere from discharge of noxious, toxic substances and pollutants produced by construction operations.

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- B. Comply with pollution and environmental control requirements of authorities having jurisdiction.

1.19 REMOVAL OF UTILITIES, FACILITIES, AND CONTROLS

- A. Remove temporary utilities, equipment, facilities, and materials before Substantial Completion inspection.
- B. Remove underground installations to minimum depth of 2 feet.
- C. Clean and repair damage caused by installation or use of temporary Work.
- D. Restore existing and permanent facilities used during construction to original condition.
Restore permanent facilities used during construction to specified condition.

PART 2 - PRODUCTS (Not Used)

PART 3 - EXECUTION (Not Used)

END OF SECTION

SECTION 01 57 23 - TEMPORARY STORMWATER POLLUTION CONTROL

PART 1 - GENERAL

1.1 SUMMARY

- A. Section Includes:
 - 1. Contractor responsibilities.
 - 2. Submittals.
 - 3. Erosion and sediment controls.
- B. Related Requirements:
 - 1. Local jurisdiction requirements.
 - 2. Division 01 Specification Sections apply to Work of this Section.

1.2 CONTRACTOR RESPONSIBILITIES

- A. Contractor is solely responsible for meeting all TCEQ and EPA requirements for stormwater pollution prevention:
 - 1. Develop a Stormwater Pollution Prevention Plan (SWPPP);
 - 2. File Notice of Intent (NOI) and include Owner as an "Operator;"
 - 3. Install and maintain all erosion control measures and best management practices (BMPs);
 - 4. Perform inspections and prepare reports; and
 - 5. File Notice of Termination (NOT).

1.3 SUBMITTALS

- A. Submit to Engineer, SWPPP, Submittal Procedures, and all other related documentation conforming to Section 01 30 00 "Submittal Procedures."

1.4 EROSION AND SEDIMENT CONTROLS

- A. Implement structural measures to divert flows from exposed soils, temporarily store flows, or otherwise limit run-off and discharge of pollutants from exposed areas of site. Timely implement structural practices as specified in SWPPP during construction to minimize erosion and sediment run-off.
- B. Stabilized Ingress/Egress:
 - 1. Provide stabilized access to/from construction site as soon as practical per SWPPP.
 - 2. Ensure any soil tracked off-site is cleaned from existing roads, alleys, and any adjacent properties as soon as possible. Check for any pollutants (mud, silt, sand, cement, construction materials, etc.) tracked or washed off-site and perform necessary clean-up measures at the end of each workday.
- C. Silt Fences/Diversion Berms: Provide as a temporary structural practice to minimize erosion and sediment runoff, as necessary. Properly install silt fences and/or diversion berms to effectively retain sediment immediately after completing each phase of Work where erosion would occur as sheet and rill erosion (clearing and grubbing, excavation, embankment, grading, etc.).

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- D. Sand/Gravel Bags: Provide as a temporary structural practice to minimize erosion and sediment runoff. Properly place bags to effectively retain sediment immediately after completing each phase of Work (clearing and grubbing, excavation, embankment, grading, etc.) in each independent runoff area (after clearing and grubbing between ridge and drain, place bags as Work progresses, remove/replace/relocate bags as needed for Work to progress in drainage area). Replace sand/gravel bags no longer in good condition, as needed.
- E. Site Stabilization:
1. Minimize surface area of base soil material at one time.
 2. Implement necessary stabilization measures including:
 - a. Temporary/permanent seeding/sodding;
 - b. Mulching;
 - c. Geotextiles;
 - d. Vegetative buffer strips;
 - e. Paving;
 - f. Rock riprap; and/or
 - g. Rock-filled gabions.
 - h. Inlet protection.
 3. Implement stabilization measures per SWPPP.

PART 2 - PRODUCTS (Not Used)

PART 3 - EXECUTION (Not Used)

END OF SECTION

SECTION 01 60 00 - PRODUCT REQUIREMENTS

PART 1 - GENERAL

1.1 SUMMARY

- A. Section includes:
 - 1. Products.
 - 2. Product delivery requirements.
 - 3. Product storage and handling requirements.
 - 4. Product options.
 - 5. Equipment electrical characteristics and components.
- B. Related Requirements:
 - 1. Other Division 01 Specification Sections apply to Work of this Section.

1.2 PRODUCTS

- A. At minimum, comply with specified requirements and reference standards.
- B. Specified products define standard of quality, type, function, dimension, appearance, and performance required.
- C. Furnish products of qualified manufacturers that are suitable for intended use. Furnish products of each type by single manufacturer unless specified otherwise. Confirm that manufacturer's production capacity can provide sufficient product, on time, to meet Project requirements.
- D. All iron and steel products produced through a manufacturing process and used in Project shall be produced in the United States in accordance with Government Code §2252.202, et seq., as amended.
- E. Do not use materials and equipment removed from existing premises except as specifically permitted by Contract Documents.
- F. Furnish interchangeable components from same manufacturer for components being replaced.

1.3 PRODUCT DELIVERY REQUIREMENTS

- A. Comply with delivery requirements in Section 01 74 19 "Construction Waste Management and Disposal."
- B. Transport and handle products according to manufacturer's instructions.
- C. Promptly inspect shipments to ensure products comply with requirements, quantities are correct, and products are undamaged.
- D. Provide equipment and personnel to handle products; use methods to prevent soiling, disfigurement, or damage.

1.4 PRODUCT STORAGE AND HANDLING REQUIREMENTS

- A. Store and protect products according to manufacturer's instructions.
- B. Store products with seals and labels intact and legible.
- C. Store sensitive products in weathertight, climate-controlled enclosures in an environment suitable to product.
- D. For exterior storage of fabricated products, place products on sloped supports aboveground.

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- E. Provide bonded off-Site storage and protection when Site does not permit on-Site storage or protection.
 - F. Cover products subject to deterioration with impervious sheet covering. Provide ventilation to prevent condensation and degradation of products.
 - G. Store loose granular materials on solid flat surfaces in well-drained area. Prevent mixing with foreign matter.
 - H. Provide equipment and personnel to store products; use methods to prevent soiling, disfigurement, or damage.
 - I. Arrange storage of products to permit access for inspection. Periodically inspect to verify products are undamaged and are maintained in acceptable condition.

1.5 PRODUCT OPTIONS

- A. Products Specified by Reference Standards or by Description Only: Products complying with specified reference standards or description.
- B. Products Specified by Naming One or More Manufacturers: Products of one of manufacturers named and complying with Specifications; no options or substitutions allowed.
- C. Products Specified by Naming One or More Manufacturers with Provision for Substitutions: Submit Request for Substitution for any manufacturer not named, according to Section 01 25 00 "Substitution Procedures."

PART 2 - PRODUCTS

2.1 EQUIPMENT ELECTRICAL CHARACTERISTICS AND COMPONENTS

- A. Wiring Terminations: Furnish terminal lugs to match branch circuit conductor quantities, sizes, and materials indicated. Include lugs for terminal box.
- B. Cord and Plug: Furnish minimum 6-foot long cord and plug including grounding connector for connection to electric wiring system. Cord of longer length may be specified in individual Specification Sections.

PART 3 - EXECUTION (Not Used)

END OF SECTION

SECTION 01 70 00 - EXECUTION AND CLOSEOUT REQUIREMENTS

PART 1 - GENERAL

1.1 SUMMARY

- A. Section includes:
 - 1. Examination.
 - 2. Preparation.
 - 3. Coordination of Owner's portion of the Work.
 - 4. Field engineering.
 - 5. Execution.
 - 6. Cutting and patching.
 - 7. Protecting installed construction.
 - 8. Starting of systems.
 - 9. Demonstration and instruction.
 - 10. Testing, adjusting, and balancing.
 - 11. Closeout procedures.
 - 12. Project record documents.
 - 13. Operation and maintenance data.
 - 14. Manual for materials and finishes.
 - 15. Manual for equipment and systems.
 - 16. Spare parts and maintenance products.
 - 17. Product warranties and product bonds.
 - 18. Maintenance service.
 - 19. Final cleaning.
- B. Related Requirements:
 - 1. Other Division 01 Specification Sections apply to Work of this Section.

1.2 EXAMINATION

- A. Verify that existing Site conditions and substrate surfaces are acceptable for subsequent Work. Beginning new Work means acceptance of existing conditions.
- B. Verify that existing substrate is capable of structural support or attachment of new Work being applied or attached.
- C. Examine and verify specific conditions described in individual Specification Sections.
- D. Verify that utility services are available with correct characteristics and in correct locations.

1.3 PREPARATION

- A. Clean substrate surfaces prior to applying next material or substance according to manufacturer's instructions.
- B. Seal cracks or openings of substrate prior to applying next material or substance.
- C. Apply manufacturer-required or -recommended substrate primer, sealer, or conditioner prior to applying new material or substance in contact or bond.

1.4 FIELD ENGINEERING

- A. Employ land surveyor registered in State of Texas and acceptable to Owner.
- B. Locate and protect survey controls and reference points. Promptly notify Engineer of discrepancies discovered.
- C. Control datum for survey is established by Owner-provided survey and indicated on Drawings.
- D. Verify setbacks and easements; confirm Drawing dimensions and elevations.
- E. Provide field engineering services. Establish elevations, lines, and levels using recognized engineering survey practices.
- F. Submit copy of certificate signed by land surveyor certifying elevations and locations of Work are in conformance with Contract Documents.
- G. Maintain complete and accurate log of control and survey Work as Work progresses.
- H. Protect survey control points prior to starting Site Work; preserve permanent reference points during construction.
- I. Promptly report to Engineer loss or destruction of reference point or relocation required because of changes in grades or other reasons.
- J. Replace dislocated survey control points based on original survey control. Make no changes without prior written notice to Engineer.

1.5 EXECUTION

- A. Comply with manufacturer's installation instructions, performing each step in sequence. Maintain one set of manufacturer's installation instructions at Project Site during installation and until completion of construction.
- B. When manufacturer's installation instructions conflict with Contract Documents, request clarification from Engineer before proceeding.
- C. Verify that field measurements are as indicated on approved Shop Drawings or as instructed by manufacturer.
- D. Secure products in place with positive anchorage devices designed and sized to withstand stresses, vibration, physical distortion, or disfigurement.
 - 1. Secure Work true to line and level and within specified tolerances, or if not specified, industry-recognized tolerances.
 - 2. Physically separate products in place and provide electrical insulation or protective coatings to prevent galvanic action or corrosion between dissimilar metals.
 - 3. Exposed Joints: Provide uniform joint width and arrange to obtain best visual effect. Refer questionable visual effect choices to Engineer for final decision.
- E. Allow for expansion of materials and building movement.
- F. Climatic Conditions and Project Status: Install each unit of Work under conditions to ensure best possible results in coordination with entire Project.
 - 1. Isolate each unit of Work from incompatible Work as necessary to prevent deterioration.
 - 2. Coordinate enclosure of Work with required inspections and tests to minimize necessity of uncovering Work for those purposes.
- G. Mounting Heights: Where not indicated, mount individual units of Work at industry-recognized standard mounting heights for particular application indicated.
 - 1. Refer questionable mounting height choices to Engineer for final decision.
 - 2. Elements Identified as Handicap Accessible: Comply with applicable codes and regulations.

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- H. Adjust operating products and equipment to ensure smooth and unhindered operation.
 - I. Clean and perform maintenance on installed Work as frequently as necessary through remainder of construction period. Lubricate operable components as recommended by manufacturer.

1.6 CUTTING AND PATCHING

- A. Employ skilled and experienced Installers to perform cutting and patching.
- B. Submit written request in advance of cutting or altering elements affecting the following:
 - 1. Structural integrity of element.
 - 2. Integrity of weather-exposed or moisture-resistant elements.
 - 3. Efficiency, maintenance, or safety of element.
 - 4. Visual qualities of sight-exposed elements.
 - 5. Work of Owner or separate Contractor.
- C. Execute cutting, fitting, and patching, including excavation and fill, to complete Work and to accomplish the following:
 - 1. Fit the several parts together, to integrate with other Work.
 - 2. Uncover Work to install or correct ill-timed Work.
 - 3. Remove and replace defective and nonconforming Work.
 - 4. Remove samples of installed Work for testing.
 - 5. Provide openings in elements of Work for penetrations of mechanical and electrical Work.
- D. Execute Work by methods to avoid damage to other Work and to provide proper surfaces to receive patching and finishing.
- E. Cut masonry and concrete materials using masonry saw or core drill.
- F. Restore Work with new products according to requirements of Contract Documents.
- G. Fit Work tight to pipes, sleeves, ducts, conduits, and other penetrations through surfaces.
- H. Maintain integrity of wall, ceiling, or floor construction; completely seal voids.
- I. Refinish surfaces to match adjacent finishes. For continuous surfaces, refinish to nearest intersection; for assembly, refinish entire unit.
- J. Identify the hazardous substances or conditions exposed during the Work to Engineer for decision or remedy.

1.7 PROTECTING INSTALLED CONSTRUCTION

- A. Protect installed Work and provide special protection where specified in individual Specification Sections.
- B. Provide temporary and removable protection for installed products. Control activity in immediate Work area to prevent damage.

1.8 STARTING OF SYSTEMS

- A. Coordinate schedule for startup of various equipment and systems.
- B. Notify Engineer 14 days prior to startup of each item. Start up date shall not be scheduled until proposed date has been accepted by Owner and Engineer.
- C. Verify that each piece of equipment or system has been checked for proper lubrication, drive rotation, belt tension, control sequence, and for conditions that may cause damage.
- D. Verify that tests, meter readings, and electrical characteristics agree with those required by equipment or system manufacturer.
- E. Verify that wiring and support components for equipment are complete and tested.
- F. Execute startup under supervision of manufacturer's representative or Contractors' personnel according to manufacturer's instructions.

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- G. When specified in individual Specification Sections, require manufacturer to provide authorized representative who will be present at Site to inspect, check, and approve equipment or system installation prior to startup and will supervise placing equipment or system in operation.
 - H. Submit a written report in accordance with Section 01 33 00 "Submittal Procedures" stating that equipment or system has been properly installed and is functioning correctly.

1.9 CLOSEOUT PROCEDURES

- A. Prerequisites to Substantial Completion: Complete following items before requesting Certification of Substantial Completion, either for entire Work or for portions of Work:
 - 1. Submit maintenance manuals, Project record documents, digital images of construction photographs, and other similar final record data in compliance with this Section.
 - 2. Complete facility startup, testing, adjusting, balancing of systems and equipment, demonstrations, and instructions to Owner's operating and maintenance personnel as specified in compliance with this Section.
 - 3. Conduct inspection to establish basis for request that Work is substantially complete. Create comprehensive list (initial punch list) indicating items to be completed or corrected, value of incomplete or nonconforming Work, reason for being incomplete, and date of anticipated completion for each item. Include copy of list with request for Certificate of Substantial Completion.
 - 4. Obtain and submit releases enabling Owner's full, unrestricted use of Project and access to services and utilities. Include certificate of occupancy, operating certificates, and similar releases from authorities having jurisdiction and utility companies.
 - 5. Deliver tools, spare parts, extra stocks of material, and similar physical items to Owner.
 - 6. Make final change-over of locks and transmit keys directly to Owner. Advise Owner's personnel of change-over in security provisions.
 - 7. Discontinue or change over and remove temporary facilities and services from Project Site, along with construction tools, mockups, and similar elements.
 - 8. Perform final cleaning according to this Section.
- B. Substantial Completion Inspection:
 - 1. When Contractor considers Work to be substantially complete, submit to Engineer:
 - a. Written certificate that Work, or designated portion, is substantially complete.
 - b. List of items to be completed or corrected (initial punch list).
 - 2. Within 7 days after receipt of request for Substantial Completion, Engineer will make inspection to determine whether Work or designated portion is substantially complete.
 - 3. Should Engineer determine that Work is not substantially complete:
 - a. Engineer will promptly notify Contractor in writing, stating reasons for its opinion.
 - b. Contractor shall remedy deficiencies in Work and send second written request for Substantial Completion to Engineer.
 - c. Engineer will reinspect Work.
 - d. Redo and Inspection of Deficient Work: Repeated until Work passes Engineer's inspection.

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4. When Engineer finds that Work is substantially complete, Engineer will:
 - a. Prepare Certificate of Substantial Completion on EJCDC C-625 - Certificate of Substantial Completion, accompanied by Contractor's list of items to be completed or corrected as verified and amended by Architect/Engineer and Owner (final punch list).
 - b. Submit Certificate to Owner and Contractor for their written acceptance of responsibilities assigned to them in Certificate.
 5. After Work is substantially complete, Contractor shall:
 - a. Allow Owner occupancy of Project under provisions stated in Certificate of Substantial Completion.
 - b. Complete Work listed for completion or correction within time period stipulated.
- C. Prerequisites for Final Completion: Complete following items before requesting final acceptance and final payment.
1. When Contractor considers Work to be complete, submit written certification that:
 - a. Contract Documents have been reviewed.
 - b. Work has been examined for compliance with Contract Documents.
 - c. Work has been completed according to Contract Documents.
 - d. Work is completed and ready for final inspection.
 2. Submittals: Submit following:
 - a. Final punch list indicating all items have been completed or corrected.
 - b. Final payment request with final releases and supporting documentation not previously submitted and accepted. Include certificates of insurance for products and completed operations where required.
 - c. Specified warranties, workmanship/maintenance bonds, maintenance agreements, and other similar documents.
 - d. Accounting statement for final changes to Contract Sum.
 - e. Contractor's affidavit of payment of debts and claims on AIA G706 - Contractor's Affidavit of Payment of Debts and Claims.
 - f. Contractor affidavit of release of liens on AIA G706A - Contractor's Affidavit of Release of Liens.
 - g. Consent of surety to final payment on AIA G707 - Consent of Surety to Final Payment Form.
 3. Perform final cleaning for Contractor-soiled areas according to this Section.
- D. Final Completion Inspection:
1. Within 7 days after receipt of request for final inspection, Engineer will make inspection to determine whether Work or designated portion is complete.
 2. Should Engineer consider Work to be incomplete or defective:
 - a. Engineer will promptly notify Contractor in writing, listing incomplete or defective Work.
 - b. Contractor shall remedy stated deficiencies and send second written request to Engineer that Work is complete.
 - c. Engineer will reinspect Work.
 - d. Redo and Inspection of Deficient Work: Repeated until Work passes Engineer's inspection.

1.10 PROJECT RECORD DOCUMENTS

- A. Maintain on Site one set of the following record documents; record actual revisions to the Work:
 - 1. Drawings.
 - 2. Specifications.
 - 3. Addenda.
 - 4. Change Orders and other modifications to the Contract.
 - 5. Reviewed Shop Drawings, product data, and Samples.
 - 6. Manufacturer's instruction for assembly, installation, and adjusting.
- B. Ensure entries are complete and accurate, enabling future reference by Owner.
- C. Store record documents separate from documents used for construction.
- D. Record information concurrent with construction progress, not less than weekly.
- E. Specifications: Legibly mark and record, at each product Section, description of actual products installed, including the following:
 - 1. Manufacturer's name and product model and number.
 - 2. Product substitutions or alternates used.
 - 3. Changes made by Addenda, bulletin, Change Order, and modifications.
- F. Record Drawings and Shop Drawings: Legibly mark each item to record actual construction as follows:
 - 1. Include Contract modifications such as Addenda, supplementary instructions, change directives, field orders, minor changes in the Work, and change orders.
 - 2. Include locations of concealed elements of the Work.
 - 3. Identify depth of buried utility lines and provide dimensions showing distances from permanent facility components that are parallel to utilities.
 - 4. Dimension ends, corners, and junctions of buried utilities to permanent facility components using triangulation.
 - 5. Identify and locate existing buried or concealed items encountered during Project.
 - 6. Measured horizontal and vertical locations of underground utilities and appurtenances, referenced to permanent surface improvements.
 - 7. Measured locations of internal utilities and appurtenances concealed in construction, referenced to visible and accessible features of the Work.
 - 8. Field changes of dimension and detail.
 - 9. Details not on original Drawings.
- G. Submit marked-up paper copy documents to Engineer with claim for final Application for Payment.
- H. Submit PDF electronic files of marked-up documents to Engineer with claim for final Application for Payment.

1.11 OPERATION AND MAINTENANCE DATA

- A. Submit in PDF composite electronic indexed file.
- B. Drawings: Provide with reinforced punched binder tab. Bind in with text; fold larger Drawings to size of text pages.

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- C. Contents: Prepare table of contents for each volume, with each product or system description identified, typed on white paper, in three parts as follows:
1. Part 1: Directory, listing names, addresses, and telephone numbers of Engineer, Contractor, Subcontractors, and major equipment suppliers.
 2. Part 2: Operation and maintenance instructions, arranged by process flow and subdivided by Specification Section. For each category, identify names, addresses, and telephone numbers of Subcontractors and suppliers. Include the following:
 - a. Significant design criteria.
 - b. List of equipment.
 - c. Parts list for each component.
 - d. Operating instructions.
 - e. Maintenance instructions for equipment and systems.
 - f. Maintenance instructions for finishes, including recommended cleaning methods and materials, and special precautions identifying detrimental agents.
 - g. Safety precautions to be taken when operating and maintaining or working near equipment.
 3. Part 3: Project documents and certificates, including the following:
 - a. Shop Drawings and product data.
 - b. Air and water balance reports.
 - c. Certificates.
 - d. Originals of warranties and bonds.

1.12 MANUAL FOR MATERIALS AND FINISHES

- A. Submit two copies of preliminary draft or proposed formats and outlines of contents before start of Work. Engineer will review draft and return one copy with comments.
- B. For equipment or component parts of equipment put into service during construction and operated by Owner, submit documents within ten days after acceptance.
- C. Submit 1 copy of completed volumes 15 days prior to final inspection.

1.13 SPARE PARTS AND MAINTENANCE PRODUCTS

- A. Furnish spare parts, maintenance, and extra products in quantities specified in individual Specification Sections.
- B. Deliver to place in location as directed by Owner; obtain receipt prior to final payment.

1.14 FINAL CLEANING

- A. Execute final cleaning prior to final walk through inspection.
- B. Remove waste and surplus materials, rubbish, and construction facilities from Site.
- C. Return Site to original or better condition.

PART 2 - PRODUCTS (Not Used)

PART 3 - EXECUTION (Not Used)

END OF SECTION

SECTION 03 10 00 - CONCRETE FORMING AND ACCESSORIES

PART 1 - GENERAL

1.1 SUMMARY

- A. Section Includes:
 - 1. Formwork for cast-in-place concrete.
 - 2. Shoring, bracing, and anchorage.
 - 3. Architectural form liners.
 - 4. Form accessories.
 - 5. Form stripping.
- B. Related Requirements:
 - 1. Section 03 20 00 "Concrete Reinforcing": Reinforcing steel and required supports for cast-in-place concrete.

1.2 REFERENCE STANDARDS

- A. American Concrete Institute:
 - 1. ACI 117 - Specification for Tolerances for Concrete Construction and Materials.
 - 2. ACI 301 - Specifications for Structural Concrete.
 - 3. ACI 318 - Building Code Requirements for Structural Concrete.
 - 4. ACI 347 - Guide to Formwork for Concrete.
- B. American Forest & Paper Association:
 - 1. AF&PA - National Design Specification (NDS) for Wood Construction.
- C. APA - The Engineered Wood Association:
 - 1. APA/EWA PS 1 - Voluntary Product Standard - Structural Plywood.
- D. ASTM International:
 - 1. ASTM D1751 - Standard Specification for Preformed Expansion Joint Filler for Concrete Paving and Structural Construction (Nonextruding and Resilient Bituminous Types).
 - 2. ASTM E96 - Standard Test Methods for Water Vapor Transmission of Materials.
 - 3. ASTM E96M - Standard Test Methods for Water Vapor Transmission of Materials.
- E. West Coast Lumber Inspection Bureau:
 - 1. WCLIB - Standard No. 17 Grading Rules for West Coast Lumber.

1.3 COORDINATION

- A. Section 01 30 00 "Administrative Requirements": Requirements for coordination.
- B. Coordinate Work of this Section with other Sections of Work in forming and placing openings, slots, reglets, recesses, sleeves, bolts, anchors, other inserts, and components of other Work.

1.4 QUALITY ASSURANCE

- A. Perform Work according to ACI 347, 301, and 318.
- B. For wood products furnished for Work of this Section, comply with AF&PA.
- C. Perform Work according to City of Midland standards.

1.5 QUALIFICATIONS

- A. Licensed Professional: Professional engineer experienced in design of specified Work and licensed in State of Texas.

PART 2 - PRODUCTS

2.1 PERFORMANCE AND DESIGN CRITERIA

- A. Design, engineer, and construct formwork, shoring, and bracing according to ACI 318 to conform to design and applicable code requirements to achieve concrete shape, line, and dimension as indicated on Drawings.

2.2 WOOD FORM MATERIALS

- A. Form Materials: At discretion of Contractor.

2.3 PREFABRICATED FORMS

- A. Manufacturers:
 - 1. EFCO - Economy Forms Corp.
 - 2. Molded Fiber Glass Construction Products.
 - 3. Sonoco Products Co.
 - 4. Symons by Dayton Superior.
 - 5. Wall-Ties & Forms, Inc.
 - 6. Western Forms.
 - 7. Substitutions: As specified in Section 01 60 00 "Product Requirements."
- B. Preformed Steel Forms:
 - 1. Description: Matched, tightly fitted, and stiffened to support weight of concrete without deflection detrimental to tolerances and appearance of finished surfaces.
 - 2. Minimum Thickness: 16 gauge.
- C. FRP Forms: Matched, tightly fitted, and stiffened to support weight of concrete without deflection detrimental to tolerances and appearance of finished concrete surfaces.
- D. Pan:
 - 1. Material: Steel.
 - 2. Configuration: Size and profile as required.
- E. Steel Forms:
 - 1. Description: Sheet steel, suitably reinforced.
 - 2. Design: For particular use as indicated on Drawings.
- F. Form Liners: Smooth, durable, grainless, and non-staining hardboard unless otherwise indicated on Drawings.
- G. Framing, Studding, and Bracing: Stud.

2.4 FORMWORK ACCESSORIES

- A. Form Ties:
 - 1. Type: Removable Snap off; or cone.
 - 2. Material: Galvanized.
 - 3. Length: Adjustable.
 - 4. Furnish waterproofing washer.

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- 5. Free of defects capable of leaving holes larger than 1 inch in concrete surface.
 - 6. Manufacturers:
 - a. Heckmann Building Products, Inc.
 - b. Symons by Dayton Superior.
 - c. Wall-Ties & Forms, Inc.
 - d. Substitutions: As specified in Section 01 60 00 "Product Requirements."
 - B. Spreaders:
 - 1. Description: Standard, non-corrosive metal-form clamp assembly, of type acting as spreaders and leaving no metal within 1 inch of concrete face.
 - 2. Wire ties, wood spreaders, or through bolts are not permitted.
 - C. Form Release Agent:
 - 1. Description: Colorless mineral oil that will not stain concrete or absorb moisture or impair natural bonding or color characteristics of coating intended for use on concrete.
 - 2. Manufacturers:
 - a. Architectural Concrete Chemicals, LLC.
 - b. Nox-Crete Products Group.
 - c. Substitutions: As specified in Section 01 60 00 "Product Requirements."
 - D. Vapor Retarder:
 - 1. Description: Polyethylene sheet.
 - 2. Thickness: 8 mils.
 - E. Bituminous Joint Filler: Comply with ASTM D1751.
 - F. Nails, Spikes, Lag Bolts, Through Bolts, Anchorages: Size, strength, and character to maintain formwork in place while placing concrete.

PART 3 - EXECUTION

3.1 EXAMINATION

- A. Section 01 70 00 "Execution and Closeout Requirements": Requirements for installation examination.
- B. Verify lines, levels, and centers before proceeding with formwork.
- C. Verify that dimensions agree with Shop Drawings.
- D. If formwork is placed after reinforcement resulting in insufficient concrete cover over reinforcement, request instructions from Engineer before proceeding.

3.2 INSTALLATION

- A. Earth Forms:
 - 1. Trench earth forms neatly, accurately, and at least 2 inches wider than footing widths indicated on Drawings.
 - 2. Trim sides and bottom of earth forms.
 - 3. Construct wood edge strips at top of each side of trench to secure reinforcing and to prevent trench from sloughing.
 - 4. Form sides of footings where earth sloughs.
 - 5. Tamp earth forms firm and clear them of debris and loose material before depositing concrete.
- B. Formwork:
 - 1. Provide top form for sloped surfaces steeper than 1.5 horizontal to 1 vertical to hold shape of concrete during placement, unless it can be demonstrated that top forms can be omitted.

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2. Construct forms to correct shape and dimensions, mortar-tight, braced, and of sufficient strength to maintain shape and position under imposed loads from construction operations.
 3. Camber forms where necessary to produce level finished soffits unless indicated otherwise on Drawings.
 4. Positioning:
 - a. Carefully verify horizontal and vertical positions of forms.
 - b. Correct misaligned or misplaced forms before placing concrete.
 5. Complete wedging and bracing before placing concrete.
 6. Erect formwork, shoring, and bracing to achieve design requirements according to ACI 301.
 7. Stripping:
 - a. Arrange and assemble formwork to permit dismantling and stripping.
 - b. Do not damage concrete during stripping.
 - c. Permit removal of remaining principal shores.
 8. Obtain approval of Architect/Engineer before framing openings in structural members not indicated on Drawings.
 9. Install fillet and chamfer strips on external corners of beams, joists, and columns.
 10. Install void forms according to manufacturer instructions.
 11. Do not reuse wood formwork more than three times for concrete surfaces to be exposed to view.
 12. Do not patch formwork.
 13. Leave forms in place for minimum number of days according to ACI 347.
- C. Form Removal:
1. Do not remove forms or bracing until concrete has gained sufficient strength to carry its own weight and imposed loads, and removal has been approved by Architect/Engineer.
 2. Loosen forms carefully; do not wedge pry bars, hammers, or tools against finish concrete surfaces scheduled for exposure to view.
 3. Store removed forms in manner that surfaces to be in contact with fresh concrete will not be damaged.
 4. Discard damaged forms.
 5. Form Release Agent:
 - a. Apply according to manufacturer instructions.
 - b. Apply prior to placement of reinforcing steel, anchoring devices, and embedded items.
 - c. Do not apply form release agent if concrete surfaces are indicated to receive special finishes or applied coverings that may be affected by agent.
 - d. Soak inside surfaces of untreated forms with clean water, and keep surfaces coated prior to placement of concrete.
 6. Form Cleaning:
 - a. Clean forms as erection proceeds to remove foreign matter within forms.
 - b. Clean formed cavities of debris prior to placing concrete.
 - c. Flush with water or use compressed air to remove remaining foreign matter.
 - d. Ensure that water and debris drain to exterior through cleanout ports.
 - e. Cold Weather:
 - 1) During cold weather, remove ice and snow from within forms.
 - 2) Do not use de-icing salts.
 - 3) Do not use water to clean out forms, unless formwork and concrete construction proceed within heated enclosure; use compressed air or other dry method to remove foreign matter.

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7. Reuse and Coating of Forms:
 - a. Thoroughly clean forms and reapply form coating before each reuse.
 - b. For exposed Work, do not reuse forms with damaged faces or edges.
 - c. Apply form coating to forms according to manufacturer instructions.
 - d. Do not coat forms for concrete indicated to receive "scored finish."
 - e. Apply form coatings before placing reinforcing steel.
 - D. Forms for Smooth Finish Concrete:
 1. Use steel, plywood, or lined-board forms.
 2. Use clean and smooth plywood and form liners, uniform in size, and free from surface and edge damage capable of affecting resulting concrete finish.
 3. Install form lining with close-fitting square joints between separate sheets without springing into place.
 4. Use full-sized sheets of form liners and plywood wherever possible.
 5. Tape joints to prevent protrusions in concrete.
 6. Apply forming and strip wood forms in a manner to protect corners and edges.
 7. Level and continue horizontal joints.
 8. Keep wood forms wet until stripped.
 - E. Architectural Form Liners:
 1. Erect architectural side of formwork first.
 2. Attach form liner to forms before installing form ties.
 3. Install form liners square, with joints and pattern aligned.
 4. Seal form liner joints to prevent grout leaks.
 5. Dress joints and edges to match form liner pattern and texture.
 - F. Forms for Surfaces to Receive Membrane Waterproofing:
 1. Use plywood or steel forms.
 2. After erection of forms, tape form joints to prevent protrusions in concrete.
 - G. Framing, Studding, and Bracing:
 1. Maximum Spacing of Studs:
 - a. Boards: Maximum 16 inches o.c.
 - b. Plywood: 12 inches o.c.
 2. Size framing, bracing, centering, and supporting members for sufficient strength to maintain shape and position under imposed loads from construction operations.
 3. Construct beam soffits of material minimum 2 inches thick.
 4. Distribute bracing loads over base area on which bracing is erected.
 5. When placed on ground, protect against undermining, settlement, and accidental impact.
 - H. Form Anchors and Hangers:
 1. Do not use anchors and hangers leaving exposed metal at concrete surface.
 2. Symmetrically arrange hangers supporting forms from structural-steel members to minimize twisting or rotation of member.
 3. Penetration of structural-steel members is not permitted.
 - I. Inserts, Embedded Parts, and Openings:
 1. Install formed openings for items to be embedded in or passing through concrete Work.
 2. Locate and set in place items required to be cast directly into concrete.
 3. Install accessories straight, level, and plumb, and ensure that items are not disturbed during concrete placement.
 4. Joints:
 - a. Install waterstops continuous without displacing reinforcement.

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- 5. Openings:
 - a. Provide temporary ports or openings in formwork as required to facilitate cleaning and inspection.
 - b. Locate openings at bottom of forms to allow flushing water to drain.
 - 6. Close temporary openings with tight-fitting panels, flush with inside face of forms, and neatly fitted such that joints will not be apparent in exposed concrete surfaces.
 - J. Form Ties:
 - 1. Provide sufficient strength and quantity to prevent spreading of forms.
 - 2. Place ties at least 1 inch away from finished surface of concrete.
 - 3. Leave inner rods in concrete when forms are stripped.
 - 4. Space form ties equidistant, symmetrical, and aligned vertically and horizontally unless indicated otherwise on Drawings.
 - K. Arrange formwork to allow proper erection sequence and to permit form removal without damage to concrete.
 - L. Construction Joints:
 - 1. Install surfaced pouring strip where construction joints intersect on exposed surfaces to provide straight line at joints.
 - 2. Just prior to subsequent concrete placement, remove strip and tighten forms to conceal shrinkage.
 - 3. Appearance:
 - a. Show no overlapping of construction joints.
 - b. Construct joints to present same appearance as butted plywood joints.
 - 4. Arrange joints in continuous line straight, true, and sharp.
 - M. Embedded Items:
 - 1. Make provisions for pipes, sleeves, anchors, inserts, reglets, anchor slots, nailers, waterstops, and other features.
 - 2. Do not embed wood or uncoated aluminum in concrete.
 - 3. Obtain installation and setting information for embedded items furnished under other Sections.
 - 4. Securely anchor embedded items in correct location and alignment prior to placing concrete.
 - 5. Ensure that conduits and pipes, including those made of coated aluminum, meet requirements of ACI 318 regarding size and location limitations.
 - N. Openings for Items Passing through Concrete:
 - 1. Frame openings in concrete where indicated on Drawings.
 - 2. Establish exact locations, sizes, and other conditions required for openings and attachment of Work specified under other Sections.
 - 3. Coordinate Work to avoid cutting and patching of concrete after placement.
 - 4. Perform cutting and repairing of concrete required as result of failure to provide required openings.
 - O. Screeds:
 - 1. Set screeds and establish levels for tops of and finish on concrete slabs.
 - 2. Slope slabs to drain where required or as indicated on Drawings.
 - 3. Before depositing concrete, remove debris from space to be occupied by concrete and thoroughly wet forms; remove freestanding water.
 - P. Screed Supports:
 - 1. For concrete over waterproof membranes and vapor retarder membranes, use cradle-, pad-, or base-type screed supports that will not puncture membrane.
 - 2. Staking through membrane is not permitted.

Q. Cleanouts and Access Panels:

1. Provide removable cleanout sections or access panels at bottoms of forms to permit inspection and effective cleaning of loose dirt, debris, and waste material.
2. Clean forms and surfaces against which concrete is to be placed.
3. Remove chips, sawdust, and other debris.
4. Thoroughly blow out forms with compressed air just before concrete is placed.

3.3 TOLERANCES

- A. Construct formwork to maintain tolerances according to ACI 301 318.

3.4 FIELD QUALITY CONTROL

- A. Section 01 40 00 "Quality Requirements": Requirements for inspecting and testing.
- B. Section 01 70 00 "Execution and Closeout Requirements": Requirements for testing, adjusting, and balancing.
- C. Inspection:
1. Inspect erected formwork, shoring, and bracing to ensure that Work complies with formwork design and that supports, fastenings, wedges, ties, and items are secure.
 2. Notify Architect/Engineer after placement of reinforcing steel in forms but prior to placing concrete.
 3. Schedule concrete placement to permit formwork inspection before placing concrete.

END OF SECTION

SECTION 03 20 00 - CONCRETE REINFORCING

PART 1 - GENERAL

1.1 SUMMARY

- A. Section Includes:
 - 1. Reinforcing bars.
 - 2. Welded wire fabric.
 - 3. Reinforcement accessories.
- B. Related Requirements:
 - 1. Section 03 10 00 "Concrete Forming and Accessories": Form materials, waterstops, and accessories required to form cast-in-place concrete.
 - 2. Section 03 30 00 "Cast-in-Place Concrete": Cast-in-place or in-situ concrete for structural building frame, slabs on grade, and other concrete components associated with building.

1.2 REFERENCE STANDARDS

- A. American Concrete Institute:
 - 1. ACI 301 - Specifications for Structural Concrete.
 - 2. ACI 318 - Building Code Requirements for Structural Concrete.
- B. American Welding Society:
 - 1. AWS D1.4 - Structural Welding Code - Reinforcing Steel.
- C. ASTM International:
 - 1. ASTM A184 - Standard Specification for Welded Deformed Steel Bar Mats for Concrete Reinforcement.
 - 2. ASTM A615 - Standard Specification for Deformed and Plain Carbon-Steel Bars for Concrete Reinforcement.
 - 3. ASTM A704 - Standard Specification for Welded Steel Plain Bar or Rod Mats for Concrete Reinforcement.
 - 4. ASTM A706 - Standard Specification for Deformed and Plain Low-Alloy Steel Bars for Concrete Reinforcement.
 - 5. ASTM A767 - Standard Specification for Zinc-Coated (Galvanized) Steel Bars for Concrete Reinforcement.
 - 6. ASTM A775 - Standard Specification for Epoxy-Coated Steel Reinforcing Bars.
 - 7. ASTM A884 - Standard Specification for Epoxy-Coated Steel Wire and Welded Wire Reinforcement.
 - 8. ASTM A934 - Standard Specification for Epoxy-Coated Prefabricated Steel Reinforcing Bars.
 - 9. ASTM A996 - Standard Specification for Rail-Steel and Axle-Steel Deformed Bars for Concrete Reinforcement.
 - 10. ASTM A1064 - Standard Specification for Carbon-Steel Wire and Welded Wire Reinforcement, Plain and Deformed, for Concrete.
- D. Concrete Reinforcing Steel Institute:
 - 1. CRSI 10-MSP - Manual of Standard Practice.
 - 2. CRSI 10PLACE - Placing Reinforcing Bars.

1.3 COORDINATION

- A. Section 01 30 00 "Administrative Requirements": Requirements for coordination.
- B. Coordinate Work of this Section with placement of formwork, formed openings, and other Work.

1.4 SUBMITTALS

- A. Section 01 33 00 "Submittal Procedures": Requirements for submittals.
- B. Shop Drawings:
 - 1. Indicate bar sizes, spacings, locations, splice locations, and quantities of reinforcing steel.
 - 2. Indicate bending and cutting schedules.
 - 3. Indicate supporting and spacing devices.
- C. Manufacturer's Certificate: Certify that products meet or exceed specified requirements.
- D. Submit certified copies of mill test report of reinforcement materials analysis.
- E. Welder Certificates: Certify welders and welding procedures employed on Work, verifying AWS qualification within previous 12 months.
- F. Source Quality-Control Submittals: Indicate results of factory tests and inspections.
- G. Field Quality-Control Submittals: Indicate results of Contractor-furnished tests and inspections.
- H. Qualifications Statement:
 - 1. Welders: Qualify procedures and personnel according to AWS D1.1.

1.5 QUALITY ASSURANCE

- A. Perform Work according to ACI 301 ACI 318.
- B. Prepare Shop Drawings according to ACI SP-66.
- C. Perform Work according to City of Midland standards.

1.6 QUALIFICATIONS

- A. Welders: AWS qualified within previous 12 months for employed weld types.

1.7 DELIVERY, STORAGE, AND HANDLING

- A. Section 01 60 00 "Product Requirements": Requirements for transporting, handling, storing, and protecting products.
- B. Inspection: Accept materials on Site in manufacturer's original packaging and inspect for damage.
- C. Store materials according to manufacturer instructions.
- D. Protection:
 - 1. Protect materials from moisture by storing in clean, dry location remote from construction operations areas.
 - 2. Provide additional protection according to manufacturer instructions.

1.8 EXISTING CONDITIONS

- A. Field Measurements:
 - 1. Verify field measurements prior to fabrication.
 - 2. Indicate field measurements on Shop Drawings.

PART 2 - PRODUCTS

2.1 REINFORCEMENT

- A. Reinforcing Steel:
 - 1. Comply with ASTM A615.
 - 2. Yield Strength: 60 ksi.
 - 3. Billet Bars: Deformed.
 - 4. Finish: Uncoated.

2.2 FABRICATION

- A. Fabricate concrete reinforcement according to ACI 318.
- B. Form standard hooks for 90-degree bends, stirrups and tie hooks as indicated on Drawings.
- C. Form reinforcement bends with minimum diameters according to ACI 318.
- D. Fabricate column reinforcement with offset bends at reinforcement splices.
- E. Form spiral column reinforcement from minimum 3/8-inch-diameter continuous plain bar or wire.
- F. Form ties and stirrups from following:
 - 1. Bars No. 10 and Smaller: No. 3 deformed bars.
 - 2. Bars No. 11 and Larger: No. 4 deformed bars.
- G. Weld reinforcement according to AWS D1.4.
- H. Splicing:
 - 1. If not indicated on Drawings, locate reinforcement splices at point of minimum stress.

2.3 SHOP FINISHING

- A. Galvanized Finish for Steel Bars:
 - 1. Comply with ASTM A767, Class [I] [II].
 - 2. Hot-dip galvanized after fabrication.
- B. Epoxy-Coated Finish for Steel Bars: Comply with ASTM [A775] [A934].
- C. Epoxy-Coated Finish for Steel Wire: Comply with ASTM A884, Class A.

2.4 ACCESSORY MATERIALS

- A. Tie Wire:
 - 1. Minimum 16 gauge, annealed type.
- B. Chairs, Bolsters, Bar Supports, and Spacers:
 - 1. Size and Shape: To strengthen and support reinforcement during concrete placement conditions.
- C. Special Chairs, Bolsters, Bar Supports, and Spacers Adjacent to Weather-Exposed Concrete Surfaces:
 - 1. Material: Plastic-coated steel.
 - 2. Size and Shape: To meet Project conditions.
- D. Reinforcing Splicing Devices:
 - 1. Type: Exothermic welding type; full tension and compression.

2.5 SOURCE QUALITY CONTROL

- A. Provide shop inspection and testing of completed assembly.
- B. Section 01 40 00 "Quality Requirements": Requirements for testing, inspection, and analysis.
- C. Certificate of Compliance:
 - 1. If fabricator is approved by authorities having jurisdiction, submit certificate of compliance indicating Work performed at fabricator's facility conforms to Contract Documents.
 - 2. Specified shop tests are not required for Work performed by approved fabricator.

PART 3 - EXECUTION

3.1 INSTALLATION

- A. Place, support, and secure reinforcement against displacement.
- B. Do not deviate from required position beyond specified tolerance.
- C. Do not weld crossing reinforcement bars for assembly.
- D. Do not displace or damage vapor retarder.
- E. Accommodate placement of formed openings.
- F. Spacing:
 - 1. Space reinforcement bars with minimum clear spacing according to ACI 318.
 - 2. If bars are indicated in multiple layers, place upper bars directly above lower bars.
- G. Maintain minimum concrete cover around reinforcement according to ACI 318 as follows:
 - 1. Footings and Concrete Formed against Earth: 3 inches.
 - 2. Concrete Exposed to Earth or Weather:
 - a. No. 6 Bars and Larger: 2 inches.
 - b. No. 5 Bars and Smaller: 1-1/2 inches.
 - 3. Supported Slabs, Walls, and Joists:
 - a. No. 14 Bars and Larger: 1-1/2 inches.
 - b. No. 11 Bars and Smaller: 3/4-inch.
 - 4. Beams and Columns: 1-1/2 inches.
 - 5. Shell and Folded Plate Members:
 - a. No. 6 Bars and Larger: 3/4-inch.
 - b. No. 5 Bars and Smaller: 1/2-inch.

3.2 TOLERANCES

- A. Section 01 40 00 "Quality Requirements": Requirements for tolerances.
- B. Install reinforcement within following tolerances for flexural members, walls, and compression members:
 - 1. Reinforcement Depth Greater Than 8 Inches:
 - a. Depth Tolerance: Plus or Minus 3/8-inch.
 - b. Concrete Cover Tolerance: Minus 3/8-inch.
 - 2. Reinforcement Depth Less Than or Equal to 8 Inches:
 - a. Depth Tolerance: Plus or Minus 1/2-inch.
 - b. Concrete Cover Tolerance: Minus 1/2-inch.
- C. Foundation Walls: Install reinforcement within tolerances according to ACI 530/530.1.

3.3 FIELD QUALITY CONTROL

- A. Section 01 40 00 "Quality Requirements": Requirements for inspecting and testing.
- B. Section 01 70 00 "Execution and Closeout Requirements": Requirements for testing, adjusting, and balancing.
- C. Field inspection and testing will be performed by Owner's testing laboratory according to ACI 318.

END OF SECTION

SECTION 03 30 00 - CAST-IN-PLACE CONCRETE

PART 1 - GENERAL

1.1 SUMMARY

- A. Section Includes:
 - 1. Cast-in-place concrete.
 - 2. Concrete pavement, driveways, curb, and gutter.
 - 3. Sidewalks, flatwork, and other miscellaneous concrete.
 - 4. Section applies where Contractor elects to remove, or is required to remove, and replace concrete pavement and driveway as part of the construction. Section applies also for repair or replacement of facilities otherwise damaged by Contractor operations.
- B. Related Requirements:
 - 1. Division 01 Specification Sections apply to Work of this Section.

1.2 REFERENCES

- A. TxDOT Item 360 – Concrete Pavement
- B. TxDOT Item 421 – Hydraulic Cement Concrete
- C. TxDOT Item 440 – Reinforcement for Concrete
- D. ACI 211 – Standard Practice for Selecting Proportions for Normal, Heavyweight, and Mass Concrete
- E. ACI 301 – Specifications for Structural Concrete
- F. ACI 305R – Standard Specification for Hot Weather Concreting
- G. ACI 306 – Standard Specification for Cold Weather Concreting
- H. ACI 315 – Details and Detailing of Concrete Reinforcement
- I. ASTM A36 – Standard Specification for Carbon Structural Steel
- J. ASTM A307 – Standard Specification for Carbon Steel Bolts, Studs, and Threaded Rod 60,000 PSI Tensile Strength
- K. ASTM C94 – Standard Specification for Ready-Mixed Concrete
- L. ASTM C171 – Standard Specification for Sheet Materials for Curing Concrete
- M. ASTM C309 – Standard Specification for Liquid Membrane-Forming Compounds for Curing Concrete
- N. ASTM C33 – Standard Specification for Concrete Aggregates
- O. ASTM C150 – Standard Specification for Portland Cement
- P. ASTM A615 – Standard Specification for Deformed and Plain Carbon-Steel Bars for Concrete Reinforcement
- Q. ASTM C494 – Standard Specification for Chemical Admixtures for Concrete
- R. ASTM C260 – Standard Specification for Air-Entraining Admixtures for Concrete
- S. ASTM C881 – Standard Specification for Epoxy-Resin-Base Bonding Systems for Concrete
- T. ASTM D1751 – Standard Specification for Preformed Expansion Joint Filler for Concrete paving and Structural Construction (Nonextruding and Resilient Bituminous Types)
- U. TAC – Texas Accessibility Standards

1.3 SUBMITTALS

- A. Submit product data in accordance with Section 01 33 00 "Submittal Procedures."
- B. Product Data: For each type of manufactured material and product indicated.
- C. Design Mixes: For each concrete pavement mix. Include alternate mix designs when characteristics of materials, Project conditions, weather, test results, or other circumstances warrant adjustments.
- D. Material Test Reports: From a qualified testing agency indicating and interpreting test results for compliance of the following with requirements indicated, based on comprehensive testing of current materials:
 - 1. Cementitious materials and aggregates.
 - 2. Steel reinforcement and reinforcement accessories.
 - 3. Fiber reinforcement.
 - 4. Admixtures.
 - 5. Curing compounds.
 - 6. Applied finish materials.
 - 7. Bonding agent or adhesive.
 - 8. Joint fillers.
- E. Shop Drawings for reinforcement detailing, fabricating, bending, and placing concrete reinforcement. Comply with ACI 315 "Manual of Standard Practice for Detailing Reinforced Concrete Structures," showing bar schedules, stirrup spacing, bent bar diagrams, materials, steel grades, arrangement of concrete reinforcement, and methods of support.

1.4 QUALITY ASSURANCE

- A. Installer Qualifications: Experienced installer who has completed pavement work similar in material, design, and extent indicated for this Project and whose work resulted in construction with a record of successful in-service performance.
- B. Manufacturer Qualifications: Manufacturer of ready-mixed concrete products complying with TxDOT Item 421 and ASTM C94 requirements for production facilities and equipment. Manufacturer must be certified according to the National Ready Mix Concrete Association's Plant Certification Program.
- C. Testing Agency Qualifications: An independent testing agency, acceptable to authorities having jurisdiction.
- D. Source Limitations: Obtain each type or class of cementitious material of the same brand from the same manufacturer's plant and each aggregate from one source.
- E. Concrete Testing Service: Engage a qualified independent testing agency to perform material evaluation tests and to design concrete mixes.

1.5 PROJECT CONDITIONS

- A. Traffic Control: Maintain access for vehicular and pedestrian traffic as required for other construction activities and emergency services.

PART 2 - PRODUCTS

2.1 CONCRETE MIXTURE

- A. Furnish mix design using ACI 211, ACI 301, Tex-470-A, or other approved procedure.
- B. At least 15 days prior to beginning any concrete pavement construction, Contractor shall submit mix design, test certificates, test results, and all necessary information as specified in TxDOT Item 421 for Engineer approval.
- C. Use a qualified independent testing agency for preparing and reporting proposed mix design for the trial batch method. Do not use Owner's field quality-control testing agency as the independent testing agency.
- D. The following concrete classifications are to be used on this project as specified herein:
 - 1. Class A: Curb and gutter, valley gutters, driveways, sidewalks, curb ramps, medians, and miscellaneous slabs.
 - a. Maximum allowable Water-to-Cement ratio: 0.60.
 - b. Minimum 28-Day Compressive Strength: 3,000 psi.
 - c. Slump: 3-5 in.
 - d. Air Entrainment: 3-7 percent.
 - 2. Class B: Concrete riprap.
 - a. Maximum allowable Water-to-Cement ratio: 0.40.
 - b. Minimum 28-Day Compressive Strength: 2,000 psi.
 - c. Slump: 3-5 in.
 - d. Air Entrainment: 3-7 percent.
 - 3. Modified Class C: Cast-in-place manholes, junction boxes, storm sewer inlet boxes, valve vaults, direct traffic culvert, and bridge decks.
 - a. Minimum six sacks cement per cubic yard.
 - b. Maximum allowable water-to-cement ratio: 5 gallons per sack of cement.
 - c. Minimum 28-day Compressive Strength: 4,000 psi.
 - d. Slump: 3-5 in.
 - e. Air Entrainment: 3-7 percent.

2.2 CEMENT

- A. Use cement of the same type and from the same source for all of Project.
- B. Portland Cement: ASTM C150, Type I, II, I/II, IL, IP, IS, IT, or V.
- C. Use only cement types for concrete classifications as specified in TxDOT Item 421, Section 4.2.1

2.3 AGGREGATE

- A. Provide aggregate to meets all requirements of TxDOT Item 421, Section 2.6 and ASTM C33.
- B. Shall be uniformly graded and from a single source.
- C. Shall contain a coarse aggregate with a maximum nominal size of 1-1/2 inches.

2.4 WATER

- A. Furnish clean water that meets all the requirements of TxDOT Item 421, Section 2.5.

2.5 STEEL REINFORCEMENT

- A. Deformed Steel Bar Reinforcement: TxDOT Item 440, ASTM A615, Grade 60
- B. Dowels: TxDOT Item 440, ASTM A615, Grade 60. Cut bars true to length with ends square and free of burrs.
- C. Deformed Tie Bars: TxDOT Item 360, ASTM A615, Grade 60.
- D. Hook Bolts: ASTM A307, Grade A, internally and externally threaded. Design hook-bolt joint assembly to hold coupling against pavement form and in position during concreting operations, and to permit removal without damage to concrete or hook bolt.
- E. Bar Supports: Bolsters, chairs, spacers, and other devices for spacing, supporting, and fastening reinforcement bars, welded wire fabric, and dowels in place. Manufacture bar supports according to CRSI "Manual of Standard Practice," from steel wire, plastic, or precast concrete or fiber-reinforced concrete of greater compressive strength than concrete, and:
 - 1. Equip wire bar supports with sand plates or horizontal runners where base material will not support chair legs.
 - 2. Space reinforcing supports at 5 feet, 0-inch maximum in any direction.

2.6 ADMIXTURES

- A. Use of any material added to the concrete mix shall be approved by Owner representative.
 - 1. Admixtures certified by manufacturer to contain no more than 0.1-percent water-soluble chloride ions by mass of cement and compatible with other admixtures.
 - 2. Air-Entraining Admixture: ASTM C260. Certified by manufacturer compatible with other required admixtures.
 - 3. Water-Reducing Admixture: ASTM C494, Type A.
 - 4. High-Range, Water-Reducing Admixture: ASTM C494, Type F or Type G.
 - 5. Water-Reducing and Accelerating Admixture: ASTM C494, Type E.
 - 6. Water-Reducing and Retarding Admixture: ASTM C494, Type D.

2.7 COVER MATERIAL FOR CURING

- A. Curing materials shall conform to one of these Specifications:
 - 1. Liquid membrane-forming compounds for curing concrete shall conform to requirements of ASTM C309, Type 2 (all resin base).
 - 2. White polyethylene film for curing concrete shall conform to requirements of ASTM C171.
 - 3. White burlap-polyethylene sheeting for curing concrete shall conform to requirements of ASTM C171.
 - 4. Waterproof paper for curing concrete shall conform to requirements of ASTM C171.

2.8 FORMS

- A. Forms shall be constructed of steel with the exception of curved areas and sidewalks.
 - 1. Use flexible or curved forms for curves of a radius 100 feet or less.
 - 2. Forms should be no less than 10 feet in length.
- B. Form-Release Agent: Commercially formulated form-release agent with a maximum of 350 g/l volatile organic compounds (VOCs) that will not bond with, stain, or adversely affect concrete surfaces, nor impair subsequent treatments of concrete surfaces.

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- C. Form Ties: Factory-fabricated, adjustable-length, removable or snap-off metal form ties designed to prevent form deflection and to prevent spalling of concrete upon removal. Provide units to leave no metal closer than 1-1/2 inches to exposed concrete surface plane.
 - 1. Provide ties so, when removed, will leave holes not larger than 1-inch in diameter in the concrete surface.

2.9 RELATED MATERIALS

- A. Expansion- and Isolation-Joint-Filler Strips: ASTM D1751, asphalt-saturated cellulosic fiber.
- B. Texture Surface for Ramps:
 - 1. Meet requirements of Texas Accessibility Standards.
 - 2. Color as selected by Owner.
 - 3. Surface should be non-skid.
 - 4. Durabak with Safti-Traxx Detacable Warning System by Cote-L Distribution Company, or approved equal.
- C. Bonding Agent: Polyvinyl acetate or acrylic base.
- D. Sand Cushion: Clean, manufactured or natural sand with plasticity index of 8 or less.
- E. Epoxy Adhesive: ASTM C881, two-component material suitable for use on dry or damp surfaces. Provide material type, grade, and class to suit Project requirements.

2.10 FIBER REINFORCEMENT

- A. TxDOT Item 440, Fiber Mesh, Caprolan RC, or approved equal.
- B. Material and rate of application shall be approved by Engineer prior to placement.
- C. Fiber reinforcement is allowed at Contractor discretion for slab-on-grade applications unless otherwise specified on Drawings or Specifications.

PART 3 - EXECUTION

3.1 PREPARATION

- A. Proof-roll prepared subbase surface to check for unstable areas and verify need for additional compaction. Proceed with pavement only after nonconforming conditions have been corrected and subgrade is ready to receive pavement.
- B. Remove loose material from compacted subbase surface immediately before placing concrete.

3.2 EDGE FORMS AND SCREED CONSTRUCTION

- A. Set, brace, and secure edge forms, bulkheads, and intermediate screed guides for pavement to required lines, grades, and elevations. Install forms to allow continuous progress of work and so forms can remain in place at least 24 hours after concrete placement.
- B. Clean forms after each use and coat with form release agent to ensure separation from concrete without damage.

3.3 STEEL REINFORCEMENT

- A. Accurately place and secure in position all reinforcing steel as shown on the plans. Comply with TxDOT Item 360 for all steel reinforcement installation.
- B. Clean reinforcement of loose rust and mill scale, earth, ice, or other bond-reducing materials.
- C. Arrange, space, and securely tie bars and bar supports to hold reinforcement in position during concrete placement. Maintain minimum cover to reinforcement.

3.4 JOINTS

- A. Construct isolation, contraction, construction joints, and tool edgings true-to-line with faces perpendicular to surface plane of concrete. Construct transverse joints at right angles to centerline, unless otherwise indicated. When joining existing pavement, place transverse joints to align with previously placed joints, unless otherwise indicated.
- B. Construction Joints: Set construction joints at side and end terminations of pavement and at locations where pavement operations are stopped for more than a half hour, unless pavement terminates at isolation joints.
 - 1. Continue reinforcement across construction joints, unless otherwise indicated. Do not continue reinforcement through sides of pavement strips, unless otherwise indicated.
 - 2. Provide tie bars at sides of pavement strips where indicated.
 - 3. Use a bonding agent at locations where fresh concrete is placed against hardened or partially hardened concrete surfaces.
- C. Form Isolation Joints of preformed joint-filler strips abutting concrete curbs, catch basins, manholes, inlets, structures, walks, other fixed objects, and where indicated.
 - 1. Extend joint fillers full width and depth of joint.
 - 2. Terminate joint filler less than 1/2-inch or more than 1-inch below finished surface if joint sealant is indicated.
 - 3. Place top of joint filler flush with finished concrete surface if joint sealant is not indicated.
 - 4. Furnish joint fillers in one-piece lengths. Where more than one length is required, lace or clip joint-filler sections together.
 - 5. Protect top edge of joint filler during concrete placement with metal, plastic, or other temporary preformed cap. Remove protective cap after concrete has been placed on both sides of joint.
- D. Driveway and Pavement Grooved Joints: Form contraction joints after initial floating by grooving and finishing each edge of joint with groover tool. Repeat grooving of contraction joints after applying surface finishes. Eliminate groover marks on concrete surfaces. Refer to Plans for joint dimensions.
- E. Sidewalks:
 - 1. Control Joints: Saw-cut 1/8-inch control joints after curing to depth shown on Plans. Joints shall be clean, straight lines as shown on Plans. Concrete surface shall be cleaned of all debris after installation.
 - 2. Expansion Joints: Install at formed construction joints.

3.5 CONCRETE PLACEMENT

- A. Inspection: Before placing concrete, inspect and complete formwork installation, reinforcement steel, and items to be embedded or cast in.
- B. Remove snow, ice, or frost from subbase surface and reinforcement before placing concrete. Do not place concrete on frozen surfaces.
- C. Moisten subbase to provide a uniform dampened condition at the time concrete is placed. Do not place concrete around manholes or other structures until at required finish elevation and alignment.
- D. Comply with requirements and with recommendations in ACI 304R for measuring, mixing, transporting, and placing concrete.
- E. Deposit and spread concrete in a continuous operation between transverse joints. Do not push or drag concrete into place or use vibrators to move concrete into place.
- F. Consolidate concrete by mechanical vibrating equipment supplemented by hand-spading, rodding, or tamping. Use equipment and procedures to consolidate concrete according to recommendations in ACI 309R. Consolidate concrete along face of forms and adjacent to transverse joints with an internal vibrator. Keep vibrator away from joint assemblies, reinforcement, or side forms. Use only square-faced shovels for hand-spreading and consolidation. Consolidate with care to prevent dislocating reinforcement, dowels, and joint devices.
- G. Place concrete in two operations; strike off initial pour for entire width of placement and to the required depth below finish surface. Lay welded wire fabric or fabricated bar mats immediately in final position. Place top layer of concrete, strike off, and screed. Remove and replace portions of bottom layer of concrete placed more than 15 minutes without covered by top layer or use bonding agent if approved by Engineer.
- H. Screed pavement surfaces with a straightedge and strike off. Commence initial floating using bull floats or darbies to form an open textured and uniform surface plane before excess moisture or bleed water appears on the surface. Do not further disturb concrete surfaces before beginning finishing operations or spreading dry-shake surface treatments.
- I. When adjoining pavement lanes are placed in separate pours, do not operate equipment on concrete until pavement has attained 85 percent of 28-day compressive strength.
- J. Cold-Weather Placement: Comply with ACI 306.1. Protect concrete work from physical damage or reduced strength caused by frost, freezing actions, or low temperatures.
 - 1. When air temperature has fallen to, or is expected to fall below, 40 degrees F, uniformly heat water and aggregates before mixing to obtain a concrete mixture temperature of not less than 50 and not more than 80 degrees F at point of placement.
 - 2. Do not use frozen materials or materials containing ice or snow.
 - 3. Do not use calcium chloride, salt, or other materials containing antifreeze agents or chemical accelerators, unless otherwise specified and approved in mix designs.
- K. Hot-Weather Placement: Place concrete according to recommendations in ACI 305R and as follows when hot-weather conditions exist:
 - 1. Cool ingredients before mixing to maintain concrete temperature at time of placement below 90 degrees F. Chilled mixing water or chopped ice may be used to control temperature, provided water equivalent of ice is calculated to total amount of mixing water. Using liquid nitrogen to cool concrete is Contractor option.
 - 2. Cover reinforcement steel with water-soaked burlap so steel temperature will not exceed ambient air temperature immediately before embedding in concrete.
 - 3. Fog-spray forms, reinforcement steel, and subgrade just before placing concrete. Keep subgrade moisture uniform without standing water, soft spots, or dry areas.

3.6 CONCRETE FINISHING

- A. DO NOT wet concrete surfaces during screeding, initial floating, or finishing operations.
- B. Float Finish: Begin second floating operation when bleed-water sheen disappears and concrete surface stiffens sufficiently to permit operations. Float surface with power-driven floats or hand-floating if area is small or inaccessible to power units. Finish surfaces to true planes. Cut down high spots and fill low spots. Refloat surface immediately to uniform granular texture.
 - 1. Light-to-Medium Broom Finish: For concrete sidewalks.
 - 2. Medium-to-Coarse-Textured Broom Finish: For concrete pavement and driveways, provide a medium-to-coarse finish by dragging float-finished concrete surface 1/16- to 1/8-inch deep with a stiff-bristled broom, perpendicular to line of traffic.
- C. Wall Finishes: Concrete walls shall be form-revealed finish. Reference Plans for forms dimension control.

3.7 CONCRETE PROTECTION AND CURING

- A. Protect freshly-placed concrete from premature drying and excessive cold or hot temperatures. Comply with ACI 306.1 for cold-weather protection and follow recommendations in ACI 305R for hot-weather protection during curing.
- B. Evaporation Retarder: Apply evaporation retarder to concrete surfaces if hot, dry, or windy conditions cause moisture loss approaching 0.2 lb./sq. ft. x H before and during finishing operations. Apply according to manufacturer written instructions after placing, screeding, and bull floating or darbying concrete, but before float finishing.
- C. Begin curing after finishing concrete but not before free water disappears from concrete surface.
- D. Curing Methods: Cure concrete by moisture-curing, moisture-retaining-cover-curing, curing compound, or a combination.
 - 1. Moisture Curing: Keep surfaces continuously moist for no less than seven days with water, continuous water-fog spray, and absorptive cover, water saturated, and kept continuously wet. Cover concrete surfaces and edges with 12-inch lap over adjacent absorptive covers.
 - 2. Moisture-Retaining-Cover Curing: Cover concrete surfaces with moisture-retaining cover for curing concrete, placed in widest practicable width, with sides and ends lapped at least 12 inches, and sealed by waterproof tape or adhesive. Immediately repair any holes or tears during curing period using cover material and waterproof tape.
 - 3. Curing Compound: Apply uniformly in continuous operation by power spray or roller according to manufacturer's written instructions. Recoat areas subjected to heavy rainfall within three hours after initial application. Maintain continuity of coating and repair damage during curing period.

3.8 FIELD QUALITY CONTROL

- A. Testing Agency: Contractor shall sample materials, perform tests, and submit test reports during concrete placement. Sampling and testing for quality control include those specified in this Article.

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- B. Testing Services: Perform testing according to these requirements:
1. Uniformity of Concrete: Tex-472-A
 2. Slump: Tex-415-A; one test at point of placement for each compressive-strength test, but not less than 1 test for each day's pour of each type of concrete. Additional tests will be required when concrete consistency changes.
 3. Air Content: Tex-416-A, pressure method; one test for each compressive-strength test, but not less than one test for each day's pour of each type of air-entrained concrete.
 4. Concrete Temperature: Tex-422-A; one test hourly when air temperature is 40 degrees F and below and 80 degrees F and above, and one test for each set of compressive-strength specimens.
 5. Compression Test Specimens: Tex-447-A; one set of four standard cylinders for each compressive-strength test, unless otherwise indicated. Cylinders shall be molded and stored for laboratory-cured test specimens unless field-cured test specimens are required.
 6. Compressive-Strength Tests: Tex-418-A; 1 set for each day's pour of each concrete class exceeding 5 cubic yards, but less than 25 cubic yards, plus one set for each additional 50 cubic yards. One specimen shall be tested at seven days and 2 specimens at 28 days. Retain one specimen in reserve for later testing if required.
 7. When frequency of testing will provide fewer than 5 compressive-strength tests for a given class of concrete, testing shall be conducted from at least 5 randomly selected batches or from each batch if fewer than five are used.
- C. Test results shall be reported in writing to Engineer and Contractor within 24 hours of testing. Reports of compressive-strength tests shall contain Project identification name and number, date of concrete placement, name of concrete testing agency, concrete type and class, location of concrete batch in pavement, design compressive strength at 28 days, concrete mix proportions and materials, compressive breaking strength, and type of break for both seven- and 28-day tests.
- D. Nondestructive Testing: Impact hammer, sonoscope, or other nondestructive device may be permitted by Engineer but not used as the sole basis for approval or rejection.
- E. Additional Tests: Contractor shall make additional tests of concrete when test results indicate slump, air entrainment, concrete strengths, or other requirements are not met, as directed by Engineer. Contractor may conduct tests to determine adequacy of concrete by cored cylinders complying with Tex-424-A, or by other methods as directed.
- F. Contractor shall pay for failing tests.
- G. Questionable Concrete:
1. Concrete considered "Questionable Concrete" where any of the following test evaluations occur:
 - a. Individual test strength is below specified strength; or
 - b. Samples of concrete for acceptance test cylinders or acceptance test beams are not representative of concrete-in-place in the pavement; or
 - c. Insufficient or inadequate concrete curing; or
 - d. Insufficient number of acceptance test cylinders or acceptance test beams for days concreting were made for testing.

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2. Except where core tests will impair the strength of the structure, core test as directed by Owner shall be made at no cost to Owner to resolve Questionable Concrete. If core tests fail to demonstrate test strength required by Contract Documents or structural analysis does not confirm the adequacy of structure, Owner may, at his discretion, reject work or require load tests or additional construction. Should structural analysis confirm the adequacy of pavement, Owner may, at his discretion, accept concrete with credit for full value of concrete delivered to site in accordance with General Conditions.
 3. Contractor shall pay all costs incurred in providing the additional testing or analysis to resolve acceptability of Questionable Concrete.
 4. Core Tests:
 - a. Three representative cores shall be taken from each member or area of concrete for each test considered questionable. Location of cores shall be as directed by Owner to least impair pavement strength. Damaged cores shall be replaced.
 - b. Cores shall be obtained and tested in accordance with Tex-424-A except that if concrete in structure will be dry under service conditions cores shall be air dried (temperature 60 to 80 degrees F, and relative humidity less than 60 percent) for seven days before test and shall be tested dry. If concrete in structure will be more than superficially wet under service conditions, cores shall be immersed in water for at least 48 hours and tested wet.
 - c. Questionable concrete will be considered structurally acceptable if average of cores is equal to or greater than 90 percent of the specified strength and no single core is greater than 500 psi below specified compressive strength (50 psi below specified beam strength).

3.9 REPAIRS OF DEFECTIVE PAVEMENT SLABS

- A. Replace or repair broken slabs, random cracks, nonworking contraction joints near cracks, and spalls along joints and cracks as specified at no cost to Owner.
- B. Broken Slabs: Entirely remove and replace pavement slabs containing multiple cracks through more than 1/4 of the depth of slab separating slab into three or more parts and pavement slabs with one or more cracks through more than 1/4 of pavement depth extending diagonally across more than 1/3 of the slab either transversely or longitudinally. Repair pavement slabs containing a single diagonal crack intersecting transverse and longitudinal joints within 1/3 of the width and length of slab from corner by removing and replacing smaller portion of slab.
- C. Grooving and Repairing Cracks in Pavement Slabs: Random cracks penetrating more than 1/4 of pavement depth shall be grooved, crack filled with epoxy-resin, and groove filled with epoxy-resin grout. Groove top of crack to a minimum depth of 3/4-inch and a width not less than 3/8 nor more than 5/8-inch by means of an approved grooving machine. Grooving machine shall be vertical rotary-cutting and capable of following closely the crack path and of widening the crack top to the required section without spalling or otherwise damaging concrete. Fill random cracks that are tight and penetrate less than 1/4 of the pavement depth with epoxy-resin. When necessary, determine depth of crack penetration by core inspection of not less than 4 inches in diameter, drilled by Contractor, at his expense, at locations directed. Refill core holes with portland cement concrete, bonded to pavement with epoxy-resin grout. In addition, when longitudinal crack is continuous across one or more slabs and penetrates more than 1/4 of the pavement depth, drill core holes not less than 6 inches in diameter through full depth of slab at both ends of crack. In operation to drill cores at the longitudinal-crack ends, position core bits so core

removed will include not more than 3 inches of crack. Use sandblasting and high-pressure air jets to remove any fines near apparent ends of crack to permit accurate determination of crack ends. Remove all fines, dust, and other loose material on cored holes wall by scrubbing with a stiff-bristle brush, followed by washing and dewatering core hole. Refill these core holes with epoxy-resin concrete. Apply a prime coat of epoxy-resin binder thinned with three parts toluene to seven parts epoxy binder, by volume, and brush into vertical wall of core hole. Delay placement of epoxy-resin concrete until prime coat becomes stringy or approaches dry to touch. Place epoxy-resin concrete in layers not over 6 inches thick. Time interval between additional layer placement shall be so epoxy-resin concrete temperature does not exceed 140 degrees F any time during hardening.

3.10 NONWORKING (UNCRACKED) CONTRACTION JOINTS

- A. When a transverse random crack terminates in or crosses a transverse contraction joint, fill uncracked portion of the joint with epoxy-resin mortar or grout and crack shall be routed and sealed. When a transverse random crack approximately parallels planned contraction joint and is within a distance of 25 percent of slab length from a contraction joint, route and seal crack, and fill joint with epoxy-resin grout or mortar. When a transverse random crack is more than 25 percent of slab length from nearest contraction joint, seal joint and crack. Thoroughly clean joints to be filled with epoxy-resin mortar or grout.

3.11 SPALLING ALONG JOINTS AND CRACKS

- A. Repair spalls by making a saw cut at least 1-inch outside spalled area to a minimum depth of 2 inches. When spalled area abuts a joint, saw cut shall be made to a depth of 2 inches or 1/6 slab thickness, whichever is greater. Remove concrete between saw cut and joint or primary crack to a minimum depth of 2 inches below original concrete surface, and additional depth where necessary to expose a surface of sound, unweathered concrete, uncontaminated by oils, grease, deicing salts, solutions, or other substances inhibiting the epoxy-resin bonding material performance. Accomplish removal of concrete volume between saw cut and joint or primary crack using a hydraulic impact hammer or other method approved by Owner Representative. Contractor shall exercise care in removing required concrete so no damage is inflicted on adjoining concrete slab. Contractor shall repair damage of adjoining concrete, at his expense, to satisfaction of Owner Representative.
- B. Thoroughly clean concrete void to patch with compressed air, sandblasting, or other approved method to remove all loose material. Apply a prime coat of epoxy-resin binder thinned with three parts toluene to seven parts epoxy binder, by volume, to dry, cleaned surface of all sides of cavity, except joint or primary crack face. Apply prime coat in a thin coating and scrub into surface with stiff-bristle brush. Delay placement of portland cement concrete or epoxy-resin concrete or mortar until prime coat becomes stringy or approaches dry to touch. Then place epoxy concrete in the cavity in layers not exceeding 2 inches thick. Time interval between placement of additional layers shall be so temperature of epoxy-resin concrete does not exceed 140 degrees F at any time during hardening. Use mechanical plate, screed, float vibrators, or hand tampers to consolidate concrete or mortar. Remove excess mortar or concrete on adjacent surfaces of hardened concrete before it hardens. After finishing operations and while epoxy-resin concrete or mortar is still tacky, uniformly spread a thin coating of portland cement on surface of repaired area and lightly brush into surface. If spalled area to patch abuts a working joint or working crack which penetrates full depth of a slab, use an insert or other bond-breaking medium to maintain working joints or cracks during repair work. Use surface embedment of flexible

polyethylene or other suitable type hose to form a groove along working crack to fill with appropriate type of joint-sealing material. Carefully remove hose before concrete hardens sufficiently to form a high bond. Thoroughly clean groove and fill with sealer as specified in Section 32 13 73 "Concrete Paving Joint Sealants."

3.12 REMOVAL AND REPLACEMENT OF DEFECTIVE PAVEMENT AREAS

- A. Remove and replace defective pavement areas as specified with pavements of the thickness and quality required by these Specifications. Carefully remove defective pavement so adjacent pavement will not be damaged and existing reinforcement at joints will be left intact. When replacing a portion of an unfractured slab, make a 2-inch deep saw cut transversely across slab in required location, and remove concrete to provide an essentially vertical face in remaining portion of slab. Prior to placement of fresh concrete, clean face of slab of debris and loose concrete then thoroughly coat with epoxy-resin grout. Epoxy-resin coating shall be approximately 1/16-inch and applied by scrubbing a thin coat of grout into surface with stiff-bristle brush followed by a second application. Place strips of polyethylene sheeting on vertical faces of adjacent slabs at juncture with slab to patch as a bond-breaking medium. Accomplish placement of fresh, portland cement concrete while epoxy-resin is still tacky so grout coating is not removed. Construct longitudinal and transverse joints of replaced slab or portion as indicated. Seal joints as specified in Section 32 13 73 "Concrete Paving Joint Sealants." Replaced pavements will be paid for at contract price but no payment made for defective pavements removed nor for cost of removing defective pavements.

3.13 TOLERANCE IN SLAB THICKNESS

- A. Determine thickness of slab by average caliper measurement of cores tested in accordance with Tex-423-A. Owner's Representative may elect to measure thickness of concrete pavement prior to placement based on measurements from a string line stretched across forms or in plastic concrete behind concrete placing operation.
- B. Remove and replace areas found deficient in thickness with concrete of thickness shown on Plans at Contractor expense. If cores are used to determine concrete thickness, Contractor shall fill core holes with non-shrink grout at his expense.

END OF SECTION

SECTION 31 10 00 - SITE CLEARING

PART 1 - GENERAL

1.1 SUMMARY

- A. Section Includes:
 - 1. Site preparation, excavation, grading, trenching, and backfilling required for project. Excavation of whatever material encountered for all structures in project, as required by Drawings or directed by Engineer. Contractor disposes material required moved during site preparation, excess excavated material, or any material unsuitable for backfilling.
 - 2. Excavation not classified nor additional compensation allowed for rock. Bidders to investigate nature of material encountered in excavations as necessary and assume all responsibility for fully informing themselves of character of such material.
 - 3. Contractor furnishes all materials, equipment tools, labor, superintendence, and incidentals required to perform Work as indicated on Drawings, directed by Engineer, and specified.
- B. Related Sections:
 - 1. Division 01 Specification Sections apply to Work of this Section.
 - 2. Division 31 Specification Sections apply to Work of this Section.
 - 3. Division 32 Specification Sections apply to Work of this Section.
 - 4. Division 33 Specification Sections apply to Work of this Section.

1.2 TRENCH SAFETY

- A. Contractor responsible for complying with all applicable State of Texas safety standards and applicable OSHA regulations concerning trench excavation, general excavation, and construction safety.
- B. Contractor responsible for implementing trench safety system wherever trench depth exceeds 5 feet. Contractor refers to Section 31 41 10 "Trench Safety Systems" for approved trench safety methods for pipelines.

PART 2 - PRODUCTS (Not Used)

PART 3 - EXECUTION

3.1 CLEARING SITE AREA

- A. Clearing consists of removal and lawful disposal of all items in Project Area that do not meet requirements of project specifications and are an obstruction to proposed improvements. Such items might include vegetation, rubble, trees, tree roots, down timbers, snags, brush, pavements of various types, and rubbish within areas to clear. Individual trees, groups of trees, or other vegetation not required to removed and occurring outside earthwork area, shall be protected against unnecessary cutting, breaking or skinning roots, skinning and brushing bark, or smothering trees by stockpiling construction materials or excavated materials within drip lines.
- B. Explosives will not be allowed.
- C. Solid items must be removed to a depth of at minimum 1 foot below finished grade or subgrade elevation.

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- D. Hollow objects must be removed in entirety.
 - E. Removal of Concrete: Cut concrete at the right-of-way line straight and vertical by sawing or other approved methods prior to the removal of concrete in the right-of-way.

3.2 DISPOSAL

- A. Unless otherwise specified, any material cleared from Project Area becomes Contractor ownership and lawfully disposed.

3.3 TRENCHING AND BACKFILLING PIPELINES

- A. Pipe trench excavation to lines and grades shown on Drawings and established in field. Trenching and backfilling for water pipelines specified in other specification sections.

3.4 CLEAN UP

- A. After completing all work regarding project, clean entire work area and any adjacent areas disturbed by construction of all construction debris, rocks and excess materials and Contractor removes all such material from site or highway right-of-way and disposes. Replace any sod disturbed by installing these facilities. Grade entire area to uniform surfaces and present a neat and clean appearance before final acceptance.

END OF SECTION

SECTION 31 23 16.13 - TRENCHING

PART 1 - GENERAL

1.1 SUMMARY

- A. Section Includes:
 - 1. Excavating trenches for utilities.
 - 2. Compacted fill from top of utility bedding match finished grade elevations as shown on plans.
 - 3. Backfilling and compaction.
- B. Related Sections:
 - 1. Section 03 30 00 "Cast-In-Place Concrete": Concrete materials.

1.2 REFERENCES

- A. American Association of State Highway and Transportation Officials:
 - 1. AASHTO T180 - Standard Specification for Moisture-Density Relations of Soils Using a 4.54-kg Rammer and a 457-mm Drop.
- B. ASTM International:
 - 1. ASTM D698 - Standard Test Method for Laboratory Compaction Characteristics of Soil Using Standard Effort 12,400 ft-lbf/ft³.
 - 2. ASTM D1556 - Standard Test Method for Density and Unit Weight of Soil in Place by the Sand-Cone Method.
 - 3. ASTM D1557 - Standard Test Methods for Laboratory Compaction Characteristics of Soil Using Modified Effort 56,000 ft-lbf/ft³.
 - 4. ASTM D2167 - Standard Test Method for Density and Unit Weight of Soil in Place by the Rubber Balloon Method.
 - 5. ASTM D2922 - Standard Test Method for Density of Soil and Soil-Aggregate in Place by Nuclear Methods (Shallow Depth).
 - 6. ASTM D3017 - Standard Test Method for Water Content of Soil and Rock in Place by Nuclear Methods (Shallow Depth).

1.3 DEFINITIONS

- A. Utility: Any buried pipe, duct, conduit, or cable.

1.4 SUBMITTALS

- A. Section 01 33 00 "Submittal Procedures": Requirements for submittals.
- B. Excavation Protection Plan: Describe sheeting, shoring, and bracing materials and installation required to protect excavations and adjacent structures and property; include structural calculations to support plan.

1.5 QUALITY ASSURANCE

- A. Perform Work in accordance with the Texas Commission on Environmental Quality and City of Midland Standards and Specifications.

1.6 FIELD MEASUREMENTS

- A. Verify field measurements prior to fabrication.

1.7 COORDINATION

- A. Section 01 30 00 "Administrative Requirements": Coordination and project conditions.
- B. Verify Work associated with lower elevation utilities is complete before placing higher elevation utilities.
- C. Coordinate existing utility crossing with utility owners. Ensure crossings meet owner's crossing requirements.

PART 2 - PRODUCTS

2.1 FILL MATERIALS

- A. Fill materials shall meet requirements as indicated on Drawings.

PART 3 - EXECUTION

3.1 LINES AND GRADES

- A. Lay pipes to lines and grades indicated on Drawings.
 - 1. Engineer reserves right to make changes in lines, grades, and depths of utilities when changes are required for Project conditions.
- B. Use laser-beam instrument with qualified operator to establish lines and grades.

3.2 PREPARATION

- A. Call Local Utility Line Information service at numbers provided in Drawings not less than minimum notifications day required by state law.
 - 1. Request underground utilities to be located and marked within and surrounding construction areas.
- B. Identify required lines, levels, contours, and datum locations.
- C. Protect bench marks, existing structures, fences, sidewalks, paving, and curbs from excavating equipment and vehicular traffic.
- D. Maintain and protect above and below grade utilities indicated to remain.
- E. Establish temporary traffic control and detours when trenching is performed in public right-of-way. Relocate controls and reroute traffic as required during progress of Work.

3.3 TRENCHING

- A. Top soil shall be removed prior to trenching activities. Top soil shall be kept separated from subsoil for replacement during backfilling operations.
- B. Excavate subsoil required for utilities to grades provided in constructions plans.
- C. Remove lumped subsoil, boulders, and rock up to 2-inch diameter from trench backfill.
- D. Perform excavation within 36 inches of existing utility lines in accordance with utility's company's crossing requirements.

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- E. Do not advance open trench by more than can be backfilled at the end of each day ahead of installed pipe.
 - F. Cut trenches to width indicated on Drawings. Remove water or materials that interfere with Work.
 - G. Excavate bottom of trenches maximum 6 inch deeper than outside of pipe.
 - H. Excavate trenches to depth indicated on Drawings. Provide uniform and continuous bearing and support for bedding material and pipe.
 - I. Provide trench protection in accordance with 31 41 10. Sealed trench protection plan requirements take precedence.
 - J. When subsurface materials at bottom of trench are loose or soft, excavate to greater depth as directed by Engineer until suitable material is encountered.
 - K. Cut out soft areas of subgrade not capable of compaction in place. Backfill with crushed stone and compact to density equal to or greater than requirements for subsequent backfill material.
 - L. Trim excavation. Hand trim for bell and spigot pipe joints. Remove loose matter.
 - M. Correct areas over excavated areas with compacted backfill as specified for authorized excavation or replace with fill concrete as directed by Engineer.

3.4 SHEETING AND SHORING

- A. Provide sheeting and shoring as directed in the trench protection plan.
- B. Sheet, shore, and brace excavations to prevent danger to persons, structures and adjacent properties and to prevent caving, erosion, and loss of surrounding subsoil.
- C. Support trenches excavated through unstable, loose, or soft material. Provide sheeting, shoring, bracing, or other protection to maintain stability of excavation.
- D. Repair damage caused by failure of the sheeting, shoring, or bracing and for settlement of filled excavations or adjacent soil.
- E. Repair damage to new and existing Work from settlement, water or earth pressure or other causes resulting from inadequate sheeting, shoring, or bracing.

3.5 BACKFILLING

- A. Backfill trenches to contours and elevations with unfrozen fill materials.
- B. Place material in continuous layers per requirements indicated on Drawings.
- C. Employ placement method that does not disturb or damage existing, utilities in trench, and surrounding improvements.
- D. Maintain optimum moisture content of fill materials to attain required compaction density.
- E. Do not leave more than 25 feet of trench open at end of working day.
- F. Protect open trench to prevent danger to Owner and the public.

3.6 TOLERANCES

- A. Section 01 40 00 "Quality Requirements": Tolerances.
- B. Top Surface of General Backfilling: Plus or minus 1 inch from required elevations.
- C. Shape backfill to prevent ponding of water.

3.7 FIELD QUALITY CONTROL

- A. Section 01 40 00 "Quality Requirements" and 01 70 00 "Execution and Closeout Requirements": Field inspecting, testing, adjusting, and balancing.
- B. Perform laboratory material tests in accordance with ASTM D1557. ASTM D698 based on specified compaction method.

-
- C. Perform in place compaction tests in accordance with the following:
 - 1. Density Tests: ASTM D1556, ASTM D2167, or ASTM D2922.
 - 2. Moisture Tests: ASTM D3017.
 - D. When tests indicate Work does not meet specified requirements, replace, compact, and retest.
 - E. Frequency of Tests: one test for every 300 linear feet of fill, or as specified by the Engineer.

3.8 PROTECTION OF FINISHED WORK

- A. Section 01 70 00 "Execution and Closeout Requirements": Protecting finished work.
- B. Reshape and re-compact fills subjected to vehicular traffic during construction.

3.9 SCHEDULE

- A. Pressure and Gravity Piping:
 - 1. Bedding: As indicated in Drawings.
 - 2. Trench Backfill: As indicated in Drawings. Uniformly compact all areas under pavement or within City of Midland ROW to minimum 95 percent Modified Density per ASTM D1557. Uniformly compact all other areas to minimum 95 percent Standard Density per ASTM D698.

END OF SECTION

SECTION 31 41 10 - TRENCH SAFETY SYSTEMS

PART 1 - GENERAL

1.1 SUMMARY

- A. Section Includes:
 - 1. Trench safety systems for trench excavations greater than 5 feet deep. All work performed under this Section shall also comply with OSHA Part 1926, Subpart P and all state and local codes.
 - 2. Contractor shall be responsible for complying with requirements of Specifications, Drawings, and all applicable codes. Contractor shall immediately notify Engineer of any unforeseen field conditions which might affect integrity of trench safety system.
 - 3. Alternative methods of trench safety may be submitted for Engineer approval; however, alternative methods will not be reviewed or approved prior to bid opening.
- B. Related Sections:
 - 1. Division 01 Specification Sections apply to Work of this Section.

1.2 SUBMITTALS

- A. Provide detail drawings for proposed trench safety systems. Clearly identify where each system is proposed for use and type of system to be used.
- B. Trench Boxes: Submit manufacturer standard data sheet and Certificate of Compliance signed by a registered engineer stating maximum allowable depth for given design pressure for each type of trench box proposed for use.
- C. Alternative Systems: If alternative systems composed of steel, aluminum, wood, or combination of materials are proposed, submit design calculations signed by registered engineer showing all member properties, design strengths, and any stress increases used with justification for use.
- D. Trench excavations cannot be started until trench safety systems have been submitted and approved by Engineer as specified.

1.3 QUALITY ASSURANCE

- A. Trench safety systems shall be designed based on actual field conditions. Contractor shall review and determine field conditions for Project.
- B. Work shall be performed by forces having at least 2 years' experience with similar types of trench safety systems. All prefabricated items used in trench safety systems shall be manufactured by a company with at least 2 years' experience in fabricating items.
- C. Contractor shall be responsible for complying with all trench safety requirements and for safety of trenches and excavations.

PART 2 - PRODUCTS

2.1 GENERAL

- A. Provide suitable materials capable of withstanding imposed loads without excessive deflections. Materials shall be clean, free of rust, holes, knots, and other defects.
- B. Steel shall be of type and thickness as required by design and with minimum yield stress of $F_y = 36,000$ psi.
- C. Aluminum Type 6061-T6, thickness as required by design.
- D. Wood in contact with earth to be pressure-treated soft woods or untreated hardwoods.
- E. Wood not in contact with earth to be soft or hardwood as required by design.

PART 3 - EXECUTION

3.1 JOB CONDITIONS

- A. Prior to starting trench excavations, Contractor shall examine all site conditions and note any conditions in existing pavements, structures, and other items which may be adversely affected by trenching operations. Prepare a written list of all such conditions and submit list to Engineer. During trenching operations, note any changes which occur to existing pavements or structures and submit written report to Engineer of all such changes.

3.2 EXISTING UTILITIES

- A. Prior to starting trench excavations, chart and field locate all existing utilities. Notify owners of all utilities of work to be performed. Protect all existing utilities from damage. Provide additional support for utility lines which cannot span trench width. Do not interrupt existing services without written approval by Engineer and utility Owner.

3.3 TRENCHING PROCEDURES

- A. Provide shoring systems in accordance with the submitted design to adequately resist earth pressures indicated on the Drawings.
- B. Proceed with work in an orderly fashion. Install trench bracing systems as soon as possible after opening trenches. Do not allow workers in trench prior to installing trench bracing systems.
- C. Backfill trenches as soon as possible after completion of Work.
- D. Stockpile excavated materials at three feet away from edge of trench.
- E. Maintain barricades and signage as required by state and local codes to protect open excavations.
- F. Do not allow surface water to enter excavations. Properly grade areas adjacent to trench excavations to control surface drainage away from excavations. Excavations which must remain open during periods of rainfall shall be covered with suitable material to prevent accumulations of water in excavation.
- G. If cut back method is employed, maintain a clear distance of three feet from edge of cut to avoid allowing loose material to enter trench.
- H. Do not operate heavy equipment except for trench digging equipment within 20 feet of edge of excavation.

END OF SECTION

SECTION 31 50 00 - EXCAVATION SUPPORT AND PROTECTION

PART 1 - GENERAL

1.1 SUMMARY

- A. Section includes temporary excavation support and protection systems.
- B. Related Requirements:
 - 1. Division 01 Specification Sections apply to Work of this Section.

1.2 ACTION SUBMITTALS

- A. Delegated-Design Submittal: For excavation support and protection systems, including analysis data signed and sealed by the qualified professional engineer responsible for their preparation.

1.3 INFORMATIONAL SUBMITTALS

- A. Qualification Data: For the following:
 - 1. Professional Engineer: Experience with providing delegated-design engineering services of the type indicated, including documentation that engineer is licensed in the state in which Project is located.
- B. Contractor Calculations: For excavation support and protection system. Include analysis data signed and sealed by the qualified professional engineer responsible for their preparation.
- C. Existing Conditions: Using photographs or video recordings, show existing conditions of adjacent construction and site improvements that might be misconstrued as damage caused by inadequate performance of excavation support and protection systems. Submit before Work begins.

1.4 CLOSEOUT SUBMITTALS

- A. Record Drawings: Identify locations and depths of capped utilities, abandoned-in-place support and protection systems, and other subsurface structural, electrical, or mechanical conditions.

1.5 FIELD CONDITIONS

- A. Interruption of Existing Utilities: Do not interrupt any utility-serving facilities occupied by Owner or others unless permitted under the following conditions and then only after arranging to provide temporary utility according to requirements indicated:
 - 1. Notify Engineer no fewer than 2 weeks in advance of proposed interruption of utility.
 - 2. Do not proceed with interruption of utility without Engineer written permission.
- B. Survey Work: Engage a qualified land surveyor or professional engineer to survey adjacent existing buildings, structures, and site improvements; establish exact elevations at fixed points to act as benchmarks. Clearly identify benchmarks, and record existing elevations.

PART 2 - PRODUCTS

2.1 PERFORMANCE REQUIREMENTS

- A. Delegated Design: Engage a qualified professional engineer, as defined in Section 01 40 00 "Quality Requirements," to design excavation support and protection systems to resist all lateral loading and surcharge, including but not limited to, retained soil, groundwater pressure, adjacent building loads, adjacent traffic loads, construction traffic loads, material stockpile loads, and seismic loads, based on the following:
 - 1. Compliance with OSHA Standards and interpretations, 29 CFR 1926, Subpart P.
 - 2. Compliance with AASHTO Standard Specification for Highway Bridges or AASHTO LRFD Bridge Design Specification, Customary U.S. Units.
 - 3. Compliance with requirements of authorities having jurisdiction.
 - 4. Compliance with utility company requirements.
 - 5. Compliance with railroad requirements.

2.2 MATERIALS

- A. Provide materials that are either new or in serviceable condition.
- B. Structural Steel: ASTM A 36, ASTM A 690, or ASTM A 992.
- C. Steel Sheet Piling: ASTM A 328, ASTM A 572, or ASTM A 690; with continuous interlocks.
 - 1. Corners: Site-fabricated mechanical interlock.

PART 3 - EXECUTION

3.1 INSTALLATION - GENERAL

- A. Locate excavation support and protection systems clear of permanent construction, so that construction and finishing of other work is not impeded.
- B. Install excavation support and protection systems to ensure minimum interference with roads, streets, walks, and other adjacent occupied and used facilities.
 - 1. Do not close or obstruct streets, walks, or other adjacent occupied or used facilities without permission from Owner and authorities having jurisdiction.
 - 2. Provide alternate routes around closed or obstructed traffic ways if required by authorities having jurisdiction.
- C. Install excavation support and protection systems without damaging existing buildings, structures, and site improvements adjacent to excavation.

3.2 MAINTENANCE

- A. Monitor and maintain excavation support and protection system.
- B. Prevent surface water from entering excavations by grading, dikes, or other means.
- C. Continuously monitor vibrations, settlements, and movements to ensure stability of excavations and constructed slopes and to ensure that damage to permanent structures is prevented.

3.3 FIELD QUALITY CONTROL

- A. Survey-Work Benchmarks: Resurvey benchmarks as needed during installation of excavation support and protection systems, excavation progress, and for as long as excavation remains open.
 - 1. Maintain an accurate log of surveyed elevations and positions for comparison with original elevations and positions.
 - 2. Promptly notify Engineer if changes in elevations or positions occur or if cracks, sags, or other damage is evident in adjacent construction.
- B. Promptly correct detected bulges, breakage, or other evidence of movement to ensure that excavation support and protection system remains stable.
- C. Promptly repair damages to adjacent facilities caused by installation or faulty performance of excavation support and protection systems.

3.4 REMOVAL AND REPAIRS

- A. Remove excavation support and protection systems when construction has progressed sufficiently to support excavation and earth and hydrostatic pressures.
 - 1. Remove in stages to avoid disturbing underlying soils and rock or damaging structures, pavements, facilities, and utilities.

END OF SECTION

SECTION 32 01 17.10 - REMOVING AND REPLACING ASPHALT PAVING

PART 1 - GENERAL

1.1 SUMMARY

- A. Section includes labor, materials, and equipment required to make cuts in existing asphalt paving, remove existing pavement, and replace pavement as specified herein and shown on Contract Drawings.
- B. Related Sections:
 - 1. Division 01 Specification Sections apply to Work of this Section.
 - 2. Division 03 Specification Sections apply to Work of this Section.
 - 3. Division 33 Specification Sections apply to Work of this Section.

1.2 REFERENCED STANDARDS

- A. TxDOT Item 300 – Asphalts, Oils, and Emulsions
- B. TxDOT Item 301 – Asphalt Antistripping Agents
- C. TxDOT Item 340 – Dense-Graded Hot-Mix Asphalt (Small Quantity)

1.3 SUBMITTALS

- A. Submit under provisions of Section 01 33 00 “Submittal Procedures.”
- B. Job-Mix-Formula containing:
 - 1. Combined aggregate gradation, source, specific gravity, and percent of each material used;
 - 2. Asphalt binder content and aggregate gradation
 - 3. Target laboratory-molded density (or Ndesign level when using the SGC);
 - 4. Results of all applicable tests;
 - 5. Mixing and molding temperatures;
 - 6. Signature of person that performed the design;
 - 7. Date mixture design was performed;
 - 8. Unique identification number for the mixture design.
- C. Material Test Reports.
- D. Qualification Data: Submit qualifications for product manufacturers.

PART 2 - PRODUCTS

2.1 GENERAL

- A. Furnish uncontaminated materials of uniform quality to meet requirements of Contract Documents.
- B. Notify Engineer of all material sources and before changing any material source or formulation. Contractor shall verify specification requirements shown herein are met when Contractor makes a source or formulation change, and may require a new laboratory mixture design, trial batch, or both. Engineer may sample and test project materials at any time during project to verify compliance with Contract Documents.

2.2 AGGREGATE

- A. Unless otherwise specified in Contract Drawings, use a Type D gradation for asphalt paving.
- B. Aggregate quality requirements, gradation, and VMA requirements shall meet all the requirements of TxDOT Item 340.
- C. Aggregate properties shall be tested in accordance with TxDOT Item 340, test reports shall be provided by Contractor to Engineer.

2.3 ASPHALT BINDER

- A. Unless otherwise specified in Contract Drawings, asphalt binder shall be Type B PG 70-22 or approved equal.
- B. Contractor may submit for engineer approval a substitute PG binder, if substitute PG binder and mixture made with substitute PG binder meet requirements of Section 2.8 of TxDOT Item 340.

2.4 TACK COAT

- A. Furnish RC-250 cut back asphalt, RS2h emulsified asphalt, or approved equal for tack coat binder per TxDOT Item 300. Specialized or preferred tack coat materials may be allowed or required when shown on Contract Drawings. Do not dilute emulsified asphalts at the terminal, in the field, or at any other location before use.
- B. Contractor to provide at least one sample of tack coat binder per Tex-500-C, Part III, and test to verify compliance with TxDOT Item 300.

2.5 CONCRETE

- A. Furnish a flowfill mixture composed of type III Portland cement, pea gravel and sand with a cement content of 2 sacks per cubic yard of flowfill.

PART 3 - EXECUTION

3.1 EXISTING PAVEMENT REMOVAL

- A. Wherever necessary to make cuts in existing asphalt pavement, make cuts to cause the least amount of damage to adjoining surfaces. In removing asphalt pavement, saw-cut surface along each side of trench ahead of trenching machine, width to be removed to be sufficient to allow a shoulder on each side of trench, as shown on Contract Drawings, and surfacing/base removed with trenching machine as trench is excavated. Tunneling/boring required under curb and gutter.

3.2 CONCRETE CAP

- A. After completion of the backfill in areas where an asphalt type of paving has been removed and after sufficient time has passed for ponding water to leach out of backfill material a 20-inch minimum concrete cap shall be placed to the widths and details as specified in the Contract Drawings.
- B. The 20-inch minimum concrete cap shall be placed in the trenched-out area and the surface of the concrete struck off to the bottom of the proposed HMAC pavement surface course. Concrete shall be given a rough but even finish with a wood float. HMAC pavement surfacing may be applied 24 hours after completing the concrete placement.

3.3 ASPHALT PAVING

- A. Examination:
 - 1. Proceed with paving only after unsatisfactory conditions are corrected.
 - 2. Surface shall be clean and free of loose dirt, rock. Or any other foreign matter.
- B. Weather Conditions:
 - 1. Place mixture when the roadway surface temperature is at or above 60 degrees F unless otherwise approved. Place asphalt paving only when weather conditions and moisture conditions of the roadway surface are suitable as determined by Owner's Representative.
 - 2. Contractor shall not perform paving operations when the ambient temperature is 45 degrees F and falling.
- C. Tack Coat:
 - 1. The existing surfacing shall be sawcut back 3-inches from the edge of the concrete cap prior to placing the tack coat.
 - 2. Verify surface is clean before placing tack coat. Place at a rate of 0.10-0.15 gallons of residual asphalt per square yard of surface area. Apply a uniform tack coat at the specified rate unless otherwise directed apply tack coat in a uniform manner to avoid streaks and other irregular patterns. Apply a thin, uniform tack coat to all contract surfaces of curbs, structures, and all joints. Allow adequate time for emulsion to break completely before placing any material Prevent splattering of tack coat when placed adjacent to curb, gutter, and structures. Roll tack coat with a pneumatic-tire roller to remove streaks and other irregular patterns when directed.
- D. Asphalt Placement:
 - 1. Place asphalt mixture to meet the typical section requirements and widths shown in the Contract Drawings.
 - 2. As the material is placed it shall be thoroughly raked and leveled. After surfacing has been placed, roll with a suitable 8-ton, or larger flat wheel roller. Care shall be taken to replace the pavement to the proper cross-section and elevation. In general, the new surfacing, after initial rolling, shall be 1/4- to 3/8-inch above the old surfacing to allow for further compaction. If, after rolling, there are any high or low spots, such places shall be corrected by loosening the surface and then adding or removing the proper amount of asphalt paving and then recompacting the surface.

3.4 CLEANUP

- A. After completion, all debris resulting from construction shall be cleaned up and removed for the Site. Areas disturbed during construction, shall be raked or graded as required and left in clean and neat condition. Gutters shall be cleaned of all dirt, aggregate, or other material which would clog gutter. Entire premises of work shall be left clean, satisfactory to Owner Representative, and all costs of cleanup borne by Contractor.

END OF SECTION

SECTION 32 11 50 - FLEXIBLE BASE COURSE

PART 1 - GENERAL

1.1 SUMMARY

- A. Section includes excavating, crushing, hauling, and spreading base material then wetting, compacting, and shaping it to form a flexible base course to lines, grades, and typical cross section shown on Contract Drawings and specified herein.
- B. Contractor shall furnish all materials, equipment, tools, labor, superintendence, and incidentals necessary to complete Work.
- C. Related Requirements:
 - 1. Division 01 Specification Sections apply to the Work herein.
 - 2. Division 31 Specification Sections apply to the Work herein.
 - 3. Division 32 Specification Sections apply to the Work herein.

1.2 QUALITY CONTROL

- A. Engineer shall direct required tests and reserves the right to adjust, modify, or waive required test. The following list is a guideline for number of tests required for a construction sequence:
 - 1. Base Material: Retest of gradation, liquid limits, and plasticity index, for each 10,000 sq. yd. of base material laid.
 - 2. Triaxial Test: A minimum 1 test shall be required for each Project.
 - 3. Compaction Test: One field density test will be required for each 1,000 sq. yd. of base material laid.

1.3 REFERENCES

- A. TxDOT Item 247 – Flexible Base.
- B. TxDOT DMS 11000 – Evaluating and Using Nonhazardous Recyclable Materials Guidelines.
- C. ASTM C136 - Standard Test Method for Sieve Analysis of Fine and Coarse Aggregates.
- D. ASTM D4318 - Standard Test Methods for Liquid Limit, Plastic Limit, and Plasticity Index of Soils.

1.4 SUBMITTALS

- A. Submit under provisions of Section 01 33 00 “Submittal Procedures.”

PART 2 - PRODUCTS

2.1 AGGREGATE

- A. Furnish aggregate of the type and grade shown on the Contract Drawings and meeting the requirements of the following table. Each source must meet requirements for liquid limit, plasticity index, and wet ball mill for the grade specified as shown in the table below. Do not use additives, such as but not limited to lime, cement, or fly ash to modify aggregates to meet requirements of table unless shown on Contract Drawings.

Property	Test Method	Grade 1-2
Sieve size	ASTM C136	
2-1/2"		0
1-3/4"		100
7/8"		65-90
3/8"		50-70
#4		30-60
#40		15-35
Liquid Limit, % Max	ASTM D4318	30
Plasticity Index, Max		10
Plasticity Index, min		As shown on Contract Drawings
Wet ball mill, % Max	Tex-116-E	40
Wet ball mill, % Max increase passing the #40		20
Min compressive strength, psi	Tex-117-E	
Lateral pressure 0 psi		
Lateral pressure 3 psi		90
Lateral pressure 15 psi		175

B. Material Tolerances

1. Engineer may accept material if no more than 1 of the 5 most recent gradation tests has an individual sieve outside the specified limits of the gradation.
2. When target grading is required by the Contract Drawings, no single failing test may exceed the master grading by more than 5 percentage points on sieves No. 4 and large or 3 percentage points on sieves smaller than No. 4.
3. Engineer may accept material if no more than 1 of the 5 most recent plasticity index tests is outside the specified limit. No single failing test may exceed the allowable limit by more than 2 points.

C. Furnish the material type specified on the Contract Drawings per Type E - Caliche.

2.2 WATER

- A. Furnish water free of industrial wastes and other objectionable matter.

2.3 MATERIAL SOURCES

- A. Exposed the vertical faces of all strata of material proposed for use when non-commercial sources are used. Secure and process the material by successive vertical cuts extending through all exposed strata, when directed.

PART 3 - EXECUTION

3.1 GENERAL

- A. Construct each layer uniformly, free of loose or segregated areas, and with the required density and moisture content. Provide a smooth surface that conforms to the typical sections, lines, and grades shown on the Contract Drawings.
- B. Haul approved flexible base in clean trucks. Deliver the required quantity as necessary.
- C. No base material may be dumped on any subgrade until Engineer tests and approves.

3.2 PREPARATION OF SUBGRADE OR EXISTING BASE

- A. Remove or scarify existing surfacing as shown on Contract Drawings. Shape subgrade or existing base to conform to the typical sections shown on the Contract Drawings.
- B. When new base is required to be mixed with existing base, deliver, place, and spread the new flexible base in the required amount. Manipulate and thoroughly mix the new base with existing material to provide a uniform mixture to the specified depth before shaping.
- C. Proof roll the base, before pulverizing or scarifying when shown on the Contract Drawings. Correct soft spots immediately.

3.3 PLACING

- A. Spread and shape flexible base into a uniform layer with an approved spreader the same day as delivered unless otherwise approved by Engineer. Construct layers to the thickness shown on the plans. Maintain the shape of the course. Control dust by sprinkling. Correct or replace segregated areas as directed at no additional expense to the Owner.
- B. Place successive base courses and finish courses using the same construction methods required for the first course.
- C. Minimum thickness of any one compacted course shall be 3 inches. Maximum thickness of any one compacted course shall be 8 inches.

3.4 COMPACTION

- A. Compact using density control unless otherwise shown on the plans. Multiple lifts are permitted when shown on the Contract Drawings or Engineer approved. Bring each layer to the moisture content directed. When necessary, sprinkle the material.
- B. Begin rolling longitudinally at the sides and proceed towards the center, overlapping on successive trips by at least 1/2 the width of the roller unit.
- C. Rework, recompact, and refinish material that fails to meet or that loses required moisture, density, stability, or finish requirements before the next course is placed or the project is accepted. Continue work until specification requirements are met. Perform the work at no additional expense to the Owner.
- D. Before final acceptance, Engineer will select the locations of test and measure the flexible base depth in accordance with Tex-140-E. Correct areas deficient by more than 1/2-inch in thickness by scarifying, adding material as required, reshaping, recompact, and refinishing at the Contractor's Expense.
- E. Compact to at least 95 percent of the maximum dry density determined by ASTM D1557/AASHTO T-180, unless otherwise shown on the Contract Drawings. Maintain moisture during compaction within ± 2 percent of the optimum moisture content.
- F. Prime finished base as soon after finishing as practical and protect until the hot mix asphaltic concrete surface is applied. In no case will prime be applied until Engineer approves finished base.

3.5 FINISHING

- A. Immediately correct all irregularities, depressions, or weak spots which develop during compaction, by scarifying affected areas, adding, or removing material as required, and reshaping and recompact by sprinkling and rolling. Immediately prior to placing surfacing, check base for grade and cross section, and correct any deviation in excess of 1/4-inch from grade or true cross section. Contractor shall set blue tops set to finished base elevations, to check base for proper grade and elevation.
- B. If base course is opened to traffic before applying surfacing, base shall be satisfactorily maintained by wetting, blading, and rolling until wearing surface is placed thereon.
- C. Perform finish tolerance test at Contractor expense using a 10-foot rolling straight edge. Perform test at Engineer or Owner representative direction. When required, test shall consist of checking on path in each lane with rolling straight edge.

END OF SECTION

SECTION 32 91 13 - SOIL PREPARATION

PART 1 - GENERAL

1.1 SUMMARY

- A. Section Includes:
 - 1. Preparation of subsoil.
 - 2. Placing topsoil.
- B. Related Sections:
 - 1. Division 01 Specification Sections apply to Work of this Section.
 - 2. Section 32 92 19 "Seeding."

1.2 SUBMITTALS

- A. Section 01 33 00 "Submittal Procedures": Requirements for submittals.

1.3 QUALITY ASSURANCE

- A. Perform Work in accordance with Midland County Soil and Water Conservation District standards.

1.4 COORDINATION

- A. Section 01 30 00 "Administrative Requirements": Requirements for coordination.

PART 2 - PRODUCTS

2.1 SOIL MATERIALS

- A. Topsoil: Excavated from site. Keep separate from subsoil, debris and refuse.

PART 3 - EXECUTION

3.1 EXAMINATION

- A. Section 01 30 00 "Administrative Requirements": Verification of existing conditions before starting work.
- B. Verify prepared soil base is ready to receive the Work of this section.

3.2 PREPARATION OF SUBSOIL

- A. Prepare sub-soil to eliminate uneven areas and low spots. Maintain lines, levels, profiles and contours. Make changes in grade gradual. Blend slopes into level areas.
- B. Remove foreign materials, weeds and undesirable plants and their roots. Remove contaminated sub-soil.
- C. Scarify subsoil to depth of 4 inches where topsoil is to be placed. Repeat cultivation in areas where equipment, used for hauling and spreading topsoil, has compacted sub-soil.

3.3 PLACING TOPSOIL

- A. Spread topsoil to original depth over area to be seeded. Rake until smooth.
- B. Place topsoil during dry weather and on dry unfrozen subgrade.
- C. Remove vegetable matter and foreign non-organic material from topsoil while spreading.
- D. Grade topsoil to eliminate rough, low or soft areas, and to ensure positive drainage.
- E. Install edging at periphery of seeded areas in straight lines to consistent depth.

END OF SECTION

SECTION 32 92 19 - SEEDING

PART 1 - GENERAL

1.1 SUMMARY

- A. Section Includes:
 - 1. Seeding.
 - 2. Hydroseeding.
 - 3. Maintenance.
- B. Related Sections:
 - 1. Divisio 01 Specification Sections apply to Work of this Section.
 - 2. Section 32 91 13 "Soil Preparation."

1.2 REFERENCES

- A. ASTM International:
 - 1. ASTM C602 - Standard Specification for Agricultural Liming Materials.
 - 2. University of Texas Lands Rangeland Seed Mixture by County.

1.3 DEFINITIONS

- A. Weeds: Vegetative species other than specified species to be established in given area.

1.4 SUBMITTALS

- A. Section 01 33 00 "Submittal Procedures": Requirements for submittals.
- B. Product Data: Submit data for seed mix accessories.

1.5 CLOSEOUT SUBMITTALS

- A. Section 01 70 00 "Execution and Closeout Requirements": Requirements for submittals.

1.6 QUALITY ASSURANCE

- A. Provide seed mixture in containers showing percentage of seed mix, germination percentage, inert matter percentage, weed percentage, year of production, net weight, date of packaging, and location of packaging.

1.7 QUALIFICATIONS

- A. Seed Supplier: Company specializing in manufacturing Products specified in this section.
- B. Installer: Company specializing in performing work of this section.

1.8 DELIVERY, STORAGE, AND HANDLING

- A. Section 01 60 00 "Product Requirements": Product storage and handling requirements.
- B. Deliver grass seed mixture in sealed containers. Seed in damaged packaging is not acceptable.

PART 2 - PRODUCTS

2.1 SEED MIXTURE

- A. Suppliers:
 - 1. Midland.
 - 2. Martin or Andrews County Soil.
 - 3. Water Conservation Districts.
- B. Substitutions: Section 01 60 00 "Product Requirements."
- C. Description:
 - 1. Sideoats Grama: 1.1
 - 2. Blue Grama: 0.4
 - 3. Plain Bristlegrass: 0.8
 - 4. Sand Dropseed: 0.3
 - 5. Green Sprangletop: 1.7
 - 6. Total: 4.3
 - 7. *Pounds Pure Live Seed / Acre (PLS)

PART 3 - EXECUTION

3.1 EXAMINATION

- A. Section 01 30 00 "Administrative Requirements": Verification of existing conditions before starting work.
- B. Verify prepared soil base is ready to receive the Work of this section.

3.2 SEEDING

- A. Apply seed at rates listed under Part 2 - Products.
- B. Do not sow immediately following rain, when ground is too dry, or when winds are over 12 mph.
- C. Roll seeded area with roller not exceeding 112 lbs/linear foot.
- D. Apply water with fine spray immediately after each area has been planted. Saturate to 4 inches of soil. Provide minimum of 3 waterings, each separated by one week.

END OF SECTION

SECTION 33 01 10.58 - DISINFECTION OF WATER UTILITY PIPING SYSTEMS

PART 1 - GENERAL

1.1 SUMMARY

- A. Section Includes:
 - 1. Disinfection of potable water distribution and transmission system.
- B. Related Requirements:
 - 1. Division 01 Specification Sections apply to Work of this Section.
 - 2. Section 33 14 13 "Public Water Utility Distribution Piping."

1.2 REFERENCE STANDARDS

- A. American Water Works Association:
 - 1. AWWA B300 - Hypochlorites.
 - 2. AWWA B302 - Ammonium Sulfate.
 - 3. AWWA B303 - Sodium Chlorite.
 - 4. AWWA C651 - Disinfecting Water Mains.

1.3 SUBMITTALS

- A. Section 01 33 00 "Submittal Procedures": Requirements for submittals.
- B. Disinfection Procedure:
 - 1. Submit description of procedure, including type of disinfectant and calculations indicating quantities of disinfectants required to produce specified chlorine concentration.
- C. Product Data: Submit manufacturer information for proposed chemicals and treatment doses.
- D. Manufacturer's Certificate: Certify that products meet or exceed specified requirements.
- E. Certify that final water complies with disinfectant quality standards of Texas Commission on Environmental Quality and the City of Midland.
- F. Test and Evaluation Reports: Indicate testing results comparative to specified requirements.
- G. Field Quality-Control Submittals: Indicate results of Contractor-furnished tests and inspections.
- H. Qualifications Statements:
 - 1. Submit qualifications for manufacturer and applicator.

1.4 CLOSEOUT SUBMITTALS

- A. Section 01 70 00 "Execution and Closeout Requirements": Requirements for submittals.
- B. Disinfection Report:
 - 1. Type and form of disinfectant used.
 - 2. Date and time of disinfectant injection start and completion.
 - 3. Test locations.
 - 4. Name of person collecting samples.
 - 5. Initial and 24-hour disinfectant residuals in treated water in ppm for each outlet tested.
 - 6. Date and time of flushing start and completion.

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7. Disinfectant residual after flushing in ppm for each outlet tested.

1.5 QUALITY ASSURANCE

- A. Perform Work according to AWWA C651.
- B. Perform Work according to Texas Commission on Environmental Quality and the City of Midland standards.

1.6 QUALIFICATIONS

- A. Manufacturer: Company specializing in manufacturing products specified in this Section with minimum 3 years' documented experience.
- B. Applicator: Company specializing in performing Work of this Section with minimum 3 years' documented experience.
- C. Applicator: Person holding Water Operators License issued by Texas Commission on Environmental Quality shall perform or supervise work. Provide copy of valid license.

PART 2 - PRODUCTS

2.1 DISINFECTION CHEMICALS

- A. Chemicals:
 1. Hypochlorite: Comply with AWWA B300.

PART 3 - EXECUTION

3.1 EXAMINATION

- A. Section 01 70 00 "Execution and Closeout Requirements": Requirements for installation examination.
- B. Verify that piping system has been cleaned, inspected, and pressure tested.
- C. Verify that access fittings have been installed under Section 33 14 16 "Site Water Utility Distribution Piping."
- D. Perform scheduling and disinfecting activity with startup, water pressure testing, adjusting and balancing, and demonstration procedures, including coordination with related systems.

3.2 INSTALLATION

- A. Provide required equipment to perform Work of this Section.
- B. Introduce treatment into piping system.
- C. Maintain disinfectant in system for 24 hours.
- D. Flush, circulate, and clean until required disinfectant quality standard has been achieved using municipal domestic water.
- E. Replace permanent system devices that were removed for disinfection.

3.3 FIELD QUALITY CONTROL

- A. Section 01 40 00 "Quality Requirements": Requirements for inspecting and testing.
- B. Section 01 70 00 "Execution and Closeout Requirements": Requirements for testing, adjusting, and balancing.

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- C. Disinfection, Flushing, and Sampling:
1. Disinfect pipeline installation according to AWWA C651.
 2. Use of liquid chlorine is not permitted.
 3. Upon completion of retention period required for disinfection, flush pipeline until chlorine concentration in water leaving pipeline is no higher than that generally prevailing in existing system or is acceptable for domestic use.
 4. Disposal:
 - a. Legally dispose of chlorinated water.
 - b. If chlorinated discharge may cause damage to environment, apply neutralizing chemical to chlorinated water to neutralize chlorine residual remaining in water.
 5. After final flushing and before pipeline is connected to existing system or placed in service, certify that disinfectant level meets quality standards of Texas Commission on Environmental Quality and the City of Midland.

END OF SECTION

SECTION 33 01 30.11 - TELEVISION INSPECTION OF SEWERS

PART 1 - GENERAL

1.1 SUMMARY

- A. Section Includes:
 - 1. Pipeline flushing and cleaning.
 - 2. Television inspection of sewer pipelines.
 - 3. Audio-video recording of pipeline interior.
- B. Related Requirements:
 - 1. Division 01 Specification Sections apply to Work of this Section.
 - 2. Section 01 50 00 "Temporary Facilities and Controls": Safety requirements when bypassing sewage flow.
 - 3. Section 33 31 11 "Public Sanitary Sewerage Gravity Piping": Pipe materials, manholes, and accessories normally encountered with gravity sewerage piping.

1.2 DEFINITIONS

- A. DVD: An optical disc storage format, offering higher storage capacity than compact discs (CDs) while having the same dimensions.

1.3 COORDINATION

- A. Section 01 30 00 "Administrative Requirements": Requirements for coordination.
- B. Coordinate Work of this Section with City of Midland Water Utilities.

1.4 SCHEDULING

- A. Section 01 30 00 "Administrative Requirements": Requirements for scheduling.
- B. Furnish Work schedule for periods of time before sewer piping section has been placed in service.

1.5 SEQUENCING

- A. Section 01 10 00 "Summary": Requirements for sequencing.
- B. Sequence Work in following order:
 - 1. Following substantial completion but before sewer has been placed in service.

1.6 SUBMITTALS

- A. Section 01 33 00 "Submittal Procedures": Requirements for submittals.
- B. DVDs:
 - 1. Submit three copies of completed narrated color DVDs identified by Project name, street name, right-of-way property name, and manhole numbers.
 - 2. DVDs become property of Owner.
- C. Inspection Logs:
 - 1. Submit cleaning and television inspection logs for each section of sewer line to be rehabilitated.

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- 2. Include following minimum information:
 - a. Stationing and location of lateral services, wyes, or tees.
 - b. Date and clock time references.
 - c. Pipe joints.
 - d. Infiltration/inflow defects.
 - e. Cracks.
 - f. Leaks.
 - g. Offset joints.
 - D. Field Quality-Control Submittals: Indicate results of Contractor-furnished tests and inspections.

1.7 QUALITY ASSURANCE

- A. Perform Work according to City of Midland standards.

PART 2 - PRODUCTS

2.1 DVDs

- A. Description: Digital video formatted discs.
- B. Audio track containing simultaneously recorded narrative commentary and evaluations of videographer, describing in detail condition of pipeline interior.

PART 3 - EXECUTION

3.1 EXAMINATION

- A. Section 01 70 00 "Execution and Closeout Requirements": Requirements for application examination.
- B. Verify location of sewer pipelines to be inspected.

3.2 PREPARATION

- A. Section 01 70 00 "Execution and Closeout Requirements": Requirements for application preparation.
- B. Flush and clean pipeline to remove sludge, dirt, sand, stone, grease, and other materials to ensure clear view of interior conditions. Prior to inspection, ensure that the proper amount of water is placed in the sewer line, so that water flows through entire section of pipe.
- C. Debris:
 - 1. Intercept flushed debris at next downstream manhole using weir or screening device.
 - 2. Remove and dispose of debris off Site.

3.3 APPLICATION

- A. Closed-Circuit Television (CCTV) Camera System:
 - 1. Use cameras specifically designed and constructed for closed-circuit sewer line inspection.
 - 2. Use camera equipment with pan-and-tilt capability to view each lateral connection at multiple angles.
 - 3. Use camera capable of moving both upstream and downstream with minimum 1,000 feet horizontal distance within one setup and using direct-reading cable position meter.

3.4 FIELD QUALITY CONTROL

- A. Section 01 40 00 "Quality Requirements": Requirements for inspecting and testing.
- B. Section 01 70 00 "Execution and Closeout Requirements": Requirements for testing, adjusting, and balancing.
- C. Pipeline Inspection:
 - 1. Audio-video record sections of sewer pipeline between designated manholes.
 - 2. Identify and record locations of flat grades, dips, deflected joints, open joints, broken pipe, protrusions into pipeline, and points of infiltration.
 - 3. Locate and record service connections.
 - 4. Record locations of pipeline defects, connection horizontal distance in feet, and direction from manholes.
 - 5. Video-record with pipe section plugged to view 100 percent of pipe ID.

END OF SECTION

SECTION 33 05 00 - COMMON WORK RESULTS FOR UTILITIES

PART 1 - GENERAL

1.1 SUMMARY

- A. This Section includes the following:
 - 1. Piping joining materials.
 - 2. Transition fittings.
 - 3. Dielectric fittings.
 - 4. Sleeves.
 - 5. Identification devices.
 - 6. Grout.
 - 7. Flowable fill.
 - 8. Piped utility demolition.
 - 9. Piping system common requirements.
 - 10. Equipment installation common requirements.
 - 11. Painting.
 - 12. Concrete bases.
 - 13. Metal supports and anchorages.
- B. Related Requirements:
 - 1. Division 01 Specification Sections apply to Work of this Section.

1.2 DEFINITIONS

- A. Exposed Installations: Exposed to view outdoors or subject to outdoor ambient temperatures and weather conditions.
- B. Concealed Installations: Concealed from view and protected from weather conditions and physical contact by building occupants but subject to outdoor ambient temperatures. Examples include installations within unheated shelters.
- C. ABS: Acrylonitrile-butadiene-styrene plastic.
- D. CPVC: Chlorinated polyvinyl chloride plastic.
- E. PE: Polyethylene plastic.
- F. PVC: Polyvinyl chloride plastic.

1.3 ACTION SUBMITTALS

- A. Product Data: For the following:
 - 1. Dielectric fittings.
 - 2. Identification devices.

1.4 INFORMATIONAL SUBMITTALS

- A. Welding certificates.

1.5 QUALITY ASSURANCE

- A. Steel Support Welding: Qualify procedures and personnel according to AWS D1.1, "Structural Welding Code - Steel."

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- B. Steel Piping Welding: Qualify processes and operators according to ASME Boiler and Pressure Vessel Code: Section IX, "Welding and Brazing Qualifications."
 - 1. Comply with provisions in ASME B31 Series, "Code for Pressure Piping."
 - 2. Certify that each welder has passed AWS qualification tests for welding processes involved and that certification is current.
 - C. Comply with ASME A13.1 for lettering size, length of color field, colors, and viewing angles of identification devices.

1.6 DELIVERY, STORAGE, AND HANDLING

- A. Deliver pipes and tubes with factory-applied end caps. Maintain end caps through shipping, storage, and handling to prevent pipe end damage and to prevent entrance of dirt, debris, and moisture.
- B. Store plastic pipes protected from direct sunlight. Support to prevent sagging and bending.

1.7 COORDINATION

- A. Coordinate installation of required supporting devices and set sleeves in poured-in-place concrete and other structural components as they are constructed.
- B. Coordinate installation of identifying devices after completing covering and painting if devices are applied to surfaces.
- C. Coordinate size and location of concrete bases. Formwork, reinforcement, and concrete requirements are specified in Section 03 30 00 "Cast-in-Place Concrete."

PART 2 - PRODUCTS

2.1 PIPING JOINING MATERIALS

- A. Pipe-Flange Gasket Materials: Suitable for chemical and thermal conditions of piping system contents.
 - 1. ASME B16.21, nonmetallic, flat, asbestos free, 1/8-inch maximum thickness, unless otherwise indicated.
 - a. Full-Face Type: For flat-face, Class 125, cast-iron and cast-bronze flanges.
 - b. Narrow-Face Type: For raised-face, Class 250, cast-iron and steel flanges.
 - 2. AWWA C110, rubber, flat face, 1/8-inch thick, unless otherwise indicated; and full-face or ring type, unless otherwise indicated.
- B. Flange Bolts and Nuts: ASME B18.2.1, 304 Stainless Steel, unless otherwise indicated.
- C. Welding Filler Metals: Comply with AWS D10.12 for welding materials appropriate for wall thickness and chemical analysis of steel pipe being welded.

2.2 TRANSITION FITTINGS

- A. Transition Fittings, General: Same size as, and with pressure rating at least equal to and with ends compatible with, piping to be joined.
- B. AWWA Transition Couplings NPS 2 and Larger:
 - 1. Manufacturers: Subject to compliance with requirements, available manufacturers offering products that may be incorporated into the Work include, but are not limited to, the following:
 - a. Cascade Waterworks Mfg. Co.
 - b. Dresser, Inc.
 - c. Ford Meter Box Company, Inc. (The).

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- d. JCM Industries, Inc.
 - e. Smith-Blair, Inc.
 - f. Viking Johnson.
2. Description: AWWA C219, metal sleeve-type coupling for underground pressure piping.

2.3 IDENTIFICATION DEVICES

- A. General: Products specified are for applications referenced in other utilities Sections. If more than single type is specified for listed applications, selection is Installer's option.
- B. Equipment Nameplates: Metal permanently fastened to equipment with data engraved or stamped.
 - 1. Data: Manufacturer, product name, model number, serial number, capacity, operating and power characteristics, labels of tested compliances, and essential data.
 - 2. Location: Accessible and visible.
- C. Stencils: Standard stencils prepared with letter sizes complying with recommendations in ASME A13.1. Minimum letter height is 1-1/4 inches for ducts, and 3/4 inch for access door signs and similar operational instructions.
 - 1. Material: [Fiberboard] [Brass].
 - 2. Stencil Paint: Exterior, oil-based, alkyd-gloss black enamel, unless otherwise indicated. Paint may be in pressurized spray-can form.
 - 3. Identification Paint: Exterior, oil-based, alkyd enamel in colors according to ASME A13.1, unless otherwise indicated.
- D. Snap-on Plastic Pipe Markers: Manufacturer's standard preprinted, semirigid, snap-on type. Include color-coding according to ASME A13.1, unless otherwise indicated.
- E. Pressure-Sensitive Pipe Markers: Manufacturer's standard preprinted, color-coded, pressure-sensitive-vinyl type with permanent adhesive.
- F. Pipes with OD, Including Insulation, Less Than 6 Inches: Full-band pipe markers, extending 360 degrees around pipe at each location.
- G. Pipes with OD, Including Insulation, 6 Inches and Larger: Either full-band or strip-type pipe markers, at least three times letter height and of length required for label.
- H. Lettering: Manufacturer's standard preprinted captions as selected by Architect.
- I. Lettering: Use piping system terms indicated and abbreviate only as necessary for each application length.
 - 1. Arrows: Either integrally with piping system service lettering to accommodate both directions of flow, or as separate unit on each pipe marker to indicate direction of flow.
- J. Plastic Tape: Manufacturer's standard color-coded, pressure-sensitive, self-adhesive vinyl tape, at least 3 mils thick.
 - 1. Width: 1-1/2 inches on pipes with OD, including insulation, less than 6 inches; 2-1/2 inches for larger pipes.
 - 2. Color: Comply with ASME A13.1, unless otherwise indicated.
- K. Valve Tags: Stamped or engraved with 1/4-inch letters for piping system abbreviation and 1/2-inch sequenced numbers. Include 5/32-inch hole for fastener.
 - 1. Material: 0.032-inch-thick, [polished brass] [or] [aluminum].
 - 2. Material: 0.0375-inch-thick stainless steel.
 - 3. Material: 3/32-inch-thick plastic laminate with 2 black surfaces and a white inner layer.
 - 4. Material: Valve manufacturer's standard solid plastic.
 - 5. Size: 1-1/2 inches in diameter, unless otherwise indicated.
 - 6. Shape: As indicated for each piping system.
- L. Valve Tag Fasteners: Brass, wire-link or beaded chain; or brass S-hooks.

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- M. Engraved Plastic-Laminate Signs: ASTM D709, Type I, cellulose, paper-base, phenolic-resin-laminate engraving stock; Grade ES-2, black surface, black phenolic core, with white melamine subcore, unless otherwise indicated. Fabricate in sizes required for message. Provide holes for mechanical fastening.
 - 1. Engraving: Engraver's standard letter style, of sizes and with terms to match equipment identification.
 - 2. Thickness: 1/16-inch, unless otherwise indicated.
 - 3. Thickness: 1/16-inch, for units up to 20 sq. in. or 8 inches in length, and 1/8-inch for larger units.
 - 4. Fasteners: Self-tapping, stainless-steel screws or contact-type permanent adhesive.
 - N. Plastic Equipment Markers: Manufacturer's standard laminated plastic, in the following color codes:
 - 1. Green: Cooling equipment and components.
 - 2. Yellow: Heating equipment and components.
 - 3. Brown: Energy reclamation equipment and components.
 - 4. Blue: Equipment and components that do not meet criteria above.
 - 5. Hazardous Equipment: Use colors and designs recommended by ASME A13.1.
 - 6. Terminology: Match schedules as closely as possible. Include the following:
 - a. Name and plan number.
 - b. Equipment service.
 - c. Design capacity.
 - d. Other design parameters such as pressure drop, entering and leaving conditions, and speed.
 - 7. Size: 2-1/2 by 4 inches for control devices, dampers, and valves; 4-1/2 by 6 inches for equipment.
 - O. Plasticized Tags: Preprinted or partially preprinted, accident-prevention tags, of plasticized card stock with mat finish suitable for writing.
 - 1. Size: 3-1/4 by 5-5/8 inches.
 - 2. Fasteners: Brass grommets and wire.
 - 3. Nomenclature: Large-size primary caption such as DANGER, CAUTION, or DO NOT OPERATE.
 - P. Lettering and Graphics: Coordinate names, abbreviations, and other designations used in piped utility identification with corresponding designations indicated. Use numbers, letters, and terms indicated for proper identification, operation, and maintenance of piped utility systems and equipment.
 - 1. Multiple Systems: Identify individual system number and service if multiple systems of same name are indicated.

2.4 GROUT

- A. Description: ASTM C1107, Grade B, nonshrink and nonmetallic, dry hydraulic-cement grout.
 - 1. Characteristics: Post hardening, volume adjusting, nonstaining, noncorrosive, nongaseous, and recommended for interior and exterior applications.
 - 2. Design Mix: 5,000-psi, 28-day compressive strength.
 - 3. Packaging: Premixed and factory packaged.

2.5 FLOWABLE FILL

- A. Description: Low-strength-concrete, flowable-slurry mix.
 - 1. Cement: ASTM C150, Type I, portland.
 - 2. Density: 115- to 145-lb/cu. ft. 130.
 - 3. Aggregates: ASTM C33, natural sand, fine.
 - 4. Admixture: ASTM C618, fly-ash mineral.
 - 5. Water: Comply with ASTM C94/C94M.
 - 6. Strength: 1,000 psi at 28 days.

PART 3 - EXECUTION

3.1 PIPED UTILITY DEMOLITION

- A. Disconnect, demolish, and remove piped utility systems, equipment, and components indicated to be removed.
 - 1. Piping to Be Removed: Remove portion of piping indicated to be removed and cap or plug remaining piping with same or compatible piping material.
 - 2. Piping to Be Abandoned in Place: Drain piping. Fill abandoned piping with flowable fill, and cap or plug piping with same or compatible piping material.
 - 3. Equipment to Be Removed: Disconnect and cap services and remove equipment.
 - 4. Equipment to Be Removed and Reinstalled: Disconnect and cap services and remove, clean, and store equipment; when appropriate, reinstall, reconnect, and make operational.
 - 5. Equipment to Be Removed and Salvaged: Disconnect and cap services and remove equipment and deliver to Owner.
- B. If pipe, insulation, or equipment to remain is damaged in appearance or is unserviceable, remove damaged or unserviceable portions and replace with new products of equal capacity and quality.

3.2 PIPING INSTALLATION

- A. Install piping according to the following requirements and utilities Sections specifying piping systems.
- B. Drawing plans, schematics, and diagrams indicate general location and arrangement of piping systems. Indicated locations and arrangements were used to size pipe and calculate friction loss, expansion, pump sizing, and other design considerations. Install piping as indicated unless deviations to layout are approved on the Coordination Drawings.
- C. Install piping indicated to be exposed and piping in equipment rooms and service areas at right angles or parallel to building walls. Diagonal runs are prohibited unless specifically indicated otherwise.
- D. Install piping to permit valve servicing.
- E. Install piping at indicated slopes.
- F. Install piping free of sags and bends.
- G. Install fittings for changes in direction and branch connections.
- H. Select system components with pressure rating equal to or greater than system operating pressure.
- I. Permanent sleeves are not required for holes formed by removable PE sleeves.

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- J. Install sleeves for pipes passing through concrete and masonry walls and concrete floor and roof slabs.
 - 1. Cut sleeves to length for mounting flush with both surfaces.
 - a. Exception: Extend sleeves installed in floors of equipment areas or other wet areas 2 inches above finished floor level.
 - 2. Install sleeves in new walls and slabs as new walls and slabs are constructed.
 - a. Pipe Sleeves: For pipes smaller than NPS 6.
 - b. Steel Sheet Sleeves: For pipes NPS 6 and larger.
 - K. Verify final equipment locations for roughing-in.
 - L. Refer to equipment specifications in other Sections for roughing-in requirements.

3.3 PIPING JOINT CONSTRUCTION

- A. Join pipe and fittings according to the following requirements and utilities Sections specifying piping systems.
- B. Ream ends of pipes and tubes and remove burrs. Bevel plain ends of steel pipe.
- C. Remove scale, slag, dirt, and debris from inside and outside of pipe and fittings before assembly.
- D. Threaded Joints: Thread pipe with tapered pipe threads according to ASME B1.20.1. Cut threads full and clean using sharp dies. Ream threaded pipe ends to remove burrs and restore full ID. Join pipe fittings and valves as follows:
 - 1. Apply appropriate tape or thread compound to external pipe threads unless dry seal threading is specified.
 - 2. Damaged Threads: Do not use pipe or pipe fittings with threads that are corroded or damaged. Do not use pipe sections that have cracked or open welds.
- E. Welded Joints: Construct joints according to AWS D10.12, using qualified processes and welding operators according to Part 1 "Quality Assurance" Article.
- F. Flanged Joints: Select appropriate gasket material, size, type, and thickness for service application. Install gasket concentrically positioned. Use suitable lubricants on bolt threads.
- G. Grooved Joints: Assemble joints with grooved-end pipe coupling with coupling housing, gasket, lubricant, and bolts according to coupling and fitting manufacturer's written instructions.
- H. Plastic Pressure Piping Gasketed Joints: Join according to ASTM D3139.
- I. Plastic Nonpressure Piping Gasketed Joints: Join according to ASTM D3212.
- J. Plastic Piping Heat-Fusion Joints: Clean and dry joining surfaces by wiping with clean cloth or paper towels. Join according to ASTM D2657.
 - 1. Plain-End PE Pipe and Fittings: Use butt fusion.
 - 2. Plain-End PE Pipe and Socket Fittings: Use socket fusion.

3.4 EQUIPMENT INSTALLATION

- A. Install equipment level and plumb, unless otherwise indicated.
- B. Install equipment to facilitate service, maintenance, and repair or replacement of components. Connect equipment for ease of disconnecting, with minimum interference with other installations. Extend grease fittings to an accessible location.
- C. Install equipment to allow right of way to piping systems installed at required slope.

3.5 PAINTING

- A. Painting of piped utility systems, equipment, and components is specified in Section 09 96 00 "High-Performance Coatings."
- B. Damage and Touchup: Repair marred and damaged factory-painted finishes with materials and procedures to match original factory finish.

3.6 IDENTIFICATION

- A. Piping Systems: Install pipe markers on each system. Include arrows showing normal direction of flow.
 - 1. Stenciled Markers: According to ASME A13.1.
 - 2. Plastic markers, with application systems. Install on insulation segment if required for hot noninsulated piping.
 - 3. Locate pipe markers on exposed piping according to the following:
 - a. Near each valve and control device.
 - b. Near each branch, excluding short takeoffs for equipment and terminal units. Mark each pipe at branch if flow pattern is not obvious.
 - c. Near locations where pipes pass through walls or floors or enter inaccessible enclosures.
 - d. At manholes and similar access points that permit view of concealed piping.
 - e. Near major equipment items and other points of origination and termination.
- B. Equipment: Install engraved plastic-laminate sign or equipment marker on or near each major item of equipment.
 - 1. Lettering Size: Minimum 1/4-inch high for name of unit if viewing distance is less than 24 inches, 1/2-inch high for distances up to 72 inches, and proportionately larger lettering for greater distances. Provide secondary lettering two-thirds to three-fourths of size of principal lettering.
 - 2. Text of Signs: Provide name of identified unit. Include text to distinguish among multiple units, inform user of operational requirements, indicate safety and emergency precautions, and warn of hazards and improper operations.
- C. Adjusting: Relocate identifying devices that become visually blocked by work of this or other Divisions.

3.7 CONCRETE BASES

- A. Concrete Bases: Anchor equipment to concrete base according to equipment manufacturer's written instructions and according to seismic codes at Project.
 - 1. Construct concrete bases of dimensions indicated, but not less than 4 inches larger in both directions than supported unit.
 - 2. Install dowel rods to connect concrete base to concrete floor. Unless otherwise indicated, install dowel rods on 18-inch centers around the full perimeter of base.
 - 3. Install epoxy-coated anchor bolts for supported equipment that extend through concrete base, and anchor into structural concrete floor.
 - 4. Place and secure anchorage devices. Use supported equipment manufacturer's setting drawings, templates, diagrams, instructions, and directions furnished with items to be embedded.
 - 5. Install anchor bolts to elevations required for proper attachment to supported equipment.

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6. Install anchor bolts according to anchor-bolt manufacturer's written instructions.
 7. Use 3,000-psi, 28-day compressive-strength concrete and reinforcement as specified in Section 03 30 00 "Cast-in-Place Concrete."

3.8 GROUTING

- A. Mix and install grout for equipment base bearing surfaces, pump and other equipment base plates, and anchors.
- B. Clean surfaces that will come into contact with grout.
- C. Provide forms as required for placement of grout.
- D. Avoid air entrapment during placement of grout.
- E. Place grout, completely filling equipment bases.
- F. Place grout on concrete bases and provide smooth bearing surface for equipment.
- G. Place grout around anchors.
- H. Cure placed grout.

END OF SECTION

SECTION 33 05 05.31 - HYDROSTATIC TESTING

PART 1 - GENERAL

1.1 SUMMARY

- A. Section Includes: Hydrostatic testing of pressure piping.
- B. Related Requirements:
 - 1. Section 33 14 13 - Public Water Utility Distribution Piping: Pipe materials and accessories normally encountered with pressurized water distribution systems.

1.2 REFERENCE STANDARDS

- A. American Water Works Association:
 - 1. AWWA C600 - Installation of Ductile-Iron Water Mains and Their Appurtenances.

1.3 SUBMITTALS

- A. Section 01 33 00 - Submittal Procedures: Requirements for submittals.
- B. Submit following items prior to start of testing:
 - 1. Testing procedures.
 - 2. List of test equipment.
 - 3. Testing sequence schedule.
 - 4. Provisions for disposal of flushing and test water.
 - 5. Certification of test gage calibration.
- C. Test and Evaluation Reports: Indicate results of piping tests.
- D. Qualifications Statement:
 - 1. Submit qualifications for applicator.

1.4 QUALITY ASSURANCE

- A. Perform Work according to Texas Commission on Environmental Quality and the City of Midland standards.

1.5 QUALIFICATIONS

- A. Applicator: Company specializing in performing Work of this Section with minimum three years' documented experience.
- B. Applicator: Person holding Water Operators License issued by Texas Commission on Environmental Quality shall perform or supervise work. Provide copy of valid license.

PART 2 - PRODUCTS

2.1 HYDROSTATIC TESTING

- A. Equipment:
 - 1. Pressure pump.
 - 2. Pressure hose.
 - 3. Water meter.

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4. Test connections.
 5. Pressure relief valve.
 6. Pressure Gage: Calibrated to 0.1 psi.

PART 3 - EXECUTION

3.1 EXAMINATION

- A. Section 01 70 00 - Execution and Closeout Requirements: Requirements for installation examination.
- B. Verify that piping is ready for testing.
- C. Verify that trenches are backfilled.
- D. Verify that pressure piping thrust restraints have been installed.

3.2 FIELD QUALITY CONTROL

- A. Section 01 40 00 - Quality Requirements: Requirements for inspecting and testing.
- B. Testing of Pressure Piping:
 1. Test system according to AWWA C600 and following:
 - a. Hydrostatically test each portion of pressure piping, including valved section, at 1.5 times working pressure of piping, based on elevation of lowest point in piping corrected to elevation of test gage.
 - b. Conduct hydrostatic testing for at least two hours.
 - c. Slowly fill with water portion of piping to be tested, expelling air from piping at high points.
 - d. Install corporation cocks at high points.
 - e. Close air vents and corporation cocks after air is expelled.
 - f. Raise pressure to specified test pressure.
 - g. Observe joints, fittings, and valves undergoing testing.
 - h. Remove and renew cracked pipes, joints, fittings, and valves that show visible leakage.
 - i. Retest.
 - j. Correct visible deficiencies and continue testing at same test pressure for additional two hours to determine leakage rate.
 - k. Maintain pressure within plus or minus 5.0 psi of test pressure.
 - l. Leakage is defined as quantity of water supplied to piping necessary to maintain test pressure during period of testing.
 - m. Compute maximum allowable leakage using following formula:
 - 1) $L = [SD \times \sqrt{P}]/C$.
 - 2) L = testing allowance, gph.
 - 3) S = length of pipe tested, feet.
 - 4) D = nominal diameter of pipe, inches.
 - 5) P = average test pressure during hydrostatic testing, psig.
 - 6) C = 148,000.
 - 7) If pipe undergoing testing contains sections of various diameters, calculate allowable leakage from sum of computed leakage for each pipe size.
 2. If testing of piping indicates leakage greater than that allowed, locate source of leakage, make corrections, and retest until leakage is within acceptable limits.
 3. Correct visible leaks regardless of quantity of leakage.

END OF SECTION

SECTION 33 05 05.36 - VACUUM TESTING

PART 1 - GENERAL

1.1 SUMMARY

- A. Section Includes: Vacuum testing of manholes.
- B. Related Requirements:
 - 1. Division 01 Specification Sections apply to Work of this Section.
 - 2. Section 33 05 76 "Fiberglass Manholes": Requirements for sewage and stormwater manholes.
 - 3. Section 33 31 11 "Public Sanitary Sewerage Gravity Piping": Pipe materials, manholes, and accessories normally encountered with gravity sewerage piping.

1.2 REFERENCE STANDARDS

- A. ASTM International:
 - 1. ASTM C1244 - Standard Test Method for Concrete Sewer Manholes by the Negative Air Pressure (Vacuum) Test Prior to Backfill.

1.3 SUBMITTALS

- A. Section 01 33 00 "Submittal Procedures": Requirements for submittals.
- B. Submit following items prior to start of testing:
 - 1. Testing procedures.
 - 2. List of test equipment.
 - 3. Testing sequence schedule.
 - 4. Provisions for disposal of flushing and test water.
 - 5. Certification of test gage calibration.
- C. Test and Evaluation Reports: Indicate results of manhole tests.
- D. Qualifications Statement:
 - 1. Submit qualifications for applicator.

1.4 QUALITY ASSURANCE

- A. Perform Work according to City of Midland standards.

1.5 QUALIFICATIONS

- A. Applicator: Company specializing in performing Work of this Section with minimum 3 years' documented experience.

PART 2 - PRODUCTS

2.1 VACUUM TESTING

- A. Equipment:
 - 1. Vacuum pump.
 - 2. Vacuum line.
 - 3. Vacuum Tester Base:
 - a. Compression band seal.
 - b. Outlet port.
 - 4. Shutoff valve.
 - 5. Stopwatch.
 - 6. Plugs.
 - 7. Vacuum Gage: Calibrated to 0.1 in. Hg.

PART 3 - EXECUTION

3.1 EXAMINATION

- A. Section 01 70 00 "Execution and Closeout Requirements": Requirements for installation examination.
- B. Verify that manholes are ready for testing.
- C. Verify that manholes are backfilled.

3.2 FIELD QUALITY CONTROL

- A. Section 01 70 00 "Execution and Closeout Requirements": Requirements for testing, adjusting, and balancing.
- B. Manhole Testing:
 - 1. Repair both outside and inside of joint to ensure permanent seal.
 - 2. Test manholes with manhole frame set in place.
 - 3. Vacuum Testing:
 - a. Comply with ASTM C1244.
 - b. Plug pipe openings; securely brace plugs and pipe.
 - c. Inflate compression band to create seal between vacuum base and structure.
 - d. Connect vacuum pump to outlet port with valve open, then draw vacuum to 10 in. Hg.
 - e. Close valve.
 - f. Manhole Test Duration in Seconds:
 - 1) Manhole Diameter of 4 Feet: 60.
 - 2) Manhole Diameter of 5 Feet: 75.
 - 3) Manhole Diameter of 6 Feet: 90.
 - g. Record vacuum drop during test period.
 - h. If vacuum drop is greater than 1 in. Hg during testing period, repair and retest manhole.
 - i. If vacuum drop of 1 in. Hg does not occur during test period, manhole is acceptable; discontinue testing.
 - j. If vacuum test fails to meet 1-in. Hg drop in specified time after repair, repair and retest manhole.

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4. If unsatisfactory testing results are achieved, repair manhole and retest until result meets criteria.
 5. Repair visible leaks regardless of quantity of leakage.

END OF SECTION

SECTION 33 05 05.41 - AIR TESTING

PART 1 - GENERAL

1.1 SUMMARY

- A. Section Includes: Low-pressure air testing of gravity sewer piping.
- B. Related Requirements:
 - 1. Division 01 Specification Sections apply to Work of this Section.
 - 2. Section 33 31 11 "Public Sanitary Sewerage Gravity Piping": Pipe materials, manholes, and accessories normally encountered with gravity sewerage piping.

1.2 SUBMITTALS

- A. Section 01 33 00 "Submittal Procedures": Requirements for submittals.
- B. Submit following items prior to start of testing:
 - 1. Testing procedures.
 - 2. List of test equipment.
 - 3. Testing sequence schedule.
 - 4. Provisions for disposal of flushing and test water.
 - 5. Certification of test gage calibration.
- C. Test and Evaluation Reports: Indicate results of piping tests.
- D. Qualifications Statement:
 - 1. Submit qualifications for applicator.

1.3 QUALITY ASSURANCE

- A. Perform Work according to City of Midland standards.

1.4 QUALIFICATIONS

- A. Applicator: Company specializing in performing Work of this Section with minimum 3 years' documented experience.

PART 2 - PRODUCTS

2.1 AIR TESTING

- A. Equipment:
 - 1. Air compressor.
 - 2. Air supply line.
 - 3. Shutoff valves.
 - 4. Pressure regulator.
 - 5. Pressure relief valve.
 - 6. Stopwatch.
 - 7. Plugs.
 - 8. Pressure Gage: Calibrated to 0.1 psi.

PART 3 - EXECUTION

3.1 EXAMINATION

- A. Section 01 70 00 "Execution and Closeout Requirements": Requirements for installation examination.
- B. Verify that piping is ready for testing.
- C. Verify that trenches are backfilled.

3.2 PREPARATION

- A. Section 01 70 00 "Execution and Closeout Requirements": Requirements for preparation.
- B. Lamping:
 - 1. Lamp gravity piping after flushing and cleaning.
 - 2. Perform lamping operation by shining light at one end of each pipe section between manholes.
 - 3. Observe light at other end.
 - 4. Pipe not installed with uniform line and grade will be rejected.
 - 5. Remove and reinstall rejected pipe sections.
 - 6. Clean and lamp until pipe section is installed to uniform line and grade.
- C. Plugs:
 - 1. Plug outlets, wye branches, and laterals.
 - 2. Brace plugs to resist test pressures.
- D. Section 01 40 00 "Quality Requirements": Requirements for inspecting and testing.
- E. Section 01 70 00 "Execution and Closeout Requirements": Requirements for testing, adjusting, and balancing.
 - 1. Test each reach of gravity sewer piping between manholes.
 - 2. Introduce air pressure slowly to approximately 4 psig.
 - 3. Determine ground water elevation above spring line of piping.
 - 4. For every foot of ground water above spring line of piping, increase starting air test pressure by 0.43 psi.
 - 5. Do not increase pressure above 10 psig.
 - 6. Allow pressure to stabilize for at least five minutes.
 - 7. Adjust pressure to 3.5 psig or to increased test pressure as determined above when ground water is present.
 - 8. Do not make allowance for laterals.
 - a. Pipe Size 6 Inches: 0.7.
 - b. Pipe Size 12 Inches: 1.8.
 - c. Pipe Size 16 Inches: 2.2.
 - 9. Record drop in pressure during testing period.
 - 10. If air pressure drops more than 1.0 psi during testing period, piping has failed.
 - 11. If 1.0-psi air pressure drop has not occurred during testing period, piping is acceptable; discontinue testing.
 - 12. If piping fails, test reach of piping in incremental stages until leaks are isolated, repair leaks, and retest entire reach between manholes.

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13. If unsatisfactory testing results are achieved, make necessary repairs and retest until result meets criteria.
 14. Repair visible leaks regardless of quantity of leakage.

END OF SECTION

SECTION 33 05 05.43 - MANDREL TESTING

PART 1 - GENERAL

1.1 SUMMARY

- A. Section Includes: Deflection testing of plastic sewer piping.
- B. Related Requirements:
 - 1. Section 33 01 30.79 "Fold-and-Form Pipe Lining": Relining of sanitary sewer piping and associated preparatory Work.
 - 2. Section 33 31 11 "Public Sanitary Sewerage Gravity Piping": Pipe materials, manholes, and accessories normally encountered with gravity sewerage piping.

1.2 REFERENCE STANDARDS

- A. ASTM International:
 - 1. ASTM D2122 - Standard Test Method for Determining Dimensions of Thermoplastic Pipe and Fittings.

1.3 SUBMITTALS

- A. Section 01 33 00 "Submittal Procedures": Requirements for submittals.
- B. Submit following items prior to start of testing:
 - 1. Testing procedures.
 - 2. List of test equipment.
 - 3. Testing sequence schedule.
 - 4. Provisions for disposal of flushing and test water.
 - 5. Certification of test gage calibration.
 - 6. Deflection mandrel drawings and calculations.
- C. Test and Evaluation Reports: Indicate results of piping tests.

PART 2 - PRODUCTS

2.1 DEFLECTION TESTING

- A. Equipment:
 - 1. "go, no go" mandrel.
 - 2. Pull/retrieval ropes.

PART 3 - EXECUTION

3.1 EXAMINATION

- A. Section 01 70 00 "Execution and Closeout Requirements": Requirements for installation examination.
- B. Verify that piping is ready for testing.
- C. Verify that trenches are backfilled.

3.2 PREPARATION

- A. Section 01 70 00 "Execution and Closeout Requirements": Requirements for preparation.
- B. Lamping:
 - 1. Lamp gravity piping after flushing and cleaning.
 - 2. Perform lamping operation by shining light at one end of each pipe section between manholes.
 - 3. Observe light at other end.
 - 4. Pipe not installed with uniform line and grade will be rejected.
 - 5. Remove and reinstall rejected pipe sections.
 - 6. Clean and lamp until pipe section is installed to uniform line and grade.
- C. Plugs:
 - 1. Plug outlets, wye branches, and laterals.
 - 2. Brace plugs to resist test pressures.

3.3 FIELD QUALITY CONTROL

- A. Section 01 40 00 "Quality Requirements": Requirements for inspecting and testing.
- B. Section 01 70 00 "Execution and Closeout Requirements": Requirements for testing, adjusting, and balancing.
- C. Deflection Testing of Plastic Sewer Piping:
 - 1. Perform vertical ring deflection testing on PVC and ABS sewer piping after backfilling has been in place for at least 30 days, but not longer than 12 months.
 - 2. Allowable maximum deflection for installed plastic sewer pipe is no greater than five percent of original vertical internal diameter.
 - 3. Perform deflection testing using "go, no go" mandrel.
 - 4. Mandrel Diameter:
 - a. Not less than 95 percent of base or average ID of pipe.
 - b. Pipe Diameter: Comply with ASTM D2122.
 - 5. Perform testing without mechanical pulling devices.
 - 6. Locate, excavate, replace, and retest piping that exceeds allowable deflection.

END OF SECTION

SECTION 33 05 07 – TRENCHLESS INSTALLATION OF UTILITY PIPING

PART 1 - GENERAL

1.1 SUMMARY

- A. Section includes all jacking/boring/tunneling required to install casings or tunnels under highways, streets, or other pipelines. Work shall include excavation and shoring bore pits, removal and disposal of excess materials, and any necessary dewatering. Contractor furnishes all materials, equipment, tools, labor, superintendence, and incidentals, including necessary field welding, to install casings or tunnel liner and accessories as indicated on Contract Drawings and specified herein.
- B. Scope of Work:
 - 1. Contractor installs casing pipe or tunnel liner at locations and to lines and grades indicated on Drawings. Casings or tunnel liner shall be sizes indicated on Drawings at minimum, and installed using jacking, boring, or tunneling methods. Contractor holds responsibility, by own geotechnical investigation, to determine if casing or tunnel liner thickness should be increased to prevent bending or excessive deflection as installed.
 - 2. Contractor is responsible for cost of removing, redirecting, modifying, or reinstalling any casing pipe or tunnel liner, including relaying or rerouting carrier pipe, from Contractor not verifying soil conditions at each location. Contractor may refer to geotechnical study, if any; however, it remains Contractor responsibility to determine if additional thickness, beyond specified, is necessary to effectively complete casing or tunnel liner installation. Contractor determines casing thickness based upon intended boring and jacking loads imposed upon casing pipe during installation. Contractor holds responsibility to determine if additional thickness beyond specified is needed to carry overburden pressure on casing or tunnel liner. Contractor installs carrier pipes sizes indicated on Contract Drawings, within casings or tunnel liner, and required casing insulators, end seals, pipe supports, skids, and other incidental features required to complete Work described.
 - 3. Contractor solely responsible for determining soil conditions where casings or tunnel liner are installed and makes such other investigations to obtain information as necessary. Methods and equipment selected by Contractor for construction are to be compatible with soil conditions encountered. Costs of such investigations included in Contractor cost for performing Work.
 - 4. All OSHA regulations and requirements of specific private and governmental agencies under whose facilities casings and pipe are to be installed, apply to these operations.
 - 5. Contractor responsible for protecting facilities, where casings or tunnel liner and pipe installed, for providing protection at excavations and carrying out trench safety procedures per all OSHA regulations required because of these operations.
- C. Related Sections:
 - 1. Division 01 Specification Sections apply to Work of this Section.
 - 2. Division 33 Specification Sections apply to Work of this Section.

1.2 REFERENCES

- A. Trenchless installation of utility piping shall conform to the following standards:
 - 1. AWWA C206 – Field Welding of Steel Water Pipe
 - 2. AWWA C210 – Liquid Epoxy Coating Systems for the Interior and Exterior of Steel Water Pipelines
 - 3. AASHTO – LRFD Bridge Construction Specifications
 - 4. ASTM A135 – Standard Specification for Electric-Resistance-Welded Steel Pipe
 - 5. ASTM A139 – Standard Specification for Electric-Fusion (Arc)-Welded Steel Pipe
 - 6. ASTM A568 – Standard Specification for Steel, Sheet, Carbon, Structural, and High-Strength, Low-Alloy, Hot-Rolled and Cold-Rolled.
 - 7. API 1104 – Welding of Pipelines and Related Facilities
 - 8. NFPA 70 – National Electrical Code

1.3 SUBMITTALS

- A. Submit under provisions of Section 01 33 00 “Submittal Procedures.”
- B. Contractor submits for review, complete Working Drawings showing details of proposed method of construction and sequence of operations performed during construction. Plan shows method of jacking, boring, or tunneling, muck removal and disposal, type, and method of installation of primary casing, access pit size and construction shoring and bracing, and dewatering methods proposed. Working Drawings sufficiently detailed to allow Engineer to judge whether proposed materials and procedures will meet Contract requirements.
- C. Contractor's submittal includes design criteria used and certification that structural design of casing meets design criteria. Casing or tunnel liner shall, at minimum, be able to carry H-20 (and/or E-80) load distributions as specified, as well as jacking or other dead loads, and include appropriate design factor of safety.
- D. Submit for review a brief description of quality control methods including:
 - 1. Method and frequency of survey control.
 - 2. Example of tunnel daily log.
 - 3. Instrumentation plan showing location and frequency of monitoring relative to critical structures within zone of active excavation.
 - 4. Settlement survey plan.
- E. When Contractor conducts geotechnical investigations, submit results to Engineer for Owner's Project record documentation.
- F. Submit settlement monitoring plan for review before construction. Plan to identify location of potential settlement points, remedial measures to offset or correct settlement, reference benchmarks, survey frequency and procedures, and reporting formats.
- G. Submit pre- and post-construction assessment reports for critical structures and existing utilities; namely, those located within zone of active excavation from proposed casing or tunnel centerline. Include in assessment reports, photos, or video of existing damage to structures or utilities near pipeline alignment.
- H. Submit readings of all monitoring to Engineer as part of Project documentation.
- I. Contractor maintains shift log and makes available to Owner's representative on request. Shift log shall contain daily rate of advance.
- J. Contractor provides engineered shoring system at all bore pit and exit pit locations. Prepare excavation shoring system(s) following these criteria:
 - 1. Provide Drawings and calculations for shoring system used, prepared, and signed by professional engineer licensed in Texas, experienced in design of shoring systems.
 - 2. Perform shoring design per soil characteristics and design recommendations contained in written geotechnical report issued and signed by geotechnical engineer, hired by Contractor for this purpose. Geotechnical engineer to be licensed in Texas.

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- 3. Contractor provides data on proposed type and size of jacking, boring, or tunneling equipment proposed for use on Project, including guidance systems, method of grade, and alignment control for adjustments.
 - K. Shop Drawings include equipment pit locations including dimensions, shoring, bracing, traffic protection, dewatering system, ventilation system, and provisions for worker safety, per OSHA requirements.
 - L. Method of construction shall ensure safety of Work, Contractor employees, public, and adjacent public or private property. Requirements apply for each crossing location since conditions vary for each location. Contractor's method of construction shall consider but not limited to existing soil conditions, adjacent structures, working area, and traffic control.
 - M. Submit all products proposed for use in accordance with Part 2 of this specification.

1.4 QUALITY ASSURANCE

- A. Installation shall be by a competent, experienced contractor/subcontractor. Installation contractor shall have a satisfactory experience record at least two years engaged in similar work of equal scope.
- B. Lateral or vertical variation in final position of pipe casing from line and grade established by Engineer permitted only to extent of 1 inch in 10 feet, if variation shall be regular and only in the direction that will not detrimentally affect function of carrier pipe.

PART 2 - PRODUCTS

2.1 STEEL CASING

- A. Casing pipe shall be new ASTM A139 Grade B steel casing excluding hydrostatic test requirements.
- B. Casing shall be coated inside and out using a coal tar epoxy or bituminous coating by the hot dip method.
- C. Casing diameters and thicknesses as shown in Contract Drawings.
- D. Bevel casing pipe ends for welding. Beveled edge located on weld side of pipe.

2.2 CASING SPACERS

- A. Casing spacers shall be new, stainless steel banded with polymer runners as manufactured by CCI, APS or approved equal.
 - 1. For 4- to 36-inch carrier pipe, 8-inch-width spacers shall be utilized;
 - 2. For 36- to 120-inch carrier pipe, 12-inch-width spacers shall be utilized.

2.3 CASING END SEALS

- A. Casing end seals shall be new, EPDM or neoprene rubber with stainless steel banding as manufactured by CCI, APS or approved equal.

2.4 PRESSURE GROUT

- A. Cement Mortar shall consist of one-part cement to two-parts clean sand with sufficient water to make a thick workable mix.
- B. Pressure Grout Mix shall be comprised of 1 cubic foot of cement and 3.5 cubic foot of clean fine sand with sufficient water added to provide a free-flowing thick slurry. If desired to maintain solids in the mixture in suspension, 1 cubic foot of commercial grade bentonite may be added to each 12-15 cubic feet of the slurry.

PART 3 - EXECUTION

3.1 JOB CONDITIONS; PERMITS AND EASEMENT REQUIREMENTS

- A. Where work is in the public right-of-way or railroad company right-of-way, secure appropriate permits or easements, unless provided. Observe regulations and instructions of right-of-way owner as to methods of performing work and take precautions for safety of the property and the public. Negotiate and coordinate with right-of-way Owner not less than 5 days before time of his intentions to begin work on the right-of-way.
- B. Comply with requirements of permit/easement. If required by right-of-way Owner, obtain Protective Liability Insurance in the amount required by particular company or other insurance as is specified in permit at no additional cost to Owner. Acquire a permit, agreement, or work order from the right-of-way Owner as required.
- C. Construction along roads and railroads shall always be performed so excavated material be kept off roads and railroads, as well as all operating requirement. Construction shall not interfere with operations of roads and railroads.
- D. Provide barricades, warning signs, and flagmen when necessary and specified.
- E. No blasting allowed. Protect existing pipelines. Verify location and elevation of any pipelines before proceeding with construction and plan construction as to avoid damage to any existing pipelines. Verification of location of existing utilities is Contractor's complete responsibility.

3.2 CONSTRUCTION PROCEDURES

- A. Jacking, boring, or tunneling shall be to limits, lines, and grades shown on Contract Drawings and in approved submittal and utilize methods including due regard for safety of workmen, adjacent structures, utilities, and public. Methods of construction, (boring, jacking, tunneling), at Contractor option subject to approval of Engineer and governing agencies.
- B. Furnish all necessary equipment for construction, provide adequate lights, ventilation, signal systems, fire extinguisher, safety equipment, and other equipment required, and maintain such equipment in good repair. Locate equipment powered by combustible fuels at suitable distances from shafts and protect to prevent possibility of explosion and fire in shafts and casing.
- C. Be advised of proximity of buildings, structures, roads, and utilities to Work as shown on Contract Drawings. Execute excavating, lining, grouting, and construction of casing or tunnel so ground settlement minimized. Precautions include construction methods and equipment to minimize loss of earth materials at casing or tunnel face and settlement of earth around the casing. Completed casing or tunnel has full bearing against earth and no voids or pockets left in any portion of Work.

3.3 EXCAVATION AND BACKFILL OF ACCESS PITS

- A. Do not allow excavation over the limits of the bore as specified. Trench walls of access pits adjacent to the bore face shall be truly vertical. Shore trench walls as necessary to protect workmen, public structures, roadways, and other improvements.
- B. Backfill and consolidate excavations within right-of-way and not under surfacing by tamping in 6-inch horizontal layers to 95 percent maximum density as measured by ASTM D1557, ± 2 percent optimum moisture content. Remove surplus material from right-of-way and finish excavation to original grades. Backfill pits immediately after installation of carrier pipe is complete. If carrier pipe not installed immediately after casing pipe installation, right-of-way owner may require access pits be temporally backfilled until installation of carrier pipe.

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- C. Where seeding or sodding is disturbed by excavation or backfilling operations, replace by seeding or sodding as specified.
 - D. Dispose excess material in Owner-approved manner with no additional costs to Owner.

3.4 HANDLING CASING PIPE

- A. Unload all casing pipe delivered to job site at point of delivery. Haul materials to site of Work and distribute materials, unless otherwise specified. In loading and unloading, lift casing pipe by hoists with slings, slid, or roll on skidways to avoid shock or damage. DO NOT drop materials. Do not skid or roll casing pipe handled on skidways against casing pipe already on the ground. Handle material to avoid damage.
- B. Contractor repairs any damage caused to material at own expense.

3.5 CASING PIPE CUTTING

- A. Perform casing pipe cutting, where indicated on Contract Drawings or approved/authorized by Engineer, without damaging casing pipe. Cut by approved mechanical cutter. Use wheel cutters where practicable.

3.6 WELDING PROCEDURES FOR CASING PIPE

- A. Procedures for welding casing pipe joints established per requirements of American Water Works Association, AWWA Standard C206, latest edition, Section 4.4 – Qualification of Welding Procedures, Welders, and Welding Operators.
 - 1. Qualifications of Welders: All casing pipe welding on this Project performed by welders qualified per requirements of AWWA Standard C206, latest edition, Section 4.4 - Qualifications of Welding Procedures, Welders, and Welding Operators.
 - 2. Welding Casing Pipe: All design and preparation of casing pipe joints and production welding of casing pipe joints, to meet requirements of AWWA Standard C206, latest edition, Section 4.6 – Welding Procedure Details.
 - 3. Inspection and Testing Welds: Engineer inspects and tests all production welds. Contractor holds responsibility of notifying Engineer sufficiently in advance of performing any welding work for Engineer to prepare for inspection and testing. Contractor provides Engineer's inspector with free access to Work inspected, and inspector with reasonable facilities and space for inspecting, testing, and obtaining information relative to materials used and progress and condition of Work. Inspecting and testing welds performed per AWWA Standard C206, latest edition, Sections 5.1 – Inspection, and 5.2 - Testing.
- B. Engineer's inspection of Work shall not relieve Contractor of responsibility for quality of all welding performed or for performing Work as specified.
 - 1. Acceptance Standards: Engineer accepts/rejects any production weld per criteria of AWWA Standard C206, latest edition, Sections 5.1 – Inspection, and 5.2 - Testing.
 - 2. Defective Welds: Repair or remove any welds determined defective, per requirements of AWWA Standard C206, latest edition, Section 4.7 – Repair of Welds.

3.7 GROUTING

- A. Furnish and operate suitable equipment for all grouting operations along entire length of casing or tunnel on exterior side, to fill voids created during installation.
- B. Fill all excavation outside casing or tunnel with pressure-applied grout or other approved fill unless otherwise directed by Engineer. Use care in grouting operations to prevent damage to adjacent utilities, street pavement, or other properties. Pressure used in grouting not great enough to distort or imperil any portion of Work.
- C. Completely fill all voids outside limits of casing or tunnel excavation created by caving or collapse of earth, cover over excavation or other cause, with grout. As part of boring, jacking, or tunneling submittal, submit detail drawings showing number, size, and location of all grouting ports in casing pipe or tunnel liner used after installation to fill any potential voids. Seal all grouting ports by screwed steel plugs, tack weld, or other means after completing grouting procedures. All plugs fit flush inside casing or tunnel. Include grouting procedure intended to use in submittal. If tunneling method utilized, grout annulus between tunnel liner and earth at end of every 8-hour shift, or 6 feet of liner installed. No more than 6 feet of liner may be left ungrouted.
- D. All grouting to eliminate external voids outside casing or tunnel limits, at Contractor expense, with cost included in Contractor unit bid price.

3.8 INSTALLING CASING BY JACKING

- A. Completed casing must be free of dents, bends, weld protrusions, or other obstructions to allow smooth sliding of carrier pipe through casing. Final position of casing shall not vary from line and grade shown on plans or established by Engineer, by more than 1 inch in 10 feet.

3.9 INSTALLING CASING BY BORING

- A. Installing casing and excavating and removing material within casing, to proceed simultaneously. Completed casing must be free of dents, bends, weld protrusions, or other obstructions to allow smooth sliding of carrier pipe through casing. Final position of casing shall not vary from line and grade shown on plans or established by Engineer, by more than 1 inch in 10 feet.

3.10 TUNNELING EQUIPMENT

- A. Select tunneling equipment which, based on experience, proves satisfactory for excavating soils encountered.
- B. Employ tunneling equipment able to handle various anticipated ground conditions, minimizes loss of soil ahead of face, and allows satisfactory support of excavated face.
- C. Air Quality: Provide equipment to maintain proper air quality of tunnel operations during construction per OSHA requirements to include but not limited to air monitoring device inside while workers are present and forced air from clean source.
- D. Enclose lighting fixtures in watertight enclosures with suitable guards. Provide separate circuits for lighting and other equipment. Electrical systems conform to requirements of NFPA 70.

3.11 TUNNELING DATA

- A. Maintain shift logs of construction events and observations. Owner to have access to Contractor logs regarding:
 - 1. Location of face by station and progress of tunnel drive during shift.
 - 2. Hours worked per shift on tunneling operations.
 - 3. Completed field forms for checking line and grade of tunneling operation, showing achieved tolerance relative to design alignment.
 - 4. Location, elevation, and brief soil descriptions of soil strata and strata boundaries.
 - 5. Observation of any lost ground or other ground movement.
 - 6. Any unusual conditions or events.
 - 7. Reasons for operational shutdown if drive is halted.
 - 8. Time of grouting and pressure for grouting.
 - 9. Advance rate per day.
- B. Clearly mark primary liner with paint every 20 feet along tunnel with distance in feet from entrance shaft.

3.12 CONTROL OF TUNNEL LINE AND GRADE

- A. Construction Control:
 - 1. Establish lines and grade for installation, check lines and grade at beginning of Work, and report any errors or discrepancies to Engineer.
 - 2. Use lines and grades established and maintain construction control points, reference lines, and grades for locating tunnel.
 - 3. Establish control points sufficiently far from face, not affecting tunneling operations.
- B. Line and Grade:
 - 1. Maintain sufficient means to check alignment and grade continuously.
 - 2. Check survey control for tunneling against an aboveground undisturbed reference at least once each day and once for each 20 feet of tunnel constructed.
 - 3. When excavation is off line or grade, make alignment corrections.
 - 4. Construct primary liner to such tolerances to permit pipeline installation completed to elevations specified.
- C. Earth Movement: Contractor responsible for damages due to settlement from any construction-induced activity or occurrence.
 - 1. Survey crown, invert, and springline on each side of primary liner at 20-foot intervals, minimum once per day, or more frequently if line and grade tolerances are exceeded, to ensure alignment is within tolerances specified. Conduct survey immediately behind tunnel excavation to allow immediate misalignment correction.
 - 2. If settlement of ground surface occurs during construction of tunnel affecting accuracy of temporary benchmarks, detect and report such movement. Temporary monumentation benchmark locations are indicated on Contract Drawings and use to verify temporary benchmark accuracy. Upon completion, submit field books pertaining to monitoring temporary monumentation benchmarks to Engineer.

3.13 MONITORING

- A. Surface Settlement Monitoring:
 - 1. Establish monitoring points on all critical structures.
 - 2. Record location of settlement monitoring points with respect to construction baselines and elevations. Record elevations to 0.01-foot accuracy for each monitoring point location. Establish monitoring points at locations and by methods to protect from damage by construction operations, tampering, or other external influences.

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3. Record ground surface elevations on centerline ahead of tunneling operations at minimum 10-foot intervals. Clearly mark settlement monitoring points by studs or paint for ease of locating.
 4. Utilities and Pipelines: Monitor ground settlement directly above and 10 feet before and after utility or pipeline intersection.
- B. Reading Frequency and Reporting: Contractor submits records of readings from survey points to Engineer.
1. Take surface settlement monitoring readings:
 - a. Before zone of active excavation reaching that point;
 - b. When tunnel face reaches monitoring point (in Plan); and
 - c. When zone of active excavation passes, and no further movement detected.
 2. Promptly submit all monitoring readings to Owner representative.
 3. Immediately report to Engineer any movement, cracking, or settlement detected.
 4. Following substantial completion but before final completion, make a final survey of all monitoring points.

3.14 INSTALLATION OF CARRIER PIPE IN CASING PIPE OR TUNNEL

- A. General:
1. After Engineer installs and accepts casing or tunnel liner, push carrier pipe through by exerting pressure on pipe barrel so pipe joints are always in compression.
 2. Take care while installing carrier pipe in casing or tunnel to ensure carrier pipe is not damaged. Repair any damage to carrier pipe before installing carrier pipe. Fully restrain all pipe before installation into casing.
 3. Install carrier pipe in casing or tunnel per recommendations of pipe manufacturer and specified herein. During entire installation, center carrier pipe in casing or tunnel.
- B. Casing Spacers:
1. Firmly attach casing spacers per manufacturer recommendations before installing carrier pipe in casing. Place spacers for a maximum of 12 inches from each side of each pipe joint, no more than maximum 8-foot spacing between spacers, and one full spacer is within 6 inches of each casing end.
 2. Prepare casing or tunnel bottom to ease installation of carrier pipe by lubricating 50 percent with soap compound or other methods approved by Engineer.
- C. After carrier pipe installed, Contractor performs continuity test to demonstrate carrier pipe is isolated from casing or tunnel liner.

END OF SECTION

SECTION 33 05 07.13 – UTILITY DIRECTIONAL DRILLING

PART 1 - GENERAL

1.1 SUMMARY

- A. Section includes PVC pipe, including standards for dimensionality, testing, quality, safe handling, storage, and installation of pipe by horizontal directional drilling (HDD), directional boring, or guided boring.
- B. Scope of Work:
 - 1. Contractor shall provide acceptable restrained joint PVC pipe and meet all testing and material properties as described herein for installation by HDD.
 - 2. Contractor responsible for all installation processes and procedures associated with installation by HDD per this specification.
- C. Related Requirements:
 - 1. Division 01 Specification Sections apply to Work of this Section.
 - 2. Division 03 Specification Sections apply to Work of this Section.
 - 3. Division 31 Specification Sections apply to Work of this Section.
 - 4. Section 33 14 13 “Public Water Utility Distribution Piping.”

1.2 REFERENCES

- A. Restrained joint PVC pipe installed by HDD method shall conform with:
 - 1. AWWA C900 – Polyvinyl Chloride (PVC) Pressure Pipe and Fabricated Fittings, 4 in. Through 60 in.
 - 2. AWWA C605 – Underground Installation of Polyvinyl Chloride (PVC) and Molecularly Oriented Polyvinyl Chloride (PVCO) Pressure Pipe and Fittings
 - 3. AWWA C110 – Ductile Iron and Gray Iron Fittings
 - 4. AWWA C111 – Rubber-Gasket Joints for Ductile-Iron Pressure Pipe and Fittings
 - 5. AWWA M23 – PVC Pipe – Design and Installation
 - 6. ASTM D2774 – Cement-Mortar Lining for Ductile-Iron Pipe and Fittings
 - 7. ASTM D2737 – Standard Specification for Polyethylene (PE) Plastic Tubing
 - 8. ASTM D2837 – Standard Test Method for Obtaining Hydrostatic Design Basis for Thermoplastic Pipe Materials or Pressure Design Basis for Thermoplastic Pipe Products
 - 9. ASTM D3139 – Standard Specification for Joints for Plastic Pressure Pipes Using Flexible Elastomeric Seals
 - 10. ASTM A536 – Standard Specification for Ductile Iron Castings
 - 11. ASTM F477 – Standard Specification for Elastomeric Seals (Gaskets) for Joining Plastic Pipe
 - 12. NSF/ANSI 61 – Drinking Water System Components – Health Effects
 - 13. AASHTO – LRFD Bridge Design Construction Specifications
 - 14. Uni-Bell PVC Pipe Association – Handbook of PVC Pipe Design and Construction

1.3 SUBMITTALS

- A. Submit under provisions of Section 01 33 00 “Submittal Procedures.”

-
- B. Product data required on pipe:
 - 1. Pipe size.
 - 2. Pipe standard.
 - 3. Dimension ratios and pressure ratings.
 - 4. Lay length.
 - 5. Color.
 - 6. Recommended minimum bending radius.
 - 7. Recommended maximum safe pull force.
 - 8. Work plan and information required from Contractor/HDD Contractor, also supplied to pipe supplier, if requested:
 - a. Work plan includes for each HDD installation, any excavation locations and dimensions, interfering utilities, bore dimensions and locations including bend radii used, and traffic control schematics.
 - b. Project safety and contingency plan includes but not limited to drilling fluid containment and cleanup procedures, equipment and plan for compromised utility installations including electrical and power lines, water, wastewater, and any other subsurface utility in the area.
 - c. HDD schedule identifying daily work hours and dates for each installation.
 - C. Post-Construction Submittals. As-recorded data required from Contractor to Owner upon request:
 - 1. Approved datalogger device reports.
 - 2. As-recorded Information:
 - a. As-recorded plan and profile reflects actual installed alignment and horizontal offset from baseline and depth of cover.
 - b. Reference and show all fittings, valves, or other appurtenances.
 - c. Daily project log and tracking log sheets, if used, are provided. Tracking log sheet data, if needed, includes all that apply including inclination, depth, azimuth, and hydraulic pull-back and rotational force measured.

1.4 REGULATORY REQUIREMENTS

- A. Conform to applicable code for piping and component requirements.
- B. All applicable TCEQ regulations shall be strictly adhered to.

1.5 CERTIFICATION

- A. Certifications properly executed by manufacturer shall be furnished to Engineer showing compliance to specification requirements and standards sighted herein. Test data from tests performed shall be provided as requested by Engineer.

1.6 INSPECTION

- A. Engineer and representatives shall have access to all phases of work. Manufacturer and Contractor shall provide proper facilities for access and inspection. Material, fabricated parts, and pipes discovered defective, or do not conform to Specification requirements, will be subject to rejection at any time prior to final acceptance of pipe.

PART 2 - PRODUCTS

2.1 GENERAL

- A. Products shall be per Section 33 14 13 “Public Water Utility Distribution Piping.”

2.2 DRILLING SYSTEM EQUIPMENT

- A. Directional drilling equipment, at minimum, consists of directional drilling rig of sufficient capacity to perform bore(s) and pull-back of pipe(s), drilling fluid mixing and delivery system of sufficient capacity to successfully complete crossing, guidance system to accurately guide boring operations, and trained and competent personnel to operate system. All equipment shall be in good, safe, operating condition with sufficient supplies, materials, and spare parts on hand to maintain system in good working order for Project duration. All required equipment included in emergency and contingency plan as submitted per specifications.
- B. Drilling Rig
1. Directional drilling machine consists of hydraulically-powered system to rotate, push, and pull drill pipe while delivering pressurized fluid mixture to drill head. Machine anchored to withstand pulling, pushing, and rotating forces required to complete Project.
 2. Drilling rig hydraulic system shall be of sufficient pressure and volume to power drilling operations. Hydraulic system shall be free from leaks.
 3. Drilling rig has system to monitor pull-back hydraulic pressure during pull-back operations.
- C. Drill Head
1. HDD equipment produces stable fluid-lined tunnel with steer-able drill head and any subsequent pre-reaming heads.
 2. System must control depth and direction of drilling operation.
 3. Drill head contains all necessary cutters and fluid jets for operation, and appropriate design for ground medium drilled.
- D. Drilling Fluid System
1. Drilling Fluid (Drilling Mud)
 - a. Drilling fluid composed of clean water and appropriate additive(s) for fluid to used. Water to be from clean source and meet mixing requirements of mixture manufacturer(s).
 - b. Mix water and additives thoroughly to assure absence of clumps or clods. No hazardous additives may be used.
 - c. Maintain drilling fluid at viscosity sufficient to suspend cuttings and maintain integrity of bore wall(s).
 - d. Dispose drilling fluid off-site per local, state, and federal requirements and/or permit conditions.
 - e. No additional chemicals or polymer surfactants allowed to add to drilling fluid unless submitted per specification.
 2. Mixing System
 - a. Drilling fluid mixing system shall be of sufficient size to mix and deliver drilling fluid for Project.
 - b. Mixing system shall ensure thorough mixing of drilling fluid. Drilling fluid reservoir tank sized for adequate fluid storage.
 - c. Mixing system continually agitates drilling fluid during drilling operations.

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3. Drilling Fluid Delivery and Recovery System
 - a. Drilling fluid pumping system has minimum capacity to supply drilling fluid per drilling equipment pull-back rating at constant required pressure.
 - b. Delivery system has filters or other appropriate in-line equipment to prevent solids from pumping into drill pipe.
 - c. Contain used and spilled drilling fluid during drilling operations and properly dispose. Maintain spill containment measures around drill rigs, drilling fluid mixing system, entry and exit pits, and drilling fluid recycling system (if used) to prevent spills into surrounding environment. Place pumps, vacuum truck(s), and/or storage of sufficient size to contain excess drilling fluid.
 - d. Use a closed-loop drilling fluid and drilling fluid cleaning system to whatever extent practical, depending upon project size and conditions. Do not reuse drilling fluid that escaped containment in drilling system.
 - E. Drilling Control System
 1. Calibrating electronic detection and control system verified before start of bore.
 2. Drilling head shall be remotely steerable by electronic or magnetic detection system. Drilling head location monitored in three dimensions:
 - a. Offset from baseline,
 - b. Distance along baseline, and
 - c. Depth of cover.
 3. Point of head rotation also monitored.
 4. For gravity application and on-grade drilling, use sonde/beacon or approved equipment applicable for grade increments of 1/10 of 1 percent.

2.3 PIPE PULL HEADS

- A. Utilize pipe pull heads that always employ positive through-bolt design assuring smooth wall against pipe cross-section.
- B. Pipe pull heads specifically designed for use with fusible PVC pipe as recommended by pipe supplier.

2.4 PIPE ROLLERS

- A. Pipe rollers, if required, shall be of sufficient size to fully support pipe weight during handling and pullback operations.
- B. Use a sufficient quantity of rollers and spacing, per pipe supplier guidelines to assure adequate support and excessive sagging of product pipe.

PART 3 - EXECUTION

3.1 GENERAL

- A. All pipe and accessories for work specified herein shall be unloaded, handled, laid, jointed, tested for defects and for leakage in the manner herein specified.
- B. Coordinate delivery storage, and delivery schedule with Owner representative.
- C. Pipe Bending and Joint Angular Deflection shall meet requirements of AWWA C605 and manufacture specifications. The more stringent shall apply to Project.

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- D. Make connections between new work and existing work, where required, using proper transition sleeves and fittings to suit actual conditions. Additional bends may also be necessary to provide minimum pipe separations as required by TCEQ. Provide these fittings, special sleeves, and bends after verification from Engineer. When necessary to interrupt service to existing facilities to make connection to an existing main, make connections as designated by Owner at no additional cost to Owner.
 - E. Contractor is responsible for all material he furnishes and shall replace, at own expense, all material found defective in manufacture or became damaged in handling after delivery.
 - F. Storage, Handling Pipe, and Accessories
 - 1. Unload all pipe, fittings, and other accessories shall, unless otherwise directed at point of delivery. Haul to and distribute at site of work. In loading and unloading, lift by hoists/slides or roll on skidways to avoid shock or damage to materials. DO NOT drop. Pipe handled on skidways must not be skidded or rolled against pipe already on the ground.
 - 2. Place pipe, fittings, and accessories along site to keep as free as possible from dirt, sand, mud, and other foreign matter.
 - 3. When prolonged exposure to direct sunlight is anticipated, cover PVC pipe and accessories with opaque material while still permitting adequate air circulation above and around the pipe.

3.2 DRILLING OPERATIONS

- A. General
 - 1. Bore path and alignment as indicated in Contract Documents. Bore path may be modified based on field and equipment conditions. Entry and exit locations and control-point elevations maintained as indicated in Contract Documents.
 - 2. Bend radii shown in Contract Documents are minimum allowable radii and not reduce.
- B. Location and Protection of Underground Utilities
 - 1. Correct location of all underground utilities that impact HDD installation, is Contractor responsibility, regardless of locations shown on Contract Drawings or previous surveys completed.
 - 2. Contact utility location and notification services before construction.
 - 3. Positively identify all existing mains and underground utilities including exposing facilities located within envelope of possible impact of HDD installation as determined for Project-specific site conditions. Contractor and HDD system operator hold responsibility to determine this envelope of safe offset from existing utilities. This includes but not limited to soil conditions and layering, utility proximity and material, HDD system and equipment, and foreign subsurface material.
- C. Site Location Preparation
 - 1. Grade of fill Work site, as indicated on Contract Drawings, to provide level working area. No alterations beyond required for operations are to be made.
 - 2. Confine all activities to designated work areas.
- D. Drilling Layout and Tolerances
 - 1. Accurately survey drill path with entry and exit areas placed in appropriate locations where indicated on Contract Drawings. If using magnetic guidance system, survey drill path for any surface geomagnetic variations or anomalies.
 - 2. Instrumentation provided and maintained all times to accurately locate pilot hole, measure drill-string axial and torsional loads, and measure drilling fluid discharge rate and pressure.

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3. Drill entry and exit areas, not to exceed bending limitations of pipe as recommended by pipe supplier.
 - E. Pilot Hole Bore
 1. Drill pilot hole along bore path. If pilot bore does deviate from bore path, pull back and redrill from location along bore path before deviation.
 2. Limit curvature in any direction to reduce force on pipe during pull back. Minimum radius of curvature shall be no less than specified by pipe supplier and indicated on Contract Drawings.
 - F. Reaming
 1. After successfully completing pilot hole, ream bore hole to diameter meeting requirements of pipe installed:

Nominal Pipe Diameter	Bore Hole Diameter
<8 inches	Pipe Diameter +4 inches
8 to 24 inches	Pipe Diameter x 1.5
>24 inches	Pipe Diameter +12 inches

2. Use multiple reaming passes at Contractor discretion and conform to specification.
3. In the event of drilling fluid fracture, returns loss, or other loss of drilling fluid, restore any damaged property to original condition and clean area near damage/loss.

3.3 PIPE PULL-BACK AND INSERTION

- A. Cartridge load and assemble pipe before insertion.
- B. Handle pipe to not over-stress pipe before insertion. Limit vertical and horizontal curves so pipe does not bend past pipe supplier minimum allowable bend radius, buckle, or otherwise become damaged. Remove and replace damaged pipe portions.
- C. Grade pipe entry area as needed to provide support for pipe and allow free movement into bore hole.
 1. Guide pipe into bore hole to avoid deformation of, or damage to, pipe.
 2. Continuously or partially support PVC pipe on rollers or other Owner- and Engineer-approved friction decreasing implement during insertion, as long as pipe not overstressed or critically abraded before or during installation.
 3. Use a swivel between reaming head and PVC pipe to minimize torsion stress on pipe assembly.
- D. Buoyancy modification is at Contractor sole discretion and not exceed pipe supplier guidelines regarding maximum pull force or minimum bend radius of pipe. Damage caused by buoyancy modifications is Contractor responsibility.
- E. Once pull-back operations commence, continue operation without interruption until pipe is completely pulled through bore hole.
- F. Install pipe not causing upheaval, settlement, cracking, or movement and distortion of surface features. Contractor corrects damages caused by his operations.

3.4 POTABLE WATER MAIN FITTING INSTALLATION

- A. Install fittings per Section 33 14 13 "Public Water Utility Distribution Piping."

3.5 VALVE, TAPPING VALVE, TAPPING SLEEVE, FIRE HYDRANT, AND PIPE REPAIR INSTALLATION

- A. Install per Section 33 14 13 "Public Water Utility Distribution Piping."

3.6 SERVICE CONNECTION INSTALLATION

- A. Install per Section 33 14 13 “Public Water Utility Distribution Piping.”

3.7 HYDROSTATIC TESTING

- A. Perform per Section 33 14 13 “Public Water Utility Distribution Piping.”

3.8 DISINFECTION

- A. Perform per Section 33 14 13 “Public Water Utility Distribution Piping.”

3.9 CLEAN UP

- A. After construction work is completed, remove all rubbish, excess materials from excavations, and other debris from site of work. Properly dispose of all drilling fluid per specifications and all applicable jurisdictional laws. Replace/repair all affected items (surfacing, landscaping, etc.) to equal or better condition than preconstruction conditions. Cost of cleanup shall be included in bid prices for various units of work.
- B. Verify all utilities, structures, and surface features in Project area are sound.

END OF SECTION

SECTION 33 05 09.33 - THRUST RESTRAINT FOR UTILITY PIPING

PART 1 - GENERAL

1.1 SUMMARY

- A. Section Includes:
 - 1. Tied joint restraint system.
- B. Related Requirements:
 - 1. Division 01 Specification Sections apply to Work of this Section.
 - 2. Section 31 23 16.13 "Trenching": Trenching and backfilling requirements for Site utilities.
 - 3. Section 33 14 13 "Public Water Utility Distribution Piping": Requirements for piping Work as required by this Section.

1.2 REFERENCE STANDARDS

- A. American Water Works Association:
 - 1. AWWA C600 - Installation of Ductile-Iron Water Mains and Their Appurtenances.
- B. ASME International:
 - 1. ASME B1.1 - Unified Inch Screw Threads, UN and UNR Thread Form.
- C. ASTM International:
 - 1. ASTM A36 - Standard Specification for Carbon Structural Steel.
 - 2. ASTM A123 - Standard Specification for Zinc (Hot-Dip Galvanized) Coatings on Iron and Steel Products.
 - 3. ASTM A153 - Standard Specification for Zinc Coating (Hot-Dip) on Iron and Steel Hardware.
 - 4. ASTM A307 - Standard Specification for Carbon Steel Bolts, Studs, and Threaded Rod 60 000 PSI Tensile Strength.
 - 5. ASTM A325 - Standard Specification for Structural Bolts, Steel, Heat Treated, 120/105 ksi Minimum Tensile Strength.
 - 6. ASTM A563 - Standard Specification for Carbon and Alloy Steel Nuts.
 - 7. ASTM A588 - Standard Specification for High-Strength Low-Alloy Structural Steel, up to 50 ksi (345 MPa) Minimum Yield Point, with Atmospheric Corrosion Resistance.
 - 8. ASTM B633 - Standard Specification for Electrodeposited Coatings of Zinc on Iron and Steel.
 - 9. ASTM F436 - Standard Specification for Hardened Steel Washers.

1.3 COORDINATION

- A. Section 01 30 00 "Administrative Requirements": Requirements for coordination.
- B. Coordinate Work of this Section with installation of fittings and joints that require restraint.

1.4 SUBMITTALS

- A. Section 01 33 00 "Submittal Procedures": Requirements for submittals.
- B. Product Data: Submit manufacturer catalog information for restrained joint details and installation instructions.

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- C. Shop Drawings:
 - 1. Indicate restrained joint details and materials being used.
 - 2. Submit layout drawings showing piece numbers and locations.
 - 3. Indicate restrained joint locations.
 - D. Manufacturer's Certificate: Certify that products meet or exceed specified requirements.
 - E. Delegated Design Submittals:
 - 1. Submit signed and sealed Shop Drawings with design calculations and assumptions for restrained lengths.
 - 2. Submit joint restraint details.
 - 3. Use joint restraint devices specifically designed for applications described in manufacturer information.
 - F. Manufacturer Instructions: Submit detailed instructions on installation requirements, including storage and handling procedures.
 - G. Qualifications Statement:
 - 1. Submit qualifications for manufacturer, fabricator, and licensed professional.

1.5 CLOSEOUT SUBMITTALS

- A. Section 01 70 00 "Execution and Closeout Requirements": Requirements for submittals.
- B. Project Record Documents: Record actual locations of joint restraints.

1.6 QUALITY ASSURANCE

- A. Perform Work according to City of Midland standards.

1.7 QUALIFICATIONS

- A. Manufacturer: Company specializing in manufacturing products specified in this Section with minimum 3 years' documented experience.
- B. Fabricator: Company specializing in fabricating products specified in this Section with minimum 3 years' experience.

1.8 DELIVERY, STORAGE, AND HANDLING

- A. Section 01 60 00 "Product Requirements": Requirements for transporting, handling, storing, and protecting products.
- B. Inspection: Accept materials on Site in manufacturer's original packaging and inspect for damage.
- C. Store materials according to manufacturer instructions.
- D. Protection:
 - 1. Protect materials from moisture and dust by storing in clean, dry location remote from construction operations areas.
 - 2. Provide additional protection according to manufacturer instructions.

1.9 EXISTING CONDITIONS

- A. Field Measurements:
 - 1. Verify field measurements prior to fabrication.
 - 2. Indicate field measurements on Shop Drawings.

PART 2 - PRODUCTS

2.1 PERFORMANCE AND DESIGN CRITERIA

- A. Provide pressure pipeline with restrained joints at each bend, tee, and change in direction.

2.2 TIED JOINT RESTRAINT SYSTEMS

- A. Manufacturers:
1. Bulldog Restraint System; S&B Technical Products.
 2. GE Oil & Gas.
 3. Substitutions: As specified in Section 01 60 00 "Product Requirements."
 4. Furnish materials according to City of Midland standards.
- B. Tie Bolts:
1. Mechanical and Flanged Joints on 4- to 12-Inch Pipe:
 - a. Size: 3/4-inch.
 - b. Comply with ASTM A588, Grade B.
 - c. Comply with ASTM A325, Type 3, except increase tensile strength of full-body threaded section to 60,000 lb.minimum for 3/4-inch by heat-treating (quenching and tempering) to manufacturer's reheat and hardness specifications.
- C. Tie Nut:
1. Description: Hex nut for each tie bolt and tie rods.
 2. Comply with ASTM A563, Grade C3.
 3. Finish: Zinc plated.
- D. Tiepin:
1. Bends and Hydrants: 3/4-inch round bar stock.
 2. Size and Shape: 6-inch hairpin.
 3. Comply with ASME B1.1 and ASTM A588.
 4. Finish: Zinc plated.
- E. Tie Coupling:
1. Description: Extension of continuous-threaded rods.
 2. Provide with center stop to aid installation.
 3. Comply with ASTM A588.
 4. Finish: Zinc plated.
- F. Tie Clamp:
1. Description: Retainer clamp for ductile iron, asbestos-cement, and PVC push-on pipe.
 2. Location: In front of bell.
 3. Comply with ASTM A36, ASTM A307, Grade A, and ASTM A563, Grade A.
 4. Finish: Zinc plated.
- G. Tie Rod:
1. Description: Continuous-threaded rod for cutting to desired lengths.
 2. Comply with ASTM A588, Grade B, ASTM A325, Type 3, and ASME B1.1.
 3. Finish: Zinc plated.
- H. Tie Bar:
1. Description: Steel bar used to restrain push-in plugs.
 2. Comply with ASTM A36.
 3. Finish: Zinc plated.

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- I. Tie Washer:
 - 1. Description: Round flat washers.
 - 2. ASTM A588, ASTM F436, Type 1.
 - 3. Finish: Zinc plated.

2.3 MATERIALS

- A. Steel:
 - 1. High-Strength Low-Alloy Steel: Comply with ASTM A588, heat treated.
 - 2. High-Strength Low-Alloy Steel: Comply with ASTM A588.
 - 3. Carbon Steel: Comply with ASTM A36.

2.4 FINISHES

- A. Zinc Plating:
 - 1. Factory applied.
 - 2. Comply with ASTM B633.
- B. Galvanizing:
 - 1. Factory applied.
 - 2. Comply with ASTM A153.

PART 3 - EXECUTION

3.1 EXAMINATION

- A. Section 01 70 00 "Execution and Closeout Requirements": Requirements for installation examination.
- B. Verify that pipe and fittings are ready to receive Work.
- C. Field measure and verify conditions for installation of Work.

3.2 PREPARATION

- A. Section 01 70 00 "Execution and Closeout Requirements": Requirements for installation preparation.
- B. Clean surfaces of pipe and fittings that are to receive tied joint restraint systems.

3.3 INSTALLATION

- A. According to AWWA C600.
- B. Install joint restraint system such that joints are mechanically locked together to prevent joint separation.
- C. Installation Standards: Install Work according to City of Midland standards.

3.4 TOLERANCES

- A. Section 01 40 00 "Quality Requirements": Requirements for tolerances.
- B. Torque 5/8-inch nuts on mating threaded fasteners from 45 to 60 ft.-lbf.
- C. Torque 3/4-inch nuts on mating threaded fasteners from 75 to 90 ft.-lbf.
- D. Torque 1 inch nuts from 100 to 120 ft.-lbf.

END OF SECTION

SECTION 33 05 76 - GLASS-FIBER-REINFORCED POLYESTER (FRP) MANHOLES

PART 1 - GENERAL

1.1 SUMMARY

A. Section Includes:

1. That necessary for furnishing and installing glass-fiber-reinforced polyester (FRP) manholes. Contractor shall furnish all materials, equipment, tools, labor, superintendence, and incidentals required for complete construction of the work as shown on Drawings and as specified herein. All material used in construction of the manholes shall be new and of the size, type, and class specified herein and as indicated on Contract Drawings.
2. In general, FRP manholes shall be a one-piece monolithically designed unit manufactured of glass-fiber reinforced, supplier certified, unsaturated commercial grade polyester resin containing chemically-enhanced silica to improve corrosion resistance, strength, and overall performance. FRP manholes shall be manufactured per ASTM D3753, latest edition and include a manufacturer 20-year corrosion and structural warranty.

B. Related Sections:

1. Division 01 Specification Sections apply to Work of this Section.

1.2 REFERENCES

A. Premanufactured manholes and other FRP components shall conform to:

1. ASTM D3753 - Standard specification for glass fiber reinforced polyester manholes and wetwells;
2. ASTM C581 - Practice for determining chemical resistance of chemical thermosetting resins used in glass fiber reinforced structures intended for liquid service;
3. ASTM C582 - Standard Specification for Contact-Molded Reinforced Thermosetting Plastic (RTP) Laminates for Corrosion-Resistant Equipment;
4. ASTM D695 - Test methods for compressive properties of rigid plastics;
5. ASTM D2412 - Test Method for Determination of External Loading Characteristics of Plastic Pipe by Parallel Plate Loading.
6. ASTM D2583 - Test method for Indentation Hardness of Rigid Plastics by means of a Barcol Impressor.
7. ASTM D2584 - Test method for ignition loss of cured reinforced resins
8. ASTM D790 - Test method for flexural properties of unreinforced and reinforced plastics and electrical insulating materials
9. ASTM C478 - Standard Specification for Circular Precast Reinforced Concrete Manhole Sections
10. AASHTO - LRFD Bridge Design Construction Specifications

1.3 SUBMITTALS

- A. Submit under provisions of 01 33 00 "Submittal Procedures."
- B. Submit, for Engineer review and approval, all components of material to use in manhole(s), including details of construction, reinforcing, joint occurrence, method of assembly, and personnel qualifications to perform field assemblies (if required).
- C. FRP manufacturer shall furnish and submit for approval complete fabrication drawings and calculations for all structures. All inserts, pipe sleeves and other accessories indicated on Contract Drawings shall be illustrated and dimensioned on the fabrication Drawings.
- D. Provide manufacturer literature including recommended installation procedures, instructions, certificates of material conformance with all parts of the specifications, test reports demonstrating conformance with ASTM D3753 and requirements herein.

1.4 QUALITY ASSURANCE

- A. Manufacturer shall examine FRP manhole before shipment for dimensional correctness, hardness, and workmanship.
- B. Controls on glass and resin content shall be maintained for all manufacturing procedures and for each portion of manhole fabrication. Record control checks. Proper glass content may be shown by glass usage checks or by glass and resin application rate checks, per material composition test in ASTM D3753.
- C. All required ASTM 3753 testing shall be completed, and records of all testing kept by manufacturer. At Engineer request, these records shall be mailed for review within five working days of receiving request. This material shall be included with literature and other documents specified for Submittal materials.

1.5 CERTIFICATION

- A. Manufacturer shall certify material and workmanship comply with ASTM 3753. This certification shall consist of a statement by manufacturer accompanied by a copy of test results, that manhole(s) was sampled, tested, and inspected per ASTM 3753, this specification, and meets all requirements. An authorized agent of manufacturer shall sign each certification. All tests shall be performed as specified in ASTM 3753. Testing documents shall be no older than three months earlier than Contractor Notice to Proceed.

PART 2 - PRODUCTS

2.1 FRP MANHOLES

- A. FRP manhole(s) shall be manufactured by LF Manufacturing or approved equivalent.
- B. FRP manhole(s), shall be cylinders made of composite laminate. Laminate shall consist of thermo-setting chemical-resistant polyester resin, fiberglass reinforcement, and additions as required. Manhole(s), shall be manufactured per ASTM D3753 and include a manufacturer 20-Year Corrosion & Structural Warranty.
- C. Manhole(s) manufacturer shall show experience in manufacture of FRP manhole(s), in scope required for project, for a continuous, uninterrupted period of at least 5 years. References shall be provided upon request by Engineer.

2.2 MATERIALS

- A. Resin: Use unsaturated, supplier certified, commercial grade polyester resins. Same supplier shall supply all resin. DO NOT use mixed or odd lots of resin from different vendors or be grounds for rejection. Manufacturer shall document lot number of resin used for project and include same with submittal information. Directly add UV inhibitors/stabilizers to resin system to prevent photo-degradation of laminate. Exterior gel coating or painting not permitted.
- B. Reinforcing Materials: Commercial grade E-type glass in the form of mat, continuous roving, chopped roving, roving fabric, or both, having a coupling agent to provide a suitable bond between glass reinforcement and resin.
- C. Surfacing Materials: Reinforcing materials shall be commercial grade E-type glass in the form of mat, continuous roving, chopped roving, roving fabric, or both, with a coupling agent to provide a suitable bond between glass reinforcement and resin.
- D. Fillers and additives, when used, shall be inert to environment and manhole construction and not in any way affect manhole performance for intended purpose. Additives, (thixotropic agents, catalysts, promoters, etc.), may be added as required by specific manufacturing process used to meet requirements of this standard. Calcium carbonate mixed by fabricator is not permitted. Sand is not an approved filler. Resulting reinforced-plastic material must meet requirements herein.
- E. Laminate shall consist of multiple layers of glass matting and resin. Surface exposed to sewer/chemical environment shall be resin rich and have no exposed fibers. Cured laminate shall meet the following conditions:

Property	Test Method	Requirement
Glass Content (% by wt.)	ASTM D2584	9% - 20%
Compressive Strength	ASTM D695	Minimum 12,000 psi
Flexural Strength	ASTM D790	Minimum 700,000 psi
Flexural E-Modulus	ASTM D790	Minimum 12,000 psi
Surface Hardness	ASTM D2583	Minimum 90% of Resin's Normal Value

2.3 GENERAL DESCRIPTION

- A. Dimensions: Manhole shall be a circular cylinder, reduced at the top to a circular manway not smaller than 30 inches inside diameter. Manholes shall be produced in half-foot increments of length ± 2 inches. Nominal inside diameters shall be as indicated on Contract Drawings but no less than 48 inches. Tolerance of inside diameter shall be ± 1 percent. Minimum wall thickness for all FRP manholes at all depths shall be 0.480 inch, H-20 wheel-loading and all static and dynamic loads considered in final wall thickness.
- B. Configuration:
 - 1. Cone Sections: Manway reducer must provide a bearing surface where specified ring and cover is supported and adjusted to grade with strength to support a traffic load without damage to manhole. Ring should be extended past the perimeter of manhole at least 1 inch to transfer as much load as practical to exterior wall of manhole. Reducer shall be concentric and joined to barrel section at factory with resin and glass-fiber reinforcement, providing required monolithic design to prevent infiltration/exfiltration through manhole.
 - 2. Manway reducer cone section shall be self-centering to permit vertical height adjustment (raising or lowering) of manhole utilizing manufacturer provided materials and detailed written instructions. Butt-joint attachment of cone to pipe is not permitted.

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- C. Class: Complete manhole shall meet AASHTO H-20 requirements, loading with a minimum dynamic-load rating of 16,000 lbs. when tested per ASTM D3753. To establish this rating, complete manhole shall not leak, crack, or suffer other damage when load tested to 40,000 lbs. nor deflect vertically downward more than 0.25 inch at point of load application when loaded to 24,000 lbs. **When installed and without benefit of backfill around manhole as support, complete manhole shall be H-20 rated, no exceptions.**
 - D. Marking and Identification. All manholes shall be marked inside and outside in letters no less than 1 inch high with:
 - 1. Manufacturer identification.
 - 2. Manufacturer serial number.
 - 3. Manhole length.
 - 4. ASTM designation.
 - 5. Installation assist marks (vertical lines 90-degrees apart at base of manhole).
 - 6. Project station location.
 - E. Manhole cylinders, manway reducers, and connectors shall be produced from glass fiber-reinforced polyester resin. Manhole cylinders up to 72 inches ID to be manufactured by computer-regulated mandrel process. Larger diameters to be manufactured by computer-regulated steel mandrel process utilizing structural rib design.
 - F. Interior Access: All manholes shall be designed so ladder/step system can be supported by installed manhole. Manway openings to accommodate 24- or 32-inch specified ring and cover.
 - G. Manway reducers shall be concentric with respect to larger portion of manhole diameters through 60 inches. Larger manholes may have concentric or eccentric manway reducer openings.
 - H. Cover Ring and Support: Manhole shall provide an area from which a typical ring and cover plate can be installed with strength to support a traffic load without manhole damage. Ring should extend past perimeter of manhole at least 1 inch to transfer as much load as practical to exterior wall of manhole.

2.4 FABRICATION

- A. Exterior Surface:
 - 1. Relatively smooth with no sharp projections. Hand-work finish acceptable if enough resin is present to eliminate fiber show. Exterior surface shall be free of blisters larger than 0.5-inch in diameter, delamination and fiber show. Gel-coat, paint, or other coatings are not allowed.
 - 2. For UV inhibitor, resin on manhole exterior surface shall have a gray pigment added for minimum 0.125-inch thickness.
- B. Interior Surface:
 - 1. Resin rich with no exposed fibers and smooth for improved corrosion resistance and reduced sludge build-up. Surface shall be free of crazing, delamination, blisters larger than 0.5-inch in diameter, and wrinkles of 0.125-inch or greater in depth. Surface pits permitted if less than 0.75-inch in diameter and less than 0.0625-inch deep. Voids that cannot be broken with finger pressure and entirely below resin surface is permitted if less than 0.5-inch in diameter and less than 0.0625-inch thick. Gel-coat, paint, or other coatings not allowed.
 - 2. Inner surface exposed to chemical environment shall be a resin-rich layer of 0.010-0.020-inch thick. Inner surface layer exposed to corrosive environment shall be followed with minimum two passes of chopped roving of minimum 0.5-inch to maximum 2.0-inch length and applied uniformly to an equivalent weight of 3 oz/ft. Each pass of chopped roving shall be well-rolled before applying additional

reinforcement. Combined thickness of inner surface and interior layer shall not be less than 0.10-inch.

- C. Wall Construction Procedure: After inner layer is applied, construct manhole wall with chop and continuous stand filament wound manufacturing process to ensure continuous reinforcement and uniform strength and composition. Cone section, if produced separately, shall be affixed to the barrel section at factory with resin-glass reinforced joint resulting in a one-piece unit. Seams shall be fiberglassed inside and outside using same glass-resin jointing procedure. Field joints shall not be acceptable by anyone except manufacturer.
- D. Repairs: Any manhole repair is required to meet all requirements herein.
- E. Manhole lengths shall be in 6-inch increments, ± 2 inches.
- F. Stiffness: Manhole cylinder shall have a minimum pipe-stiffness values shown in the table below when tested per ASTM D3753.

Manhole Length (ft)	PSI
3 – 6.5	0.75
7 – 12.5	1.26
13 – 20.5	2.01
21 – 25.5	3.02
26 - 35	5.24

- G. Soundness: To determine soundness, apply an air or water pressure test to manhole test sample. Test pressure shall not be less than 3 or greater than 5 psi. While holding at established pressure, inspect entire manhole for leaks. Any leakage through laminate is cause for test failure. Refer to ASTM D3753.
- H. Chemical Resistance: Fiberglass manhole and all related components shall be fabricated from corrosion proof material suitable for atmospheres containing hydrogen sulfide and dilute sulfuric acid as well as other gases associated with the wastewater collection system.
- I. Physical Properties:

	Hoop Direction	Axial Direction
Tensile Strength (psi)	18,000	5,000
Tensile Modules (psi)	0.6×10^6	0.7×10^6
Flexural Strength (psi)	26,000	4,500
Flexural Modules (psi)	1.4×10^6	0.7×10^6
Compressive (psi)	18,000	5,000

2.5 REJECTION OF MANHOLES

- A. Manholes are subject to rejection but not limited to any of the following visual defects:
 - 1. Fuzz: Glass fibers loosely adhering to manhole, which are not wet out with resin.
 - 2. Protruding Fibers: Glass fibers sticking out from pipe surface, not wet out with resin.
 - 3. Resin Runs: Runs of resin and sand on surface of manhole.
 - 4. Dry Areas: Areas in laminate with glass to wet out with resin.
 - 5. Delamination: Separation in the laminate.
 - 6. Blisters: Light (straw-)colored areas resulting from too hot a cure.
 - 7. Craze: Crack usually star shaped; caused by sharp impact.
 - 8. Surface Pits or Voids: Small air pockets on surface or directly beneath surface mat.
 - 9. Wrinkles: Smooth irregularities on the surface.
 - 10. Torn Edges, End Delamination, and End Gauges: Tears and rips in the edge of cuts.
 - 11. Ground Area: Areas around lay-up, abraded and not covered by lay-up.

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12. Hand Lay-up Ragged Edges: Areas at edge of hand lay-up not rolled down properly and are rough.
 13. Painting or gel-coating of exterior or interior laminate.

2.6 ACCESSORIES

A. Ring and Cover:

1. Provide made from ductile or gray iron to meet/exceed ASTM A48/48M requirements.
2. Minimum Cover Diameter: 32 inches.
3. Minimum Cover Clear Opening: 30 inches.
4. Frame Height: 4.5 inches.
5. Designed to support H-20 loading.
6. Cover shall state: "NO DUMPING," include City of Midland Logo, and "WASTEWATER."
7. Cover and Ring shall be EJ Model V1420Z1/V1430A or approved equal.
8. Manholes located within a 100-year flood plain or any area subject to stormwater infiltration shall incorporate a watertight, bolt-down ring and lid and infiltration preventer insert.
9. Watertight cover and ring shall be EJ Model V1420ZPT/V1430APT or approved equal.

B. Ring and Cover Concrete Collar:

1. Provide cast-in-place concrete collar for ring and cover.
2. Collar shall be 3,600 psi minimum concrete, fiber reinforced, Class C concrete as shown on Contract Drawings..
3. Ring and cover shall be centered in concrete.

C. Grade Adjusting Rings:

1. Provide adjustment rings made from plastic.
2. Grade rings shall be designed to support H-20 loading.
3. Grade rings shall have a minimum clear opening of 30 inches.
4. Use minimum 2 and maximum four grade rings to meet proposed/existing grade.

D. Joint Sealant:

1. Provide bitumastic joint sealant applied between ring and uppermost adjustment ring.
2. Bitumastic joint sealant shall be Ram-Nek as manufactured by Henry, Inc or approved equal.

E. Infiltration Preventer Inserts:

1. If required by Engineer, provide inserts to minimize inflow of runoff into sanitary sewer system.
2. Concave and suitable for mounting snugly in manhole ring. Insert shall have a neoprene seal gasket mounted with pressure sensitive adhesive.
3. Made of high-density polyethylene to meet/exceed requirements of ASTM D1248, Class A, Category 5, Type 111 with minimum impact brittleness temperature of -180 degrees F.
4. Shall have a lifting strap made of 1-inch-wide woven polypropylene attached to insert with a rivet and backup washer made from stainless steel.
5. Shall have a vent hole to release maximum 5 gallons water per hour into sanitary sewer system. Vent will release sewer gas under a 1 psi or less pressure differential.

PART 3 - EXECUTION

3.1 GENERAL

- A. Manhole(s) installation shall strictly follow manufacturer-recommended installation procedures.

3.2 HANDLING AND STORAGE

- A. Lift FRP manholes with 2 slings on spreader bar in horizontal position or with 4- by 4-inch timber inserted crosswise inside manhole to underside collar with rope/chain attached to lifting device. Manholes may also be equipped with lifting lugs. Use of chains or cables in contact with manhole surface is prohibited. FRP manholes may be stored upright or horizontally, however, manhole vertical deflection shall not exceed 4 percent of diameter when stored on side. Manholes shall not be dropped or impacted. Additional handling and installation instructions shall be per FRP manufacturer instructions.
- B. Each FRP section manufactured per Contract Drawings shall be clearly marked to indicate intended installation location.

3.3 INSTALLATION

- A. Excavation: Prepare excavation in a normal manner. Be sure excavation has been properly shored for safety.
- B. Manhole Cut-Outs: Mark manhole for pipe cut-outs. 90-degree marks are stenciled on bottom of manhole at the factory to locate cut-out positions.
- C. Reinforced concrete base shall extend minimum 12 inches from outside wall of manhole for manholes up to 20 feet in depth, 24 inches for manholes up to 35 feet in depth. Slab shall have minimum 6-inch thickness for up to 48-inch diameter manholes, 8 inches for larger diameter manholes. Concrete base must be minimum 6 inches above incoming mains.
- D. Setting Manhole: To lift manhole, insert 4- by 4-inch timber crosswise inside manhole to underside collar with rope/chain attached to backhoe or another lifting device. Lower manhole into wet concrete base to minimum 4-inch depth. Minimum 2-inch-thick concrete bearing surface beneath bottom edge of manhole required. Plumb manhole using standard bubble level and moving manhole with hands. Work concrete around manhole base. For inverts and laterals, **do not pick up fiberglass manhole by cone if concrete slab is attached above ground. Install lifting lugs into concrete slab for handling. Lift manhole with slab attached by the slab not the manhole.**
- E. Backfill with sand or stabilized soil of moderate compaction, free from large stones or debris. Backfill in 12-inch lifts beginning at manhole and working outward to avoid uneven lateral pressures. Each lift shall be compacted to 95 percent of **ASTM D1557**. Additionally, backfill around manhole by flowfilling to bottom of base course elevation or top of subgrade.
- F. Bring to Grade: Use plastic grade rings with asphalt tar coating in place to bring manhole to grade level. It is critical to strength and load capacity of manhole that grade rings outer edge extends past perimeter of manhole by at least 1 inch. Grade ring height shall not exceed 18 inches including ring and cover.
- G. Concrete Collar: Form.

3.4 QUALITY OF MATERIALS AND INSTALLATION

- A. Quality of all materials, process of manufacture, and finished sections shall be subject to review and approval by Engineer. Such review shall be made at place of manufacturer, or site of delivery, and sections shall be subject to rejection on account of failure to meet any specification requirements as specified herein. Sections rejected after delivery to job site shall be marked for identification and removed from job at once. All sections which have been damaged after delivery will be rejected, and if already installed, acceptable if repaired or removed and replaced at Contractor expense. Removal or replacement subject to Engineer review and approval.

3.5 TESTING

- A. Perform a leakage test on each manhole installed. Do not perform manhole leakage test until all backfill around manhole is in place at least 48 hours. Manhole leakage tests may be performed by Hydrostatic Exfiltration or Vacuum Test as described:
1. Hydrostatic Exfiltration Test. Fiberglass manholes shall be hydrostatically tested per manufacturer recommendation:
 - a. Temporarily plug all wastewater mains entering manhole with internal pipe plug. Fill manhole with water to manhole ring and allow to stand 24 hours to allow saturation of concrete. Following 24-hour saturation period, refill manhole with water to manhole ring and begin test period. Provide test equipment in which volume of water lost can be accurately metered or measured. Minimum test period shall be one hour. Maximum allowable loss rate shall not be greater than 0.025 gallons per foot of manhole diameter per foot of manhole depth per hour.
 - b. Only perform exfiltration test in presence of Owner representative. Any manhole which fails hydrostatic exfiltration test shall be repaired, reworked/replaced as applicable at Contractor expense until manhole passes required test. Contact Owner representative at least 48 hours in advance of testing activities.
 2. Vacuum Test
 - a. Plug all lift holes and exterior joints with nonshrink grout and plug all pipes entering a manhole.
 - b. No grout must be placed in horizontal joints before testing.
 - c. Secure stub-outs, manhole boots, and pipe plugs to prevent movement while vacuum is drawn.
 - d. Use minimum 60-inch/lb torque wrench to tighten external clamps that secure a test cover to top of manhole.
 - e. Place test head inside the top of a cone section, and inflate seal per manufacturer recommendations.
 - f. Must be vacuum of 10 inches mercury inside manhole to perform valid test.
 - g. Test does not begin until after vacuum pump is off.

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- h. Manhole passes test if after 2 minutes with all valves closed, vacuum is at least 9 inches of mercury.
 - i. Any manhole which fails vacuum test shall be repaired, reworked/replaced as applicable at Contractor expense until manhole passes required test. Manhole vacuum tests shall only be performed in presence of Owner representative. Contact Owner representative at least 48 hours in advance of testing activities.

END SECTION

SECTION 33 05 97 - IDENTIFICATION AND SIGNAGE FOR UTILITIES

PART 1 - GENERAL

1.1 SUMMARY

- A. Section Includes:
 - 1. Pipeline marker posts.
 - 2. Metal utility markers.
 - 3. Plastic utility markers.
 - 4. Marking flags.
 - 5. Plastic ribbon tape for placement above direct-buried utility.
 - 6. Trace wire for placement above direct-buried utility.
- B. Related Requirements:
 - 1. Division 01 Specification Sections apply to Work of this Section.
 - 2. Section 31 23 16.13 "Trenching": Backfilling considerations for installation of underground pipe markers.
 - 3. Section 33 31 11 "Public Sanitary Sewerage Gravity Piping": Piping, manholes, and appurtenances requiring identification marking.

1.2 SUBMITTALS

- A. Section 01 33 00 "Submittal Procedures": Requirements for submittals.
- B. Product Data: Submit manufacturer catalog information for each specified product.
- C. Manufacturer's Certificate: Certify that products meet or exceed specified requirements.
- D. Qualifications Statement:
 - 1. Submit qualifications for manufacturer.

1.3 CLOSEOUT SUBMITTALS

- A. Section 01 70 00 "Execution and Closeout Requirements": Requirements for submittals.
- B. Project Record Documents: Record actual locations of tagged valves.

1.4 QUALITY ASSURANCE

- A. Perform Work according to City of Midland standards.

1.5 QUALIFICATIONS

- A. Manufacturer: Company specializing in manufacturing products specified in this Section with minimum 3 years' experience.

PART 2 - PRODUCTS

2.1 UTILITY MARKERS

- A. Manufacturers:
 - 1. Global Equipment Company Inc.
 - 2. Substitutions: As specified in Section 01 60 00 "Product Requirements."

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3. Furnish materials according to City of Midland standards.
- B. Plastic:
1. Material: Thermoplastic polymer, UV resistant.
 2. Type: Green color domed enhancer on top.
 3. Diameter: 3-1/5 inches.
 4. Text: Caution Sewer Pipeline Before Digging, Opening or in case of Emergency Call.
- 2.2 TRACE WIRE
- A. Manufacturers:
1. Northtown Company.
 2. Priority Wire and Cable, Inc.
 3. TracerWire.
 4. Substitutions: As specified in Section 01 60 00 "Product Requirements."
 5. Furnish materials according to City of Midland standards.
 6. Description:
 - a. Conductor: Copper or Copper clad.
 - b. Covering: Brightly colored plastic, imprinted with size and insulation type in large letters.
 7. Description:
 - a. Wire: Unshielded 12-AWG Type THWN insulated copper.

PART 3 - EXECUTION

3.1 INSTALLATION

- A. Pipeline Marker Posts, Utility Markers, and Marking Flags: According to manufacturer instructions.
- B. Trace Wire:
1. Continuous over top of pipe, as indicated on Drawings.
 2. Coordinate with trench Work as specified in Section 31 23 16.13 "Trenching."
- C. Installation Standards: Install Work according to City of Midland standards.

END OF SECTION

SECTION 33 14 13 - PUBLIC WATER UTILITY DISTRIBUTION PIPING

PART 1 - GENERAL

1.1 SUMMARY

- A. Section Includes:
 - 1. Constructing all piping and pipe accessories required for Project. Contractor furnishes all materials, equipment, tools, labor, superintendence, and incidentals required for complete construction of the work as shown on Contract Drawings and specified herein.
 - 2. All materials used in potable water main construction shall be new and size, type, and class as shown on Contract Drawings and specified herein for various items of construction.
- B. Scope of Work:
 - 1. Trench Safety Systems work includes but not limited to trench and excavation safety systems by cut-back or braced-excavation method for all trenches 5 feet and deeper whether indicated on Drawings or required by actual field conditions. Protect trenches exceeding or not exceeding 5 feet in depth as required by OSHA, state, and local standards and as specified in Section 31 41 10 "Trench Safety Systems."
 - 2. Contractor responsible for complying with all applicable State of Texas safety standards and applicable OSHA regulations concerning trench excavation, general excavation, and construction safety.
 - 3. Contractor responsible for implementing a trench shoring system where trench depth exceeds 5 feet.
- C. Related Requirements:
 - 1. Division 01 Specification Sections apply to Work of this Section.
 - 2. Division 03 Specification Sections apply to Work of this Section.
 - 3. Division 31 Specification Sections apply to Work of this Section.
 - 4. Division 33 Specification Sections apply to Work of this Section.

1.2 REFERENCES

- A. Potable water process piping and associated components shall conform to:
 - 1. AWWA B300 – Hypochlorites
 - 2. AWWA B301 – Liquid Chlorine
 - 3. AWWA C900 – Polyvinyl Chloride (PVC) Pressure Pipe and Fabricated Fittings, 4 in. through 60 in.
 - 4. AWWA C605 – Underground Installation of Polyvinyl Chloride (PVC) and Molecularly Oriented Polyvinyl Chloride (PVCO) Pressure Pipe and Fittings
 - 5. AWWA C110 – Ductile Iron and Gray Iron Fittings
 - 6. AWWA C111 – Rubber-Gasket Joints for Ductile-Iron Pressure Pipe and Fittings
 - 7. AWWA C151 – Ductile-Iron Pipe, Centrifugally Cast
 - 8. AWWA C153 – Ductile Iron Compact Fittings
 - 9. AWWA C104 – Cement-Mortar Lining for Ductile-Iron Pipe and Fittings
 - 10. AWWA M23 – PVC Pipe – Design and Installation
 - 11. AWWA C502 – Dry-Barrel Fire Hydrants
 - 12. AWWA C509 – Resilient-Seated Gate Valves for Water Supply Service
 - 13. AWWA C515 – Reduced-Wall, Resilient-Seated Gate Valves for Water Supply Service
 - 14. AWWA C651 – Disinfecting Water Mains
 - 15. AWWA C655 – Field Dechlorination
 - 16. AWWA C800 – Underground Service Line Valves and Fittings

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17. AWWA C904 – Cross-Linked Polyethylene (PEX) Pressure Pipe, 1/2 in. through 3 in., for Water Service
 18. ASTM D2774 – Cement-Mortar Lining for Ductile-Iron Pipe and Fittings
 19. ASTM D2737 – Standard Specification for Polyethylene (PE) Plastic Tubing
 20. ASTM D2837 – Standard Test Method for Obtaining Hydrostatic Design Basis for Thermoplastic Pipe Materials or Pressure Design Basis for Thermoplastic Pipe Products
 21. ASTM D3139 – Standard Specification for Joints for Plastic Pressure Pipes Using Flexible Elastomeric Seals
 22. ASTM A536 – Standard Specification for Ductile Iron Castings
 23. ASTM F477 – Standard Specification for Elastomeric Seals (Gaskets) for Joining Plastic Pipe
 24. NSF/ANSI 61 – Drinking Water System Components – Health Effects
 25. AASHTO – LRFD Bridge Design Construction Specifications
 26. Uni-Bell PVC Pipe Association – Handbook of PVC Pipe Design and Construction

1.3 SUBMITTALS

- A. Submit under provisions of Section 01 33 00 “Submittal Procedures.”
- B. Submit manufacturer data on all pipe, fittings, specials, service tape, valves, meters, and other materials specified herein to use on Project. Include pipe thickness class calculations, special coatings, lining information, and special embedment requirements differing from that indicated in Contract Documents.
- C. Laboratory analysis for rock embedment including sieve analysis, fracture faces, abrasion tests and soundness tests.
- D. Trench Safety Program.

1.4 REGULATORY REQUIREMENTS

- A. Conform to applicable code for piping and component requirements.
- B. All applicable TCEQ regulations shall be strictly adhered to.

1.5 TRENCH SAFETY

- A. Comply with all federal, state, and local trench safety requirements and trench and excavation safety.

1.6 CERTIFICATION

- A. Certifications properly executed by manufacturer shall be furnished to Engineer showing compliance to specification requirements and standards sighted herein. Test data from tests performed shall be provided as requested by Engineer.

1.7 INSPECTION

- A. Engineer and representatives shall have access to all phases of work. Manufacturer and Contractor shall provide proper facilities for access and inspection. Material, fabricated parts, and pipes discovered defective, or do not conform to Specification requirements, will be subject to rejection any time before final acceptance of pipe.

1.8 SCHEDULE OF PIPE

- A. Only pipe considered for use on Project are those specified herein. Only use each specified type of pipe on those pipelines designated.

Size and Use	Type and Class
6-inch Watermain	PVC, C900 DR 18
8-inch Watermain	PVC, C900 DR 18
12-inch Watermain	PVC, C900 DR 18
12-inch Watermain	Restrained Joint PVC, C900 DR 18
16-inch Watermain	PVC, C900 DR 18
16-inch Watermain	Restrained Joint PVC, C900 DR 18

PART 2 - PRODUCTS

2.1 GENERAL

- A. Select pipe to install on a particular watermain, if that type of pipe is specified herein for use on that watermain. All pipe of like size and use, however, shall be same type and class. Only use approved pipe in construction of all pipelines and piping.
- B. All pipe and fittings used in Project shall comply with all applicable NSF/ANSI 61 requirements.

2.2 POTABLE WATER PRESSURE PIPE

- A. 4- to 24-inch AWWA C900 PVC Pipe, DR 18, shall:
1. meet AWWA C900 requirements. Elastomeric gasket shall meet requirements of ASTM F477, solid wall, virgin PVC resin, cell class 12454 per ASTM D1784, blue in color, 20-foot lay length;
 2. qualify minimum 4,000-psi HDB per ASTM D2837. Bell section shall be designed at least as hydrostatically strong as pipe. Joint shall be in compliance with ASTM D3139 requirements;
 3. be marked with AWWA standards including size, dimension ratio, pressure class, manufacture name and code, and seal of testing agency that verified suitability of pipe material for potable water service;
 4. be pressure tested four times rated pressure for minimum five seconds for each length of pipe (standard and random), including integral bell. Pipe shall meet all additional test requirements as defined in AWWA C900;
 5. be as manufactured by Napco, Diamond Plastics, or approved equal;
- B. 4- to 24-inch AWWA C900 Restrained Joint PVC Pipe, DR 18, shall:
1. meet all AWWA C900 requirements and Article 2.2A except as modified herein;
 2. be restrained joint by utilizing precision-machined grooves on pipe spigot and inside bell. When assembled, a nylon spline is inserted through an entry hole in pipe bell, resulting in a continuous circumferential restrained joint;
 3. shall be Certa-Lok as manufactured by Napco, or approved equal;
- C. 3- to 12-inch, AWWA C151 Ductile Iron Pipe, Pressure Class 350, shall:
1. meet AWWA C151 requirements;
 2. have an exterior, bituminous coating, and an inside cement-mortar lining in accordance with AWWA C104.

2.3 PIPE FITTINGS

- A. Pipe fittings used with PVC watermain shall be ductile or cast iron, mechanical joint (MJ), cement-mortar lined, asphaltic-coated fittings conforming to AWWA C110 requirements and suitable for use with specified PVC pipe used.
- B. Unless otherwise specified, use joint restraints for all buried fittings where indicated on Contract Drawings. Use mechanical joint restraints in addition to concrete thrust-blocking unless indicated otherwise. Restraining glands shall have pressure rating equal to pipe used. MJ restraints shall be EBAA Series 2000PV, Romac PVC Romagrip, or approved equal.

2.4 VALVES

- A. Gate Valves
 - 1. Furnish and install gate valves of size, type, and configuration indicated, where shown on Contract Drawings. Gate valves shall be flanged, mechanical joint, or hub end as shown on Contract Drawings or required by joint used in piping. All valves shall open by turning left and, unless otherwise specified, have a non-rising stem and furnished with a 2-inch operating nut when valves are buried and with hand wheels when above ground. When operating nut is more than 3 feet below ground, valves shall be supplied with an operator extension to position operating nut within 3 feet of finished ground surface.
 - 2. Shall meet all requirements specified in AWWA C515 or C509.
 - 3. Designed for a working pressure of 250 psi.
 - 4. Buried gate valves shall be MJ restrained per Article 2.3.
 - 5. Concrete foundation with compacted base provided for all gate valve installations per specifications and Contract Drawings.
 - 6. All valves shall be spray coated with a two-component thermal setting epoxy to cover all interior wetted ferrous surfaces. Finished coating shall have a minimum 4-mil thickness. Coating shall meet requirements of City of Midland Standard Specifications.
 - 7. Gate Valves to be Mueller A-2361, M&H 4067, or approved equal.
- B. Valve Boxes and Extension Stems.
 - 1. Extension stems furnished on buried valves where top of operating nut is more than 36 inches below finished grade. Top of extension stem shall not be more than 9 inches below top of valve box.
 - 2. Buried gate valves provided with cast iron valve boxes. Install valve boxes with reinforced concrete collar as indicated in Contract Drawings.
 - 3. Valve boxes to be Bass & Hays 340-1 with 6-inch C900 PVC Pipe, or approved equal.

2.5 TAPPING VALVES

- A. Furnish and install tapping gate valves of size, type, and configuration indicated, where shown on Contract Drawings. Tapping gate valves shall be mechanical joint by flanged joint unless otherwise specified. All tapping gates valves shall open by turning left and, unless otherwise specified, have a non-rising stem, and furnished with a 2-inch operating nut when valves are buried. Where operating nut is more than 3 feet below ground, valves shall be supplied with an operator extension to position operating nut within 3 feet of finished ground surface.
- B. Shall meet all requirements specified in AWWA C509.
- C. Shall be designed for a 250-psi working pressure as manufactured by Mueller Co., or approved equal.

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- D. All valves shall be spray coated with a two-component thermal setting epoxy to cover all interior wetted ferrous surfaces. Finished coating shall have minimum 4-mil thickness. Coating shall meet requirements of City of Midland Standard Specifications.
 - E. Gate Valves to be Mueller A-2361, M&H 4067, or approved equal.
 - F. Buried tapping gate valves shall be MJ restrained per Article 2.3.
 - G. Concrete foundation with compacted base provided for all gate valve installations per specifications and Contract Drawings.
 - H. Valve Boxes and Extension Stems.
 - 1. Extension stems furnished on buried valves where top of operating nut is more than 36 inches below finished grade. Top of extension stem shall not be more than 9 inches below top of valve box.
 - 2. Buried tapping gate valves provided with cast iron valve boxes. Install valve boxes with reinforced-concrete collar as indicated in Contract Drawings. Valve boxes to be Bass & Hays 340-1 with 6-inch C900 PVC Pipe, or approved equal.

2.6 TAPPING SLEEVES

- A. Furnish and install tapping sleeves of size, type, and configuration indicated, where shown on Contract Drawings. Tapping sleeves shall be full wraparound type, 200 psi rated, stainless steel, ductile iron, or approved equal. All bolts and various other hardware shall be stainless steel.
- B. Mueller T-28 or approved equal.

2.7 FIRE HYDRANT

- A. Furnish and install where shown on Contract Drawings. Fire hydrants shall conform to all AWWA C502 and ANSI/NSF 61 requirements. Unless otherwise specified, all hydrants shall have an operating nut that opens by turning left, with an arrow cast on hydrant specifying turn direction.
- B. 250 psi minimum working pressure.
- C. Shall contain a 4-1/2-inch main opening (pumper) with two 2-1/2-inch additional openings (hose).
- D. Shall contain a standard mechanical joint per AWWA C111, to connect to water system.
- E. Install per manufacturer specifications, herein, and Contract Drawings.
- F. All fire hydrants shall be spray coated with a two-component thermal setting epoxy to cover all interior wetted ferrous surfaces. Finished coating shall have a minimum 4-mil thickness. Coating shall meet requirements of City of Midland Standard Specifications.
- G. All fire hydrants shall be painted Federal Safety Yellow.
- H. Mueller Super Centurion A459 or approved equal.

2.8 PIPE REPAIR

- A. As necessary, furnish and install pipe repair clamps.
- B. Pipe repair clamps shall be stainless steel, full-seal clamps.
- C. Repair clamps to be Mueller 500/510 Series, or approved equal.

2.9 STANDARD SERVICE CONNECTIONS

- A. Furnish and install service connections (1-2 inches). As possible, all components shall be of same manufacturer:
 - 1. Crosslinked Polyethylene (PEXa):
 - a. Copper tube sizing (CTS), SDR 9, meet NSF/ANSI 61 and AWWA C904 standards.
 - b. Tubing pressure rating shall be 200-psi max working pressure at 73 degrees F.
 - c. PEXa Tubing shall be Rehau Municipex Pipe, Blue, or approved equal.
 - 2. Service Saddles:
 - a. For use on type of pipe connected to.
 - b. Outlet shall be tapped with AWWA taper (CC).
 - c. Meet all requirements of AWWA C800 and NSF/ANSI 61 standards.
 - d. Mueller BR 2 S, Ford 202BSD, AY McDonald 2855 or approved equal.
 - 3. Corporation Stops:
 - a. Contain an AWWA taper (CC) inlet, and compression outlet.
 - b. Meet all requirements of AWWA C800 and NSF/ANSI 61 standards.
 - c. B-25008N, Ford FB1000-4-G-NL, AY McDonald 74701B-22 1, or approved equal.
 - 4. Meter Stop: Mueller B-25172N, Ford BA43-444W-G-NL, AY McDonald 74602B-22 1, or approved equal.
 - 5. Meter Boxes: EJ 32197099A02, EJ 32244000A01, or approved equal.

2.10 LARGE SERVICE CONNECTIONS

- A. Furnish and install service connections (3 inches and larger) in accordance with City of Midland Construction Details and Standard Specifications.

2.11 ACCESSORIES

- A. Warning Tape: Provide traceable tape made of plastic, blue in color, and minimum 6 inches wide with lettering that states a buried watermain is below.
- B. Tracer Wire: Provide tracer wire that is 12 gauge, copper or copper coated steel, tape to top of pipe surface.

PART 3 - EXECUTION

3.1 POTABLE WATERMAIN INSTALLATION

- A. General
 - 1. All pipe and accessories for work specified herein shall be unloaded, handled, laid, jointed, tested for defects and for leakage as herein specified.
 - 2. Coordinate delivery storage, and delivery schedule with Owner representative.
 - 3. Pipe bending and joint angular deflection shall meet requirements of AWWA C605 and manufacture specifications. The more stringent shall apply to Project.

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4. Connections between new work and existing work, where required, shall use proper transition sleeves and fittings to suit actual conditions. Additional bends may also be necessary to provide minimum pipe separations as required by TCEQ. Provide these fittings, special sleeves, and bends after verification from Engineer. When necessary to interrupt service to existing facilities to make connection to an existing main, Contractor may be required to make connections as designated by Owner at no additional cost to Owner.
- B. Contractor responsible for all material he furnishes and shall replace, at own expense, all material found defective in manufacture or became damaged in handling after delivery.
- C. Storage, Handling Pipe, and Accessories
1. Unload all pipe, fittings, and other accessories, unless otherwise directed, at point of delivery. Haul to and distribute at site of work. When loading and unloading, lift by hoists/slides, or roll on skidways to avoid shock or damage to materials. DO NOT drop. Pipe handled on skidways must not be skidded or rolled against pipe already on the ground.
 2. Place pipe, fittings and accessories along site to keep as free as possible from dirt, sand, mud, and other foreign matter.
 3. When prolonged exposure to direct sunlight anticipated, cover PVC pipe and accessories with opaque material while permitting adequate air circulation above and around pipe.
- D. Trench Excavation
1. Provide construction-staking services. Contractor responsible for notifying Owner representative of any concerns with construction staking.
 2. Excavate to alignment and elevations indicated on Contract Drawings or as staked in the field. Any deviations shall be approved by Engineer.
 3. No classification of or extra payment for excavated materials. Excavate all materials encountered as required. Protect adjacent structures and property from damage by construction equipment.
 4. Stockpile excavated materials to not endanger workers or public and will cause least obstruction to roadways.
 5. Trench bottom, as shown on Contract Drawings, is approximately 4-6 inches below bottom of pipe grade so bedding material can be placed beneath pipe per trench cross-section details and specifications. Minimum depth of cover for piping shall be 36 inches unless otherwise specifically shown on Contract Drawings.
 6. As specified, install trench safety systems where required. Make trench walls vertical to at least 1 foot above top of pipe. Vertical trench walls above this point are not required; however, in areas of limited right-of-way or when necessary to protect existing facilities or private property, limit slope of trench wall. Where necessary to stay within maximum width limits at top of pipe or maintain a relatively-straight trench wall to remain within available right-of-way, adequately support trench walls as required by specifications and OSHA regulations. Contractor fully responsible for any damage to private property or existing facilities due to inadequate support.
 7. Excavate trench only as necessary to install pipe. Excavation limits are:
 - a. Pipe less than 18 inches in diameter: Pipe O.D. +12 inches.
 - b. Pipe 18-36 inches in diameter: Pipe O.D. +18 inches.
 8. Maintain trenching equipment on sufficiently level road bed to provide substantially vertical trench walls.

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9. To obtain a true even grade, fine grade and shape trench per details shown on Contract Drawings. Correct any part of trench excavated below grade by filling with approved material and thoroughly compacting. If clay, rock, or other unyielding material encountered in trench bottom, remove to 6 inches below grade, refill with approved material, and thoroughly compact to grade.
 10. Trench digging machinery may be used to make trench excavations except where operations would cause damage to existing structures above or below ground. Employ hand methods in such instances.
 11. Locate all existing utility lines, whether shown on Contract Drawings, including consumer service lines, far enough in advance of trenching to make proper provisions for protecting lines and allow for any deviations required from established lines and grades. Notify operators of all oil or gas pipelines before excavation around such lines so operators may be present during excavation.
 12. DO NOT disrupt service on any utility lines except consumer service lines which may be taken out of service for short periods of time, if obtained permission from Owner representative.
 13. Immediately notify proper utility company of any damage to utility lines so service may be established with least possible delay. Repair or replace any damage to existing lines. Repair of consumer lines authorized to cut or be temporarily taken out of service shall be by Contractor expense and as directed by an official representative of the Owner of damaged line.
 14. Properly support all new and existing lines to prevent settlement or damage to line both during and after construction.
 15. Where necessary to prevent caving, adequately support trench.
 16. Maximum horizontal offset of trench wall from bottom of trench to top of trench (undercutting) shall be 4 inches.
 17. All excavation shall be unclassified and no extra compensation made for solid rock excavation. Contractor is expected to make boring of his own and satisfy himself to character of material encountered.
- E. Dewatering: Where running or standing water occurs in trench bottom, remove water by pumps and other suitable means to prevent pipe flotation, until pipe is installed and backfill placed and compacted. Dewatering is considered incidental to unit price for which it is being performed.
- F. Trench Methods
1. Trench Boxes: Submit manufacturer-standard data sheet and certificate of compliance signed by a registered professional engineer stating maximum allowable depth for given design pressure for each type of trench box proposed for use.
 2. Alternative Systems: If composed of steel, aluminum, wood, or a combination of materials proposed, submit design calculations signed by a registered professional engineer showing all member properties, design strengths, and any stress increases used with justification for their use.
- G. Laying Pipe
1. Place pipe and fittings into a trench with ropes and skids, slings on a backhoe bucket, or by hand. DO NOT throw pipe or fittings into trench and allow no part of pipe to take an unrestrained fall onto trench bottom.
 2. When not laying pipe, close the open ends of installed pipe to prevent trench water, dirt, and foreign matter from entering main.
 3. Lay pipe to elevations shown in Contract Drawings.
 4. Tape to top of pipe approved tracer wire as specified.

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- H. Joint Assembly, Field-Cutting, Chamfering, and Curvature: Perform per Uni-Bell PVC Pipe Association PVC Pipe Design and Construction handbook and/or manufacturer-recommended procedures. The more stringent shall apply.
- I. Backfill
1. General
 - a. Backfill all pipeline excavations to restore pre-existing conditions as minimum requirement and fulfill all supplementary requirements indicated in Contract Drawings and specifications. Backfilling operations shall start as soon as conditions will permit on each section of pipeline to provide continuity in subsequent operations and restore normal public service as soon as practicable on a section-by-section basis. All operations shall be pursued diligently, with proper and adequate equipment, to assure acceptable results.
 - b. When soil types determined by Owner representative as undesirable for backfill are excavated from trench, remove and dispose such material at no additional cost to Owner.
 2. Foundation
 - a. Only required when trench bottom is unstable. In such cases, over-excavate bottom of trench and bring back to grade. Utilize ASTM C33 Grade #57 or #67 aggregate for foundation.
 - b. Moisten material and place in lifts as indicated. Compact by tamping to density not less than 95 percent ASTM D1557 with ± 2 -percent optimum moisture content.
 - c. All granular material furnished for foundation shall consist of natural or synthetic mineral aggregate such as crushed gravel, crushed rock, crushed stone, or slag. All granular material shall be crushed and have at least two broken faces. Pea gravel will not be allowed. No material larger than 3/4-inch shall be placed.
 3. Bedding
 - a. Required to bring trench bottom up to grade. Place by hand to provide uniform and adequate support under pipe. Provide holes for pipe bells at each joint to ensure uniform support for pipe.
 - b. Bedding layer shall be 6 inches thick. Use 3/4-inch crushed stone, meeting requirements of ASTM C33, Grade No. 7 or 8. For unpaved trenches, native material can be used if material has a liquid limit less than 30 and plasticity index less than 15. Native material must be existing excavated soil from trench with all material broken down to less than a 3/4-inch diameter.
 4. Haunching
 - a. Defined as backfill from bottom of pipe to springline of pipe. Place and consolidate material under the pipe haunch so adequate side support is provided to pipe without causing displacement from proper alignment.
 - b. Moisten material and place in lifts not exceeding 6 inches thick. Compact by tamping to density not less than 95 percent of ASTM D1557 with a ± 2 percent optimum moisture content.
 - c. Place material by hand or approved mechanical methods. Use 3/4-inch crushed stone, meeting requirements of ASTM C33, Grade No. 7 or 8. For unpaved trenches, native material can be used if material has a liquid limit less than 30 and plasticity index less than 15. Native material must be existing excavated soil from trench with all material broken down to less than a 3/4-inch diameter.
 - d. Material shall be free from cinder, ashes, refuse, vegetable or organic material, boulders, or other unsuitable material.
 - e. Water jetting not allowed.

5. Initial Backfill
 - a. Defined as backfill from springline of pipe to 1 foot above pipe. Moisten material and place in lifts not exceeding 12 inches thick and compact to density not less than 95 percent of ASTM D1557 with ± 2 -percent optimum moisture content. Take care to not damage pipe during compaction.
 - b. Place material by hand or approved mechanical methods. Use 3/4-inch crushed stone, meeting requirements of ASTM C33, Grade No. 7 or 8. For unpaved trenches, native material can be used if material has a liquid limit less than 30 and plasticity index less than 15. Native material must be existing excavated soil from trench with all material broken down to less than a 3/4 inch diameter.
 - c. Material shall be free from cinder, ashes, refuse, vegetable or organic material, boulders, or other unsuitable material.
 - d. Water jetting not allowed.
6. Final Backfill
 - a. Defined as backfill from 1 foot above pipe to bottom of subgrade for paved areas or to existing grade for unpaved areas. Moisten material, place in lifts not exceeding 6 inches thick, and compact to density not less than 95 percent of ASTM D1557 with a ± 2 -percent optimum moisture content. Take care to not damage pipe during compaction.
 - b. Place material by hand or approved mechanical methods. Use Portland cement stabilized backfill or crushed stone screening (crusher fines).
 - c. Portland cement stabilized backfill shall consist of base course, blow sand or native soil stabilized by addition of Portland cement. Crushed stone or concrete aggregate shall not be used.
 - d. Submit a mix design prepared by an approved commercial laboratory to produce a minimum seven-day compressive strength of 150 psi. In no case shall minimum cement content of mix be less than one sack per cubic yard. Cement used in Portland cement stabilized backfill shall be Type I or Type II, ASTM C150. Base course used for Portland cement stabilized backfill shall be crushed material per TxDOT Item 248 Type F, Grade 2.
 - e. Blow sand used for Portland cement stabilized backfill shall be clean, free from organic matter, clay lumps, rock and other deleterious matter.
 - f. Native soil used for Portland cement stabilized backfill shall be clean, free from clods and organic matter, and rock in excess of 2 inches.
 - g. Crushed stone screening used for backfill shall be sharp grained particles of crushed stone that meet the following gradation:

Sieve Size	% Passing
2"	100
#4	35-100
#10	20-100
#40	5-35
#200	4-10

- h. Minimum depth of stabilized backfill or crusher fines shall be 12 inches. When utilities are constructed under existing paving, stabilized backfill or crusher fines shall extend to top of base course. When utilities are constructed under existing unpaved streets not scheduled for immediate pavement construction, stabilized backfill or crusher fines shall extend to existing roadway surface. When utilities are constructed in new streets scheduled for immediate paving or streets in new

subdivision where paving contract with property developer is approved, stabilized backfill or crusher fines shall extend to bottom edge of 8 inches of subgrade, or, if paving contractor constructed a portion of roadway before utilities construction, stabilized backfill shall extend to top of course Contractor finished. In no case shall backfill extend above top of base course. If final course of asphaltic concrete is placed, street or alley surface shall not be cut for utility installation.

- i. Material shall be free from cinder, ashes, refuse, vegetable or organic material, boulders, or other unsuitable material.
- j. Water jetting not allowed.
- k. Install trailable warning tape in Final Backfill zone 6 inches below finished grade of trench directly above potable water main.

J. Cleanup

- 1. DO NOT round up backfill over trenches. Compact surface of trench backfill and blade to final grading contours.
- 2. Maintain trench surfaces in satisfactory manner until final completion and acceptance of work. Maintenance shall include blading as necessary, filling depressions caused by settlement, and other work required to keep all areas presentable.
- 3. Correct any trench settlement which occurs within the one-year warranty period at no expense to Owner.

3.2 POTABLE WATER MAIN FITTING INSTALLATION

- A. Connect fittings, meters, and valves with flanged or mechanical joints as indicated on Contract Drawings. Each joint shall include flanged ends or gland retainer, gasket, and bolts required to complete connection. Perform all work necessary to make connections and be responsible for quality and proper operation of those joints.
- B. Procedures
 - 1. Before making connections, properly support pipe, fittings, or valves but free to move as bolted. Set flange faces so bolt holes are properly aligned, flange faces bear uniformly on gaskets, and flanges are not under strain after joint completion.
 - 2. To avoid strains upon flanges, gradually tighten bolts at uniform rates sequentially on opposite sides of flanges. To assure flanges are not under strain, Engineer may request bolts loosened in any joint. Install mechanical joint fittings and valves in a similar fashion as described for flanged.
 - 3. Buried fittings will require polyethylene wrap with a 10 mils thickness of minimum.
- C. All underground watermain fittings shall be mechanical joint with a pressure rating equal to or greater than watermain pipe material.
- D. Restrained joints by concrete blocking/MJ restraints as specified on Contract Drawings.
 - 1. Concrete Blocks:
 - a. Provided bearing solidly against undisturbed trench bank, at all changes in direction/elevation. Concrete for blocking shall be Class A with a 28-day, 3,000-psi compressive strength.
 - b. All fittings shall be wrapped in polyethylene sheeting with minimum 3-mil thickness before concrete blocking.
 - 2. MJ Restraints
 - a. Provided at all changes in direction/elevation.
 - b. Install per manufacturer recommendations.
- E. Valve, Tapping Valve, Tapping Sleeve, and Pipe Repair: Install in configuration indicated on Contract Drawings, per manufacturer specifications, and herein. Valve boxes shall be supported by a ring of Class A concrete as indicated on Contract Drawings and specifications.

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- F. Fire Hydrant: Set plumb to grade as established by Engineer and have nozzles parallel with and/or at right angles to curb, pumper nozzle facing curb.
 - 1. Hydrant bowl shall be well braced against unexcavated earth at end of trench with concrete blocking. Place concrete blocking so as not to interfere with hydrant drains and so joints or flanges are accessible.
 - 2. Hydrant shall be connected to main with a 6-inch ductile iron branch controlled by and independent 6-inch gate valve. Each hydrant shall be set upon a stone or concrete slab not less than 4 inches thick and not less than 1 square foot of surface area.
 - 3. Place around base of hydrant not less than 7 cubic feet of sound broken stone, clean gravel, or other suitable material to provide reservoir capacity so hydrant will completely drain when closed. Gravel or broken stone shall reach from bottom of trench to at least 6 inches above waste opening in hydrant. Operate each to prove to Owner representative that drain hole has not been plugged with concrete or other material.
 - G. Service Connection: Install in orientation and configuration indicated on Contract Drawings, per manufacturer specifications, and herein.

3.3 HYDROSTATIC TESTING

- A. Watermains shall be tested per AWWA C605 and specifications.
- B. Provide all materials, equipment, tools, labor, superintendence, and incidentals required to achieve a completed and approved hydrostatic test.
- C. Procedure
 - 1. Slowly fill each section of pipe with water at point of lowest elevation. Apply pressure and maintain by pump connected to pipe in satisfactory manner.
 - 2. As main is filled and before applying test pressure, expel all air from pipe. To accomplish this if necessary, make taps at points of highest elevation. After test, tightly plug taps per specifications.
 - 3. Test shall not begin until after water main is properly filled, flushed, and purged of air. Pressurize water main to 1.25 times system working pressure or minimum 180 psi, whichever is greater, at highest point on section of main tested. Duration of each pressure test shall be as directed by Engineer but not exceed two hours.
 - 4. When test pressure is on pipe, carefully check main at regular intervals for breaks or leaks. Repair any joints showing appreciable leaks and remove/replace any cracked or defective pipes or fittings with sound materials as provided. Repeat test until satisfactory results obtained.
 - 5. After all defects in main are satisfactorily repaired and all visible leaks stopped, make a leakage test on each valved section of main to determine quantity of water lost by leakage. Furnish all labor, material, and equipment required for making test. Determine leakage by measuring quantity of water supplied to each valved section of main, during test period, when various sections of main are under pressure.
 - 6. Maximum allowable leakage for pressure drop in potable water main is calculated as:

$$Q = \frac{L D \sqrt{P}}{148,000}$$

Where:

Q = Quantity make up water in gallons per hour
L = Length of pipe section being tested, in feet
D = Nominal diameter of the pipe in inches
P = Test pressure in psi $\pm$ 5 psi of specified

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7. If sections show excessive leakage, locate and repair defective joints until leakage is within specified allowance.

3.4 DISINFECTION

- A. Watermains shall be disinfected per 30 TAC §290.46(g), AWWA C651, and specifications. Before acceptance for operation, all portions of watermains installed shall be disinfected as specified. Before putting mains in service and after pressure tests made, thoroughly flush unit to be disinfected with water until all entrained dirt and mud removed before introducing chlorinating material.
- B. Forms of Chlorine for Disinfection
 1. Liquid chlorine (gas) conforming to AWWA B301, containing 100-percent available chlorine.
 2. Sodium hypochlorite conforming to AWWA B300, containing 5- to 15-percent available chlorine.
 3. Calcium hypochlorite: Conforming to AWWA B300, containing 65-percent available chlorine.
- C. Chlorination Methods for Disinfection
 1. Tablet/Granule Method: If elected, perform per AWWA C651, Section 4.3.
 2. Continuous-Feed Method: If elected, perform per AWWA C651, Section 4.4.
 3. Slug Method: If elected, perform per AWWA C651, Section 4.5.
 4. Spray Disinfection: If elected (only use for large transmission lines), perform per AWWA C651, Section 4.6.
- D. Bacteriological Tests Verification:
 1. Perform per AWWA C651, Section 5.
 2. Submit test samples to a TCEQ-approved laboratory and indicate facility is free from microbiological contamination before placed into service.
- E. Arrange for satisfactory disposal of water flushed from mains, using pipe, dikes, or channels to an adequate drain so no nuisance is created.
- F. Include costs for disinfection in unit cost for installing pipe.
- G. Contractor can use the City of Midland Water Laboratory. Water is analyzed in this laboratory at the following times:
 1. Monday through Thursday: 8:00 a.m. to 12:00 p.m. and 1:00 p.m. to 3:00 p.m.

3.5 CLEAN UP

- A. After construction work is complete, remove all rubbish, excess materials from excavations, and other debris from site of work. Replace/repair all affected items (surfacing, landscaping, etc.) to equal or better condition than preconstruction conditions. Cost of cleanup included in bid prices for various units of work.

END OF SECTION

SECTION 33 31 00 – SANITARY SEWERAGE PIPING

PART 1 - GENERAL

1.1 SUMMARY

- A. Section Includes:
 - 1. Polyvinyl Chloride (PVC) pipe and fittings.
 - 2. Miscellaneous small piping.
- B. Scope of Work:
 - 1. Includes but not limited to, trench and excavation safety systems by cut back or braced excavation methods for all trenches 5 feet and deeper whether indicated on drawings or required by actual field conditions. Trenches exceeding/not exceeding 5 feet in depth shall be protected as required by OSHA, state and local standard and as specified in Section 31 41 10 “Trench Safety Systems.”
 - 2. Contractor is responsible for complying with Texas House Bills 662 and 665 safety standards and applicable OSHA regulations concerning trench excavation, general excavation, and construction safety.
 - 3. Contractor responsible for implementing a trench shoring system where trench depth exceeds 5 feet.
- C. Related Sections:
 - 1. Division 01 Specification Sections apply to Work of this Section.
 - 2. Division 03 Specification Sections apply to Work of this Section.
 - 3. Division 31 Specification Sections apply to Work of this Section.
 - 4. Division 33 Specification Sections apply to Work of this Section.

1.2 REFERENCES

- A. Sanitary sewerage piping, fittings, and associated components shall confirm to:
 - 1. ASTM D3034 – Standard Specification for Type PSM Poly(Vinyl Chloride) (PVC) Sewer Pipe and Fittings;
 - 2. ASTM F679 – Standard Specification for Poly(Vinyl Chloride) (PVC) Large-Diameter Plastic Gravity Sewer Pipe and Fittings;
 - 3. ASTM D2321 – Standard Practice for Underground Installation of Thermoplastic Pipe for Sewers and Other Gravity-Flow Applications;
 - 4. ASTM F477 – Standard Specification for Elastomeric seals (Gaskets) for Joining Plastic Pipe;
 - 5. ASTM D1784 – Standard Specification for Rigid Poly(Vinyl Chloride)(PVC) Compounds and Chlorinated Poly(Vinyl Chloride) (CPVC) Compounds;
 - 6. ASTM D3212 – Standard Specification for Joints for Drain and Sewer Plastic Pipes Using Flexible Elastomeric Seals
 - 7. ASTM D3139 – Standard Specification for Joints for Plastic Pressure Pipes Using Flexible Elastomeric Seals
 - 8. ASTM F1336 – Standard Specification for Poly(Vinyl Chloride) (PVC) Gasketed Sewer Fittings
 - 9. ASTM A536 – Standard Specification for Ductile Iron Castings
 - 10. AWWA C110 – Ductile Iron and Gray Iron Fittings
 - 11. AWWA C900 – Polyvinyl Chloride (PVC) Pressure Pipe and Fabricated Fittings, 4 in. through 60 in.
 - 12. AWWA C104 – Cement-Mortar Lining for Ductile Iron Pipe and Fittings

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- 13. AASHTO – LRFD Bridge Design Construction Specifications
 - 14. Uni-Bell PVC Pipe Association - Handbook of PVC Pipe Design and Construction

1.3 SUBMITTALS

- A. Submit under provisions of Section 01 33 00 “Submittal Procedures.”
- B. PVC Pipe, Fittings and associated accessories as specified in Contract Drawings.
- C. Laboratory analysis for rock embedment including sieve analysis, fracture faces, abrasion tests, and soundness tests.
- D. Trench Safety Program.

1.4 FIELD MEASUREMENTS

- A. Verify field measurements are as indicated on Contract Drawings.

1.5 REGULATORY REQUIREMENTS

- A. Conform to applicable code for piping and component requirements.
- B. All applicable TCEQ regulations shall be strictly adhered to.

1.6 TRENCH SAFETY

- A. Comply with all federal, state, and local trench safety requirements, and for safety of trenches and excavations.

1.7 SEPARATION CRITERIA

- A. Install new sanitary sewer mains and manholes per separation requirements of 30 TAC §217.53(d).
- B. Locate sanitary sewer mains below water lines. Install parallel water and sewer mains in separate trenches.
- C. Install new sanitary sewer mains and manholes at least 9 feet from all water mains. If not achievable, refer to:

Case	Protection Requirements
Parallel mains within 9 feet, where sanitary sewer main is above water main	Encased in a casing pipe according to paragraph (4) of 30 TAC §217.53(d)
Crossing mains within 9 feet, where sanitary sewer main is above water main	Encased in a casing pipe according to paragraph (5)(A) of 30 TAC §217.53(d) -or- Constructed using 150 psi pressure class pipe according to paragraph (5)(B) of 30 TAC §217.53(d)

Case	Protection Requirements
Parallel mains within 9 feet, where sanitary sewer main is below water main	Constructed using 150 psi pressure class pipe according to paragraph (6)(A) of 30 TAC §217.53(d) -or- Encased in a casing pipe according to paragraph (6)(B) of 30 TAC §217.53(d)
Crossing mains within 9 feet, where sanitary sewer main is below water main	Constructed using 150 psi pressure class pipe according to paragraph (7)(A) of 30 TAC §217.53(d) -or- Encased in cement-stabilized sand according to paragraph (7)(B) of 30 TAC §217.53(d) -or- Encased in a casing pipe according to paragraph (7)(C) of 30 TAC §217.53(d)
Manhole within 9 feet of water main	No measurable leakage according to paragraph (8)(A) of 30 TAC §217.53(d) -or- Encased in cement-stabilized sand according to paragraph (8)(B) of 30 TAC §217.53(d)

PART 2 - PRODUCTS

2.1 PIPE

- A. Gravity PVC Pipe (Non-pressure Applications)
 - 1. 4- to 15-inch ASTM D3034 PVC Pipe, SDR 26:
 - a. Shall meet requirements of ASTM D3034, elastomeric gasket shall meet requirements of ASTM F477, solid wall, virgin PVC resin, cell class 12454 per ASTM D1784, green in color, 20 foot lay length;
 - b. As manufactured by Napco, Diamond Plastics, or approved equal;
 - 2. 18- to 36-inch ASTM F679 PVC Pipe, PS 115:
 - a. Shall meet requirements of ASTM F679, elastomeric gasket shall meet requirements of ASTM F477, solid wall, virgin PVC resin, cell class 12454 per ASTM D1784, green in color, 20 foot lay length;
 - b. As manufactured by Napco, Diamond Plastics, or approved equal;

2.2 GRAVITY PIPE FITTINGS

- A. Fittings for PVC pipe shall, in general, be bell-and-spigot type and of PVC material meeting ASTM D3034 and F679 as appropriate.

2.3 GRAVITY PIPE JOINTS

- A. Push-on joints for PVC sanitary sewer pipe shall meet requirements of ASTM D3212.
- B. Achieve transitional joints between ASTM D3034 PVC pipe and AWWA C900 PVC pipe using transition gasket. For all other transitional joints between dissimilar pipe materials, use a Romac 501 coupling or approved equal.

2.4 SERVICE LATERALS

- A. Service laterals shall be 4-inch minimum pipe.
- B. PVC pipe and fittings for service laterals shall be equal or greater in pressure class as main sewer main connecting to.
- C. Connect to main sewer main using gasketed fittings that meet requirements of ASTM F1336.
- D. Connect to main sewer main utilizing a 45-degree wye fitting and 45-degree bend fitting or sanitary tee.
- E. Service lateral pipe and fittings as manufactured by Napco, Diamond Plastics, or approved equal.

2.5 ACCESSORIES

- A. Warning Tape: Provide traceable tape made of plastic, green in color, and minimum 6 inches wide with lettering that states a buried sewer main is below.
- B. Tracer Wire: Provide tracer wire that is 12 gauge, copper or copper-coated steel, tape to top of pipe surface.

PART 3 - EXECUTION

3.1 GRAVITY SEWER MAIN INSTALLATION

- A. General:
 - 1. All pipe and accessories for work specified herein shall be unloaded, handled, laid, jointed, tested for defects and for leakage as herein specified.
 - 2. Coordinate delivery storage, and delivery schedule with Owner representative.
- B. Responsibility for Materials: Contractor is responsible for all material he furnishes and shall replace, at own expense, all such material found defective in manufacture or became damaged in handling after delivery.
- C. Storage, Handling Pipe and Accessories:
 - 1. All pipe, fittings, and other accessories shall, unless otherwise directed, be unloaded at point of delivery, hauled to, and distributed at site of work by Contractor. In loading and unloading, lift by hoists or slid, or roll on skidways to avoid shock or damage to materials. Under no circumstances shall they be dropped. Pipe handled on skidways must not be skidded or rolled against pipe already on the ground.
 - 2. The pipe, fittings and accessories shall be placed along the site in such a manner as to be kept as free as possible from dirt, sand, mud and other foreign matter.
 - 3. When prolonged exposure to direct sunlight is anticipated, PVC pipe and accessories should be covered with an opaque material while still permitting adequate air circulation above and around the pipe.
- D. Trench Excavation:
 - 1. Contractor shall provide construction-staking services. Contractor is responsible for notifying the Owner representative of any concerns with construction staking.
 - 2. Contractor shall excavate to the alignment and elevations indicated on Contract Drawings or as staked in the field. Any deviations shall be approved by the Engineer.
 - 3. There will be no classification of or extra payment for excavated materials and all materials encountered shall be excavated as required. Adjacent structures and property shall be protected from damage by construction equipment.
 - 4. Excavated materials should be stockpiled in a manner that will not endanger the workers or the public and which will cause the least obstruction to roadways.

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5. Contractor attention is drawn to the fact that the trench bottom, as shown on the Contract Drawings, is approximately 4 to 6 inches below the bottom of the pipe grade so that bedding material can be placed beneath the pipe per the trench cross-section details and these Specifications. The minimum depth of cover for the piping shall be 36 inches unless otherwise specifically shown on the Contract Drawings.
 6. Trench safety systems as specified shall be installed where required. The trench walls shall be made vertical to a point at least one foot above the top of the pipe. Vertical trench walls above this point will not be required; however, in areas of limited right-of-way or when necessary to protect existing facilities or private property, the slope of the trench wall shall be limited. Where necessary to stay within the maximum width limits at the top of the pipe or to maintain a relatively straight trench wall to remain within available right-of-way, the trench walls shall be adequately supported as required by these specifications and OSHA regulations. The Contractor shall be fully responsible for any damage to private property or existing facilities due to inadequate support.
 7. Excavate trench only as necessary to install the pipe. Excavation limits are as follows:
 - a. Pipe less than 18 inches in diameter: Pipe O.D. +12 inches.
 - b. Pipe from 18 to 36 inches in diameter: Pipe O.D. +18 inches.
 8. The trenching equipment shall be maintained on a sufficiently level road bed to provide substantially vertical trench walls.
 9. In order to obtain a true even grade, the trench shall be fine graded and shaped per the details as shown on the Contract Drawings. Any part of the trench excavated below grade shall be corrected by filling with approved material and thoroughly compacting. If clay, rock or other unyielding material is encountered in the bottom of the trench, it shall be removed to a depth of 4-6 inches below grade, refilled with approved material and thoroughly compacted to grade.
 10. Trench digging machinery may be used to make trench excavations except in places where operations of same would cause damage to existing structures either above or below ground; in such instances, hand methods shall be employed.
 11. Contractor will be required to locate all existing utility lines, whether or not they are shown on Contract Drawings, including consumer service lines, far enough in advance of trenching to make proper provisions for protecting the lines and to allow for any deviations that may be required from the established lines and grades. The operators of all oil or gas pipelines shall be notified before excavation around such lines so that these operators may be present during excavation.
 12. Contractor shall not be allowed to disrupt the service on any utility lines except consumer service lines, which may be taken out of service for short periods of time, if the Contractor obtains permission from Owner representative.
 13. Contractor shall immediately notify the proper utility company of any damage to utility lines, in order that service may be established with the least possible delay. Any damage to existing lines and the repair of consumer lines which are authorized to be cut or temporarily taken out of service shall be repaired or replaced by the Contractor at own expense, and as directed by an official representative of the owner of the damaged line.
 14. All new and existing lines shall be properly supported to prevent settlement or damage to the line both during and after construction.
 15. Wherever necessary to prevent caving, trench shall be adequately supported.
 16. The maximum horizontal offset of trench wall from bottom of trench to top of trench (under-cutting) shall be 4 inches.

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17. All excavation shall be unclassified and no extra compensation will be made for solid rock excavation. The Contractor is expected to make boring of his own and satisfy himself to the character of material which will be encountered.
- E. Dewatering: Where running or standing water occurs in trench bottom, water should be removed by pumps and other suitable means to prevent pipe flotation, until pipe has been installed and the backfill has been placed and compacted. Dewatering is considered incidental to the unit price for which it is being performed.
- F. Trench Methods:
1. Trench Boxes: Submit manufacturer-standard data sheet and certificate of compliance signed by a registered professional engineer stating the maximum allowable depth for the given design pressure for each type of trench box proposed for use.
 2. Alternative Systems: If alternative systems composed of steel, aluminum, wood or a combination of materials are proposed, submit design calculations signed by a registered professional engineer showing all member properties, design strengths and any stress increases used with justification for their use.
- G. Laying Pipe:
1. Placement of pipe and fittings into a trench should be with ropes and skids, slings on a backhoe bucket, or by hand. Pipe or fittings should not be thrown into trench and no part of the pipe should be allowed to take an unrestrained fall onto the trench bottom.
 2. When pipe laying is not in progress, open ends of installed pipe should be closed to prevent trench water, dirt, and foreign matter from entering the line.
 3. Contractor is responsible for laying pipe to the grades and elevations as shown in the Contract Drawings.
 4. Tape to top of pipe approved tracer wire as specified.
- H. Joint Assembly, Field-Cutting, Chamfering, and Curvature: Shall be performed per Uni-Bell PVC Pipe Association PVC Pipe Design and Construction handbook and/or manufacturers recommended procedures. Whichever is more stringent shall apply.
- I. Backfill Foundation:
1. General:
 - a. Backfill all pipeline excavations to restore pre-existing conditions as the minimum requirement and fulfill all supplementary requirements indicated in Contract Drawings and specifications. Start backfilling operations as soon as conditions permit on each section of pipeline to provide continuity in subsequent operations and restore normal public service as soon as practicable on a section-by-section basis. Pursue all operations diligently, with proper and adequate equipment, to assure acceptable results.
 - b. When Owner representative determines soil types are by undesirable for backfill are excavated from trench, remove, and dispose such material at no additional cost to Owner.
 2. Foundation:
 - a. Only required when trench bottom is unstable. In such cases, bottom of trench is to be over-excavated and brought back to grade. ASTM C33 Grade #57 or #67 aggregate may be utilized for foundation if necessary
 - b. Material shall be moistened and placed in lifts as indicated and compacted by tamping to a density not less than 95 percent of **ASTM D1557** with a moisture of ± 2 -percent optimum moisture content.
 3. Bedding:
 - a. Required to bring trench bottom up to grade, place to provide uniform and adequate support under pipe and place by hand. Holes for pipe bells should be provided at each joint to ensure uniform support for pipe.

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- b. Bedding layer shall be 6 inches thick. Use 3/4-inch crushed stone, meeting requirements of ASTM C33, Grade No. 7 or 8. For unpaved trenches, native material can be used if material has a liquid limit less than 30 and plasticity index less than 15. Native material must be existing excavated soil from trench with all material broken down to less than a 3/4-inch diameter.
 4. Haunching:
 - a. Defined as backfill from bottom of pipe to springline of pipe. Material should be placed and consolidated under pipe haunch so adequate side support is provided to pipe without causing displacement from its proper alignment.
 - b. Material shall be moistened and placed in lifts not exceeding 6 inches thick and compacted by tamping to a density of not less than 95 percent of ASTM D1557 with a moisture of ± 2 -percent optimum moisture content.
 - c. Material shall be placed by hand or by approved mechanical methods. Use 3/4-inch crushed stone, meeting requirements of ASTM C33, Grade No. 7 or 8. For unpaved trenches, native material can be used if material has a liquid limit less than 30 and plasticity index less than 15. Native material must be existing excavated soil from trench with all material broken down to less than a 3/4-inch diameter.
 - d. Material shall be free from cinder, ashes, refuse, vegetable or organic material, boulders, or other unsuitable material.
 - e. Water jetting not allowed.
 5. Initial Backfill:
 - a. Defined as backfill from springline of pipe to 1 foot above pipe. Material should be moistened and placed in lifts not exceeding 12 inches thick and compacted to a density not less than 95 percent of ASTM D1557 with moisture ± 2 -percent optimum moisture content. Take care to not damage pipe during compaction.
 - b. Material shall be placed by hand or by approved mechanical methods. Use 3/4-inch crushed stone, meeting requirements of ASTM C33, Grade No. 7 or 8. For unpaved trenches, native material can be used if material has a liquid limit less than 30 and plasticity index less than 15. Native material must be existing excavated soil from trench with all material broken down to less than a 3/4-inch diameter.
 - c. Material shall be free from cinder, ashes, refuse, vegetable or organic material, boulders, or other unsuitable material.
 - d. Water jetting is not allowed.
 6. Final Backfill:
 - a. Defined as the backfill from 1 foot above pipe to bottom of subgrade for paved areas or to existing grade for unpaved areas. Material should be moistened and placed in lifts not exceeding 12 inches thick and compacted to density not less than 95 percent of ASTM D1557 with a moisture ± 2 -percent optimum moisture content. Take care to not damage pipe during compaction.
 - b. Material shall be placed by hand or approved mechanical methods. Use portland cement stabilized backfill or crushed stone screening (crusher fines).
 - c. Portland cement stabilized backfill shall consist of base course, blow sand, or native soil stabilized by adding portland cement. Crushed stone or concrete aggregate shall not be used.

- d. Submit a mix design prepared by an approved commercial laboratory to produce a minimum 7-day compressive strength of 150 psi. In no case shall minimum cement content of mix be less than one sack per cubic yard. Cement used in portland cement stabilized backfill shall be Type I or Type II, ASTM C150. Base course used for portland cement stabilized backfill shall be crushed material per TxDOT Item 248 Type F, Grade 2.
- e. Blow sand used for portland cement stabilized backfill shall be clean, free from organic matter, clay lumps, rock, and other deleterious matter.
- f. Native soil used for portland cement stabilized backfill shall be clean, free from clods and organic matter, and rock in excess of 2 inches.
- g. Crushed stone screening used for backfill shall be sharp grained particles of crushed stone that meet the following gradation:

Sieve Size	% Passing
2"	100
#4	35-100
#10	20-100
#40	5-35
#200	4-10

- h. Minimum depth of stabilized backfill or crusher fines shall be 12 inches.
 - 1) When utilities are constructed under existing paving, stabilized backfill or crusher fines shall extend to top of base course.
 - 2) When utilities are constructed under existing unpaved streets not scheduled for immediate pavement construction, stabilized backfill or crusher fines shall extend to existing roadway surface.
 - 3) When utilities are constructed in new streets scheduled for immediate paving or on new subdivision streets for which a paving contract with property developer is approved, stabilized backfill or crusher fines shall extend to bottom edge of the 8 inches of subgrade; or
 - 4) If paving contractor constructed a portion of roadway before utility construction, stabilized backfill shall extend to top of course contractor finished.
 - 5) In no case shall backfill extend above top of base course. If final course of asphaltic concrete is placed, street or alley surface shall not be cut for utility installation.
- i. Material shall be free from cinder, ashes, refuse, vegetable or organic material, boulders, or other unsuitable material.
- j. Water jetting will not be allowed.
- k. Install traceable warning tape in Final Backfill Zone 6 inches below finished grade directly above sanitary sewerage piping.

J. Cleanup:

1. Backfill shall not be rounded up over trenches. Surface of trench backfill shall be compacted and bladed to final grading contours.
2. Maintain trench surfaces in satisfactory manner until final completion and acceptance of work. Maintenance shall include blading as necessary, filling depressions caused by settlement, and other work required to keep all areas in a presentable condition.
3. Any trench settlement which occurs within the one-year warranty period shall be corrected by Contractor at no expense to Owner.

3.2 GRAVITY SEWER MAIN FITTINGS, SERVICE LINES, MANHOLES

- A. Fittings: Install per manufacturer recommendations and specifications.
- B. Service Lines
 - 1. Unless otherwise specified or shown on Contract Drawings, service lines shall be laid in a straight alignment and extended from main line to property line.
 - 2. For 4-inch service lines, slope shall be no less than 1/8-in/ft.
 - 3. For 6-inch service lines, slope shall be no less than 1/4-in/ft.
 - 4. Backfill shall be performed in same manner as main line..
- C. Manholes: Connection to manholes shall be watertight. Refer to Section 33 05 76 "Glass-Fiber Reinforced Polyester (FRP) Manholes," for connection details.

3.3 CONNECTIONS WITH EXISTING PIPING

- A. Connections between new work and existing piping shall be made using fittings suitable for the conditions encountered. Each connection with an existing pipe shall be made at a time and under conditions which will least interfere with service to customers, and as authorized by the Owner. Facilities shall be provided for proper dewatering and for disposal of all water removed from the dewatered lines and excavations without damage to adjacent property.

3.4 VISUAL INSPECTION

- A. Sewer mains will be inspected visually to verify accuracy of alignment and freedom from debris and obstructions.

3.5 GRAVITY SEWER MAIN LEAKAGE TEST

- A. Make low-pressure air tests on all sewer mains not less than 30 days after installation. Test sewer mains on sections of pipe between manholes.
 - 1. A low pressure air test must follow the procedures described in ASTM F1417 or other procedure approved by the TCEQ executive director, except as to testing times as required in Table C.3 or Equation C.3.
 - 2. For sections of gravity sewer main less than 36 inches average inside diameter, apply:
 - a. Pipe must be pressurized to 3.5 psi greater than pressure exerted by groundwater above pipe.
 - b. Once pressure is stabilized, minimum time allowable for the pressure to drop from 3.5 psi gauge to 2.5 psi gauge is computed from the following equation:

Equation C.3.

$$T = \frac{(0.085 \times D \times K)}{Q}$$

where:

- T = time for pressure to drop 1.0 pound per square inch gauge in seconds
 - K = $0.000419 \times D \times L$, but not less than 1.0
 - D = average inside pipe diameter in inches
 - L = length of same pipe size being tested, in feet
 - Q = rate of loss, 0.0015 cubic feet per minute per square foot internal surface
- 3. Since a K value of less than 1.0 may not be used, minimum testing time for each pipe diameter is shown in the following table:

Table C.3. – Minimum Testing Times for Low-Pressure Air Test

Pipe Diameter (inches)	Minimum Time (seconds)	Maximum Length for Minimum Time (feet)	Time for Longer Length (seconds/foot)
6	340	398	0.855
8	454	298	1.520
10	567	239	2.374
12	680	199	3.419
15	850	159	5.342
18	1020	133	7.693
21	1190	114	10.471
24	1360	100	13.676
27	1530	88	17.309
30	1700	80	21.369
33	1870	72	25.856

4. Owner may stop a test if no pressure loss has occurred during first 25 percent of calculated testing time.
5. If any pressure loss or leakage has occurred during first 25 percent of testing period, then test must continue for entire test duration as outlined or until failure.
6. Gravity sewer mains with a 27 inches or larger average inside diameter may be air tested at each joint instead of following procedure outlined herein.
7. Testing procedure for pipe with inside diameter greater than 33 inches must be approved by TCEQ executive director.
8. If test fails to meet minimum allowable requirements of test, immediately determine cause, make necessary repairs, and retest. All testing and repair work shall be at Contractor expense.

3.6 GRAVITY SEWER MAIN DEFLECTION TEST

- A. Make a deflection test on all flexible sewer mains. DO NOT test a section of sewer until all backfill on that section is in place 30 days. Only perform deflection testing in presence of Owner representative. Contact Owner representative 48 hours before testing activities.
- B. Deflection test shall be run using a rigid Go-No Go full circle mandrel with a diameter equal to 95 percent of inside diameter of the pipe. Contractor shall submit shop drawings of the mandrel to Engineer for approval before using the mandrel for testing.
- C. Test shall be performed without mechanical pulling devices. Wherever possible and practical, the testing shall be initiated at a downstream manhole and proceed upstream.
- D. No pipe shall exceed a deflection of 3 percent of inside diameter of pipe. Correct all excess deflections. Excavate to point of excess deflection, correct deficiency, and retest pipe. If pipe retest fails the 5 percent allowable deflection, replace pipe.

3.7 FINAL CLEANUP

- A. After construction work is complete and before final acceptance by Owner, remove all rubbish, excess materials from excavations, and other debris from site of work, blade all trench surfaces, and fill all depressions caused by settlement. Cost of cleanup included in the bid prices for various units of work.

END OF SECTION

SECTION 40 05 61 - GATE VALVES

PART 1 - GENERAL

1.1 SUMMARY

- A. Section Includes:
 - 1. Resilient-seated gate valves.
- B. Related Requirements:
 - 1. Division 01 Specification Sections apply to Work of this Section.
 - 2. Section 33 14 13 "Public Water Utility Distribution Piping."

1.2 DEFINITIONS

- A. OUTSIDE SCREW AND YOKE (OS&Y) VALVE: A valve in which the operating screw is driven by a threaded nut that is built into the handle.

1.3 REFERENCE STANDARDS

- A. American Water Works Association:
 - 1. AWWA C500 - Metal-Seated Gate Valves for Water Supply Service.
 - 2. AWWA C509 - Resilient-Seated Gate Valves for Water Supply Service.
- B. ASME International:
 - 1. ASME B16.1 - Gray Iron Pipe Flanges and Flanged Fittings: Classes 25, 125, and 250.
 - 2. ASME B16.5 - Pipe Flanges and Flanged Fittings: NPS 1/2 through NPS 24 Metric/Inch Standard.
 - 3. ASME B16.42 - Ductile Iron Pipe Flanges and Flanged Fittings: Classes 150 and 300.
 - 4. ASME B1.20.1 - Pipe Threads, General Purpose, Inch.
 - 5. ASME B1.20.2 - Pipe Threads, 60 deg. General Purpose (Metric).
- C. ASTM International:
 - 1. ASTM A126 - Standard Specification for Gray Iron Castings for Valves, Flanges, and Pipe Fittings.
 - 2. ASTM B62 - Standard Specification for Composition Bronze or Ounce Metal Castings.
 - 3. ASTM B584 - Standard Specification for Copper Alloy Sand Castings for General Applications.
 - 4. ASTM D1784 - Standard Specification for Rigid Poly(Vinyl Chloride) (PVC) Compounds and Chlorinated Poly(Vinyl Chloride) (CPVC) Compounds.
- D. Manufacturers Standardization Society of the Valve and Fittings Industry:
 - 1. MSS SP-70 - Gray Iron Gate Valves, Flanged and Threaded Ends.
 - 2. MSS SP-80 - Bronze Gate, Globe, Angle and Check Valves.

PART 2 - PRODUCTS

2.1 RESILIENT-SEATED GATE VALVES

- A. Manufacturers:
 - 1. Clow Valve Company; a subsidiary of McWane, Inc. Model: 2838.
 - 2. Dresser-M & H Valve Company; a division of McWane, Inc. Model: 4067.
 - 3. Mueller Co. Model: A-2360.
 - 4. Substitutions: Any alternate (approved equal) shall have completely interchangeable parts with either of the specified valves.
 - 5. Furnish materials according to City of Midland standards.
- B. Description:
 - 1. As specified in Section 40 05 51 "Common Requirements" for Process Valves.
 - 2. Comply with AWWA C509.
 - 3. Minimum Working Pressure: 200 psig at 180 degrees. F.
 - 4. Maximum Process Fluid Temperature: 180 degrees. FAs indicated on valve schedule.
 - 5. End Connections: As indicated in Drawings.
 - 6. Gear Actuators for Manual Valves: Comply with AWWA C509.
- C. Operation:
 - 1. As specified in Section 40 05 51 "Common Requirements" for Process Valves.
 - 2. Stem: Nonrising.
 - 3. Handwheel.
 - 4. Furnish gear operators for valves 20 inches\ and larger, and chainwheel operators for valves mounted over 8 feet above operating floor.
- D. Materials:
 - 1. Wedge: Resilient ASTM A126, cast iron, fully encapsulated with molded rubber.
 - 2. Body and Disc: ASTM A536, ductile iron, rubber coated.
 - 3. Stem, Stem Nuts, Glands, and Bushings: ASTM B584, bronze.
 - 4. Connecting Hardware: Type 316 stainless steel.

2.2 SOURCE QUALITY CONTROL

- A. Section 01 40 00 "Quality Requirements": Requirements for testing, inspection, and analysis.
- B. As specified in Section 40 05 51 "Common Requirements for Process Valves."
- C. Testing: Test gate valves according to AWWA C509.

PART 3 - EXECUTION

3.1 INSTALLATION

- A. According to AWWA C509.

END OF SECTION

SECTION 40 05 78.13 - AIR/VACUUM VALVES FOR WATER SERVICE

PART 1 - GENERAL

1.1 SUMMARY

- A. Section Includes: Air release/vacuum breaker valves for water treatment facilities.
- B. Related Requirements:
 - 1. Division 01 Specification Sections apply to Work of this Section.
 - 2. Section 33 14 13 "Public Water Utility Distribution Piping."

1.2 REFERENCE STANDARDS

- A. American Water Works Association:
 - 1. AWWA C512 - Air Release, Air/Vacuum, and Combination Air Valves for Waterworks Service.
- B. ASME International:
 - 1. ASME B16.1 - Gray Iron Pipe Flanges and Flanged Fittings: Classes 25, 125, and 250.
 - 2. ASME B16.5 - Pipe Flanges and Flanged Fittings: NPS 1/2 through NPS 24 Metric/Inch Standard.
- C. ASTM International:
 - 1. ASTM A126 - Standard Specification for Gray Iron Castings for Valves, Flanges, and Pipe Fittings.
 - 2. ASTM A216 - Standard Specification for Steel Castings, Carbon, Suitable for Fusion Welding, for High-Temperature Service.
 - 3. ASTM A536 - Standard Specification for Ductile Iron Castings.
 - 4. ASTM B148 - Standard Specification for Aluminum-Bronze Sand Castings.
- D. International Organization for Standardization:
 - 1. ISO 9001 - Quality Management Systems.
- E. NSF International:
 - 1. NSF 61 - Drinking Water System Components - Health Effects.
 - 2. NSF 372 - Drinking Water System Components - Lead Content.

1.3 COORDINATION

- A. Section 01 30 00 "Administrative Requirements": Requirements for coordination.
- B. Coordinate Work of this Section with installation of process piping.

1.4 SUBMITTALS

- A. Section 01 33 00 "Submittal Procedures": Requirements for submittals.
- B. Product Data: Submit manufacturer catalog information.
- C. Shop Drawings: Indicate materials, dimensions, weights, and end connections on assembly drawings.
- D. Manufacturer's Certificate: Certify that products meet or exceed specified requirements.
- E. Manufacturer Instructions: Submit special procedures and setting dimensions.
- F. Source Quality-Control Submittals: Indicate results of factory tests and inspections.
- G. Field Quality-Control Submittals: Indicate results of Contractor-furnished tests and inspections.

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- H. Manufacturer Reports: Certify that equipment has been installed according to manufacturer instructions.
 - I. Qualifications Statements:
 - 1. Submit qualifications for manufacturer and installer.
 - 2. Submit manufacturer's approval of installer.
- 1.5 CLOSEOUT SUBMITTALS
- A. Section 01 70 00 "Execution and Closeout Requirements": Requirements for submittals.
 - B. Project Record Documents: Record actual locations of air release/vacuum breaker valves.
- 1.6 QUALITY ASSURANCE
- A. Materials in Contact with Potable Water: Certified to NSF 61 and NSF 372.
 - B. Manufacturer Quality Management System: Certified to ISO 9001.
 - C. Perform Work according to City of Midland standards.
- 1.7 QUALIFICATIONS
- A. Manufacturer: Company specializing in manufacturing products specified in this Section with minimum 3 years' documented experience.
 - B. Installer: Company specializing in performing Work of this Section with minimum 3 years' documented experience and approved by manufacturer.
- 1.8 DELIVERY, STORAGE, AND HANDLING
- A. Section 01 60 00 "Product Requirements": Requirements for transporting, handling, storing, and protecting products.
 - B. Inspection: Accept materials on Site in manufacturer's original packaging and inspect for damage.
 - C. Store materials according to manufacturer instructions.
 - D. Protection:
 - 1. Protect materials from moisture and dust by storing in clean, dry location remote from construction operations areas.
 - 2. Furnish temporary end caps and closures on piping and fittings and maintain in place until installation.
 - 3. Provide additional protection according to manufacturer instructions.
- 1.9 EXISTING CONDITIONS
- A. Field Measurements:
 - 1. Verify field measurements prior to fabrication.
 - 2. Indicate field measurements on Shop Drawings.
- 1.10 WARRANTY
- A. Section 01 70 00 "Execution and Closeout Requirements": Requirements for warranties.

PART 2 - PRODUCTS

2.1 AIR/VACUUM VALVES FOR WATER SERVICE

- A. Manufacturers:
 - 1. A.R.I. Flow Control Accessories, Ltd.
- B. Substitutions: As specified in Section 01 60 00 "Product Requirements." Ad approved by the City of Midland.
- C. Furnish materials according to City of Midland standards.
- D. Description:
 - 1. Type: Fully automatic, float operated.
 - 2. Comply with AWWA C512.
 - 3. Size: As indicated on Drawings.
 - 4. Suitable for potable or raw water service.
 - 5. Pressure Rating: 200 psig.
 - 6. Maximum Operating Temperature: Water to 140 degrees. F.
- E. Materials:
 - 1. Body and Cover: Reinforced Nylon/Type 316 Stainless Steel.
 - 2. Float: Foamed Polypropylene.
 - 3. Seat, and Trim: Type 316 stainless steel.
 - 4. Seats: Buna-N.
 - 5. Seals: Buna-N.
- F. End Connections:
 - 1. Size 3 Inches: Threaded, NPT.
 - 2. Size 4 Inches and Larger: Flanged, ASME B16.1.
- G. Accessories:
 - 1. Backwash accessories, including inlet shutoff valve, blowoff valve, rubber supply hose, and quick-disconnect couplings.

2.2 SOURCE QUALITY CONTROL

- A. Section 01 40 00 "Quality Requirements": Requirements for testing, inspection, and analysis.
- B. Provide shop inspection and testing of completed assembly.
- C. Certificate of Compliance:
 - 1. If fabricator is approved by authorities having jurisdiction, submit certificate of compliance indicating Work performed at fabricator's facility conforms to Contract Documents.
 - 2. Specified shop tests are not required for Work performed by approved fabricator.

PART 3 - EXECUTION

3.1 EXAMINATION

- A. Section 01 70 00 "Execution and Closeout Requirements": Requirements for installation examination.
- B. Verify that field dimensions are as indicated on Drawings.
- C. Inspect existing flanges for nonstandard bolt hole configurations or design and verify that new pipe and flanges mate properly.

3.2 PREPARATION

- A. Section 01 70 00 "Execution and Closeout Requirements": Requirements for installation preparation.
- B. Thoroughly clean end connections before installation.
- C. Close pipe and equipment openings with caps or plugs during installation.
- D. Surface Preparation: Clean surfaces to remove foreign substances.

3.3 INSTALLATION

- A. According to manufacturer instructions.
- B. Provide access for operation, removal, and maintenance, and to avoid discharge to occupied areas or other equipment.
- C. Installation Standards: Install Work according to City of Midland standards.

3.4 FIELD QUALITY CONTROL

- A. Section 01 40 00 "Quality Requirements": Requirements for inspecting and testing.
- B. Inspect for interferences and proper supports.
- C. Equipment Acceptance:
 - 1. Adjust, repair, modify, or replace components failing to perform as specified and rerun tests.
 - 2. Make final adjustments to equipment under direction of manufacturer's representative.
 - 3. Repair damaged coatings with material equal to original coating.
- D. Furnish installation certificate from equipment manufacturer's representative attesting that equipment has been properly installed and is ready for startup and testing.

3.5 CLEANING

- A. Section 01 70 00 "Execution and Closeout Requirements": Requirements for cleaning.
- B. Keep interior of air release valves clean as installation progresses.

3.6 DEMONSTRATION

- A. Section 01 70 00 "Execution and Closeout Requirements": Requirements for demonstration and training.
- B. Demonstrate equipment startup, shutdown, routine maintenance, and emergency repair procedures to Owner's personnel.

END OF SECTION



City Council Meeting

Item Number: 6
Meeting Date: September 12, 2023
To: City Council / City Manager
From: Erika Martinez, Manager, Purchasing
Subject: Resolution approving a contract with Nouveau Technology Services, LP, through the Interlocal Purchasing System, for the purchase and installation of a sound system at Momentum Bank Ballpark for a total cost of \$805,760.00; approving \$80,576.00 for project related costs; and appropriating funds for said project (DISTRICT 4) (GENERAL SERVICES)

Purpose:

Resolution awarding a contract for the delivery and installation of a new sound system at Momentum Bank Ballpark to Nouveau Technology Services, LP through The Interlocal Purchasing System (TIPS) contract #RCSP211001 for a total cost of \$805,760.00 approving \$80,576.00 for contingencies; for a total cost of \$886,336.00.

Recommended City Council Action:

Approve

Fiscal Impact:

\$350,000.00 are available in the FY23 Sports Complex Operating Budget, \$536,336.00 is available in the Scharbauer Sports Complex Fund Unappropriated Fund Balance and will be transferred and will be appropriated to a project for said purpose.

Discussion:

Staff is recommending executing a contract for the delivery and installation of a new sound system at Momentum Bank Ballpark through The Interlocal Purchasing System (TIPS) contract #RCSP211001. The Interlocal Purchasing System (TIPS) Program. We are members of the TIPS Program cooperative and Subchapter F, Section 271.102 of the Local Government Code provides that a local government may participate in a cooperative purchasing program and that

purchasing goods or services under Subchapter F satisfies any state law requiring the local government to seek competitive bids for those purchases. Please see the attached memo from Cristina Burns, Community Services Director, for additional information.

Therefore, please consider a resolution awarding a contract for the delivery and installation of a new sound system at Momentum Bank Ballpark to Nouveau Technology Services, LP through The Interlocal Purchasing System (TIPS) contract #RCSP211001 for a total cost of \$805,760.00 approving \$80,576.00 for contingencies; for a total cost of \$886,336.00.

Jina Gang

City Manager's Office



Scharbauer Sports Complex Division
Interoffice Memorandum

Date: August 25, 2023
To: Morris Williams, Deputy City Manager
From: Cristina Burns, Community Services Director
Subject: Purchase and installation of Sound System at Momentum Bank Ball Park at Scharbauer Sports Complex

The existing sound system at the Momentum Bank Ball Park needs to be replaced. The current system was originally installed when the Complex was built. The equipment is outdated and some components and repair parts are no longer available. The existing analog audio system will be replaced with modern digital mixing and signal processing technology. The project will involve the procurement, installation, commissioning and replacement of equipment including the mixing console, power systems, audio processing, amplifiers, and speaker systems. The new equipment will be furnished by Samsung.

Cost of the equipment with installation, freight, new cabling, and warrantee is \$805,760.00. A 10% contingency (\$80,576) is included in the requested funding to cover any unexpected costs that may arise during installation. In order to begin work as soon as possible and have installation completed for use during the spring 2024 season, staff recommends the TIPS purchase of the sound system from Nouveau Technology Services LP. This purchase will include a one-year warrantee for parts and on-site labor for the sound system. Total requested funding is \$886,336.

Funds in the amount of \$350,000 are available in the 2023 operating budget for the Sports Complex Fund (079620 57002). The remaining \$536,336 is available in the Scharbauer Sports Complex Fund Unappropriated Fund Balance and will be transferred and appropriated to a project in the Capital Projects Fund.

RESOLUTION NO. _____

**RESOLUTION APPROVING A CONTRACT WITH
NOUVEAU TECHNOLOGY SERVICES, LP, THROUGH
THE INTERLOCAL PURCHASING SYSTEM, FOR THE
PURCHASE AND INSTALLATION OF A SOUND
SYSTEM AT MOMENTUM BANK BALLPARK FOR A
TOTAL COST OF \$805,760.00; APPROVING \$80,576.00
FOR PROJECT RELATED COSTS; AND
APPROPRIATING FUNDS FOR SAID PROJECT**

WHEREAS, The Interlocal Purchasing System (“*TIPS*”) is a cooperative purchasing agency with which the City of Midland (the “*City*”) participates with on purchases through a cooperative purchasing program in accordance with Tex. Loc. Gov’t Code § 271.102; and

WHEREAS, Nouveau Technology Services, LP, has submitted a total proposed cost to the City of \$805,760.00 for the purchase and installation of a sound system at Momentum Bank Ballpark through TIPS; and

WHEREAS, the City Council finds the price proposed by Nouveau Technology Services, LP, through TIPS, for the purchase and installation of a sound system at Momentum Bank Ballpark to be fair and reasonable; and

WHEREAS, the City Council finds it to be in the public interest to approve a contract with Nouveau Technology Services, LP, for the purchase and installation of a sound system at Momentum Bank Ballpark through TIPS; and

WHEREAS, the City Council finds it to be in the public interest to approve \$80,576.00 for project related costs;

**NOW, THEREFORE, BE IT RESOLVED BY THE CITY COUNCIL OF
THE CITY OF MIDLAND, TEXAS:**

SECTION ONE. That the City Manager and City Secretary are hereby authorized and directed to execute and attest, respectively, on behalf of the City of Midland, a contract for the purchase and installation of a sound system at Momentum Bank Ballpark, through TIPS, for a total cost of \$805,760.00. Said contract being attached hereto as Exhibit A and incorporated herein for all purposes.

SECTION TWO. That the sum of \$80,576.00 for project related costs is hereby

approved.

SECTION THREE. That the sum of \$350,000.00 is hereby appropriated from the FY23 Sports Complex Operating Budget and transferred to a project established by the City of Midland Finance Department; and that the sum of \$536,336.00 is hereby appropriated from the Scharbauer Sports Complex Fund Unappropriated Fund Balance and transferred to a project established by the City of Midland Finance Department.

SECTION FOUR. That the City Comptroller is hereby authorized and directed to pay Nouveau Technology Services, LP, in accordance with the provisions of the above-referenced contract from funds available in project established by the City of Midland Finance Department upon receipt of proper invoices or statements approved by the City Manager.

On motion of Council member _____, seconded by Council member _____, the above and foregoing resolution was adopted by the City Council of the City of Midland at a regular meeting on the _____ day of _____, A.D., 2023, by the following vote:

Council members voting “AYE”:

Council members voting “NAY”:

Lori Merritt Blong, Mayor

ATTEST:

Marcia Bentley-German, City Secretary

RECOMMENDED AND APPROVED:

Tommy Gonzalez, City Manager

APPROVED AS TO CONTENT
AND COMPLETENESS:

Regina Stephenson, General Services Director

APPROVED AS TO FORM ONLY:

John Ohnemiller, City Attorney



THE CITY OF MIDLAND

CONTRACT

Contract No. 23005077

THIS CONTRACT, effective the 23rd day of August, 2023, by and between the City of Midland, hereinafter referred to as "CITY", and Nouveau Technology Services, LP, hereinafter referred to as "COMPANY", is made for the following considerations:

1. **Cost:** Total Proposal: \$ 805,760.00 DOLLARS
2. **Scope of Work:** COMPANY shall perform all work associated with the delivery and installation of a new sound system at Momentum Bank Ballpark, which is purchased by CITY from COMPANY pursuant to this Contract. Said work being more particularly described in the following documents, which are attached hereto and incorporated herein for all purpose.
EXHIBIT A.....Specifications, Proposal or Cost Summary
EXHIBIT B.....Intentionally Omitted
EXHIBIT C.....Intentionally Omitted
EXHIBIT D.....Wage Scale
3. **City:** The words "CITY's Representative" or "representative" shall mean Cristina Burns or the designee under whose supervision these contract documents, including the plans and specifications, were prepared, or who may inspect work performed under this Contract; or such other representative, supervisor, or inspector as may be authorized by CITY to act in any particular capacity under this Contract.
4. **City's Representative:** CITY's Representative may make periodic visits to the site to observe the progress and quality of the executed work and to determine, in general, if the work is proceeding in accordance with the contract documents. CITY's representative will not be required to make exhaustive or continuous on-site inspections to check the quality or quantity of the work, nor will such representative be responsible for the construction means, methods, techniques, sequences or procedures, or the safety precautions incident thereto. CITY's representative will not be responsible for COMPANY's failure to perform the work in accordance with the contract.
5. **Company:** Unless otherwise stipulated, COMPANY shall provide and pay for all materials, supplies, machinery, equipment, tools, superintendence, labor, insurance, and all water, light, power, fuel,

Exhibit A

transportation and all other facilities necessary for the execution and completion of the work covered by the contract documents. Unless otherwise specified, all materials shall be new, and both workmanship and materials shall be of a good quality. COMPANY shall, if required, furnish satisfactory evidence as to the kind and quality of materials.

5.1. COMPANY shall, at its expense, obtain all permits and licenses necessary for the performance of this contract and pay all fees and taxes required by law, and comply with all laws, ordinances, rules and regulations governing COMPANY's performance of the contract, including all environmental laws and regulations, whether state or federal.

5.2. All work shall be done and all materials furnished in strict conformity with the contract and specifications.

6. **Minor Work Not Mentioned:** All minor detail of the work not specifically mentioned in the Specifications but obviously necessary for the proper completion of the work, such as the proper connection of new work to old, shall be considered as incidental to and a part of the work for which the prices are named in the contract. COMPANY will not be entitled to any additional compensation therefor unless specifically stated otherwise. Otherwise the term "extra work" as used in this contract shall mean and include all work that may be required by CITY to be done by COMPANY to accomplish any alteration or addition to the work as shown on the Specifications.

6.1. COMPANY shall perform all extra work under the direction of CITY's Representative when presented with a written work order signed by CITY's Representative, subject, however, to the right of the COMPANY to require written confirmation of such extra work order by CITY. Payment for extra work shall be as agreed in the work order.

7. **Safety:** COMPANY shall at all times exercise reasonable precaution for the safety of employees and others on or near the work and shall comply with all applicable provisions of federal, state and municipal laws. All machinery and equipment and other physical hazards shall be guarded in accordance with federal, state or municipal laws or regulations.

8. **INDEMNITY: COMPANY SHALL INDEMNIFY AND HOLD HARMLESS AND DEFEND CITY AND ALL OF CITY'S OFFICERS, AGENTS AND EMPLOYEES FROM ALL SUITS, ACTIONS, CLAIMS, DAMAGES, PERSONAL INJURIES, ACCIDENTAL DEATH, LOSSES, PROPERTY DAMAGE AND EXPENSES OF ANY CHARACTER WHATSOEVER, INCLUDING ATTORNEY'S FEES, BROUGHT FOR OR ON ACCOUNT OF ANY INJURIES OR DAMAGES RECEIVED OR SUSTAINED BY ANY PERSON OR PERSONS OR**

PROPERTY, ON ACCOUNT OF ANY NEGLIGENT ACT OF COMPANY, THEIR AGENTS OR EMPLOYEES, OR ANY SUBCONTRACTOR, IN THE EXECUTION, SUPERVISION AND OPERATIONS GROWING OUT OF OR IN ANY WAY CONNECTED WITH THE PERFORMANCE OF THIS CONTRACT, AND COMPANY WILL BE REQUIRED TO PAY ANY JUDGMENT WITH COSTS WHICH MAY BE OBTAINED AGAINST CITY OR ANY OF ITS OFFICERS, AGENTS OR EMPLOYEES, INCLUDING ATTORNEY'S FEES. THE OBLIGATIONS CONTAINED IN THIS SECTION 8 SHALL SURVIVE THE TERMINATION OF THIS CONTRACT.

COMPANY AGREES THAT IT WILL INDEMNIFY AND SAVE CITY HARMLESS FROM ALL CLAIMS GROWING OUT OF ANY DEMANDS OF SUBCONTRACTORS, LABORERS, WORKMEN, MECHANICS, MATERIALMEN, AND FURNISHERS OF MACHINERY AND PARTS THEREOF, EQUIPMENT, POWER TOOLS AND ALL SUPPLIES, INCURRED IN THE FURTHERANCE OF THE PERFORMANCE OF THIS CONTRACT. WHEN CITY SO DESIRES, COMPANY SHALL FURNISH SATISFACTORY EVIDENCE THAT ALL OBLIGATIONS OF THE NATURE HEREINABOVE DESIGNATED HAVE BEEN PAID, DISCHARGED OR WAIVED. COMPANY, ITS SURETIES AND INSURANCE CARRIERS SHALL DEFEND, INDEMNIFY AND SAVE HARMLESS CITY AND ALL OF ITS OFFICERS, AGENTS AND EMPLOYEES FROM ALL SUITS, ACTIONS, OR CLAIMS OF ANY CHARACTER WHATSOEVER, BROUGHT FOR OR ON ACCOUNT OF ANY INJURIES OR DAMAGES RECEIVED OR SUSTAINED BY ANY PERSON OR PERSONS OR PROPERTY, ARISING FROM ANY ACT OF COMPANY OR ANY SUBCONTRACTOR, THEIR AGENTS OR EMPLOYEES, IN THE EXECUTION AND SUPERVISION OF THIS CONTRACT, AND WILL BE REQUIRED TO PAY ANY JUDGMENT WITH COSTS WHICH MAY BE OBTAINED AGAINST CITY OR ANY OF ITS OFFICERS, AGENTS, OR EMPLOYEES INCLUDING ATTORNEY'S FEES. THE OBLIGATIONS CONTAINED IN THIS SECTION SHALL SURVIVE THE TERMINATION OF THIS CONTRACT.

9. **Start of Work:** COMPANY shall commence work no later than thirty (30) days after receipt of the execution of this document or other written release to proceed and shall complete such work no later than 200 calendar days after release to proceed. (Note – completion extended due to equipment lead time and supply chain delays)

10. **Clean Up:** COMPANY shall promptly remove from CITY's premises all materials condemned by CITY's Representative on account of failure to conform to the contract, whether actually incorporated in the work or not, and COMPANY shall at its own expense promptly replace such condemned materials with other materials conforming to the requirements of the contract. COMPANY shall also bear the

expense of restoring all work of other contractors damaged by any such removal or replacement. If COMPANY does not remove and replace any such condemned materials within a reasonable time after a written notice by CITY, CITY may remove and replace such at COMPANY's expense.

11. **Warranty:** Neither the final payment nor any provision in this contract shall relieve COMPANY of responsibility for faulty materials or workmanship, and he shall remedy any defects due thereto and pay for any damage to other work resulting therefrom, which shall appear within a period of one (1) year from the date of substantial completion. CITY shall give notice of observed defects with reasonable promptness.

12. **Remedy:** CITY may, on account of subsequently discovered evidence, withhold whole or part of any payment to such extent as may be necessary to protect itself from loss on account of:

12.1. Defective work not remedied; or

12.2. Claims filed or reasonable evidence indicating possible filing of claims; or

12.3. Failure of COMPANY to make payments promptly to subcontractors or for material or labor which CITY may pay as an agent for the COMPANY; or

12.4. Damages to another contractor or subcontractor.

When the above grounds to withhold payment are removed, or COMPANY provides a surety bond satisfactory to CITY, which will protect CITY in the amount withheld, payment may be released.

13. **Funding Out:** In the event no funds or insufficient funds are appropriated and budgeted or are otherwise unavailable in any fiscal period for contract payments due under the contract, then this contract shall terminate on the last day of the fiscal period for which full appropriations were made, without penalty or expense to CITY of any kind whatsoever.

14. **Wage Scale:** COMPANY agrees to pay all workmen in his employ no less than the generally prevailing wage rate for employees of similar category in the Permian Basin Area, as is depicted in the wage rate scale attached hereto as EXHIBIT D, and incorporated herein by reference for all legal purposes.

14.1. If applicable, the Davis-Bacon Act, 29 CFR 5.5, and any related acts or regulations are hereby incorporated by reference and made a part of this Contract, and all terms and requirements under said laws, by such incorporation, are made terms and requirements of this Contract, to which the parties to this Contract have agreed to be bound.

15. **Prompt Pay Act:** CITY and COMPANY agree that Texas Government Code, Chapter 2251, Payment for Goods and Services (the "Prompt Pay Act") does not waive governmental immunity.

16. **Payment; Retainage:** After all work is completed by COMPANY, including all Change Orders altering the original scope and amount of the contract are completed, and the CITY has inspected and approved that the work is completed and in compliance with the contract and all subsequent Change Orders, the CITY may thereafter issue payment to COMPANY in the amount of the contract and all Change Orders. The CITY shall be the final judge of when the work is completed by COMPANY. The CITY, in its sole discretion, shall determine if the work under the contract and under any Change Orders has been done to the CITY's requirements.

16.1. The CITY may make periodic payments to COMPANY; provided, however, such periodic payments may only be made pursuant to this section, and only after all work and all Change Orders are completed by COMPANY and approved by the CITY. The approval shall be in the CITY's sole discretion. Requests for progress payments may be made to the extent of the materials and labor completed at the end of each month. Upon approval by the CITY or the CITY's representative, the request and invoice shall be forwarded for payment less 5% retainage. The total of these payments shall not exceed 95% of the total contract amount.

17. **Late Completion; Liquidated Damages:** It is hereby understood and mutually agreed, by and between COMPANY and the CITY, that the date of beginning and the time for completion as specified in the contract of the work to be done hereunder are ESSENTIAL CONDITIONS of this contract; and it is further mutually understood and agreed that the work embraced in this contract shall be commenced on a date to be specified in the "Notice to Proceed." COMPANY agrees that said work shall be prosecuted regularly, diligently, and uninterruptedly at such rate of progress as will ensure full completion thereof within the time specified. It is expressly understood and agreed, by and between COMPANY and the CITY, that the time for the completion of the work described herein is a reasonable time for the completion of the same, taking into consideration the average climatic range and usual industrial conditions prevailing in this locality.

17.1. In the event COMPANY shall neglect, fail or refuse to complete the work within the time herein specified, or any proper extension thereof granted by the CITY, then COMPANY and COMPANY's surety, if any, shall be liable for and does hereby agree, as a part consideration for the awarding of this contract, to pay to the CITY \$500.00, not as a penalty but as liquidated damages for such breach of contract as hereinafter set forth, for each and every day that COMPANY shall be in default after the time stipulated in the contract for completing the work. Further, the CITY shall have the right to cancel this contract for such delay. In the event the CITY cancels this contract pursuant to the terms of this section, the CITY shall pay to COMPANY only those monies deemed appropriate by the CITY, in its sole discretion, to compensate COMPANY for any work actually performed, less any liquidated damages COMPANY owes the CITY.

17.2. The said amount is fixed and agreed upon by and between COMPANY and the CITY because of the impracticability and extreme difficulty of fixing and ascertaining the actual damages the CITY would in such event sustain, and said amount is agreed to be the amount of damages which the CITY would sustain and said amount shall be retained from time to time by the CITY from current periodical estimates.

17.3. It is further agreed that time is of the essence of each and every portion of this contract and of the specifications wherein a definite and certain length of time is fixed for the performance of any act whatsoever; and where under the contract an additional time is allowed for the completion of any work, the new time limit fixed by such extension shall be of the essence of this contract. Provided, that COMPANY shall not be charged with liquidated damages or any excess cost when the CITY determines, in its sole discretion, that COMPANY is without fault and COMPANY's reasons for the time extension are acceptable to the CITY. Provided, further, that COMPANY shall not be charged with liquidated damages of any excess cost when the delay in completion of the work is due:

- a. To any preference, priority or allocation order duly issued by the Government;
- b. To unforeseeable cause beyond the control and without the fault or negligence of COMPANY, including, but not restricted to, acts of God, or of the public enemy, acts of the CITY, acts of another contractor in the performance of a contract with the CITY, fires, floods, epidemics, quarantine restrictions, strikes, freight embargoes, and severe weather; and
- c. To any delays of subcontractors or suppliers occasioned by any of the causes specified in subsections (a) and (b) of this article.

17.4. Provided, further, that COMPANY shall, within ten (10) days from the beginning of such delay, unless the CITY shall, in its sole discretion grant a further period of time prior to the date of final settlement of the contract, notify the CITY, in writing, of the causes of the delay, who shall ascertain the facts and extent of the delay and notify COMPANY within a reasonable time of its decision in the matter.

17.5. COMPANY AGREES THAT THE PAYMENT OF SUCH LIQUIDATED DAMAGES MAY BE RECOVERED BY THE CITY FROM RETAINAGE HELD BY THE CITY. NOTWITHSTANDING ANY OTHER PROVISION HEREOF, COMPANY HEREBY RELEASES, ACQUITS, RELINQUISHES AND FOREVER DISCHARGES CITY, CITY'S EMPLOYEES AND OFFICERS FROM ANY AND ALL DEMANDS, CLAIMS, DAMAGES, OR CAUSES OF ACTION OF ANY KIND WHATSOEVER ARISING FROM THE CITY WITHHOLDING PAYMENT FROM COMPANY AS LIQUIDATED DAMAGES FOR COMPANY'S FAILURE TO COMPLETE THE WORK WITHIN THE TIME SPECIFIED HEREIN, INCLUDING BUT NOT LIMITED TO BREACH OF CONTRACT, QUANTUM MERUIT, CLAIMS UNDER THE DUE PROCESS AND TAKINGS CLAUSES OF THE TEXAS

AND UNITED STATES CONSTITUTIONS, TORT CLAIMS, OR CITY'S NEGLIGENCE.

17.6. COMPANY SHALL RECEIVE NO FINANCIAL COMPENSATION FOR DELAY OR HINDRANCE TO THE WORK EXCEPT IN THE CASE OF NEGLIGENCE IN WHOLE, OR IN PART, BY THE CITY. IN NO EVENT SHALL THE CITY BE LIABLE TO COMPANY OR ANY SUBCONTRACTOR OR SUPPLIER, ANY OTHER PERSON OR ANY SURETY FOR OR ANY EMPLOYEE OR AGENT OF ANY OF THEM, FOR ANY DAMAGES ARISING OUT OF OR ASSOCIATED WITH ANY DELAY OR HINDRANCE TO THE WORK, REGARDLESS OF THE SOURCE OF THE DELAY OR HINDRANCE, INCLUDING EVENTS OF FORCE MAJEURE EXCEPT IN THE CASE OF NEGLIGENCE IN WHOLE, OR IN PART, BY THE CITY. EXCEPT IN THE CASE OF NEGLIGENCE BY THE CITY, COMPANY'S SOLE REMEDY IN ANY SUCH CASE SHALL BE AN EXTENSION OF TIME.

18. No Third-Party Beneficiary: CITY's approval of this contract does not create a third-party beneficiary. There is no third-party beneficiary to this contract. No person or entity who is not a party to this contract shall have any third-party beneficiary or other rights hereunder.

19. WAIVER OF ATTORNEY FEES: BY EXECUTING THIS CONTRACT, COMPANY AGREES TO WAIVE AND DOES HEREBY KNOWINGLY, CONCLUSIVELY, VOLUNTARILY AND INTENTIONALLY WAIVE ANY CLAIM IT HAS OR MAY HAVE IN THE FUTURE AGAINST CITY REGARDING THE AWARD OR ATTORNEY'S FEES, WHICH ARE IN ANY WAY RELATED TO THIS CONTRACT, OR THE CONSTRUCTION, INTERPRETATION OR BREACH OF THIS CONTRACT. COMPANY SPECIFICALLY AGREES THAT IF COMPANY BRINGS OR COMMENCES ANY LEGAL ACTION OR PROCEEDING RELATED TO THIS CONTRACT, THE CONSTRUCTION, INTERPRETATION, VALIDITY OR BREACH OF THIS CONTRACT, INCLUDING, BUT NOT LIMITED TO, ANY ACTION PURSUANT TO THE PROVISIONS OF THE TEXAS UNIFORM DECLARATORY JUDGMENTS ACT (TEXAS CIVIL PRACTICE AND REMEDIES CODE SECTION 37.001, ET SEQ., AS AMENDED), OR CHAPTER 271 OF THE TEXAS LOCAL GOVERNMENT CODE, COMPANY AGREES TO ABANDON, WAIVE AND RELINQUISH ANY AND ALL RIGHTS TO THE RECOVERY OF ATTORNEY'S FEES TO WHICH COMPANY MIGHT OTHERWISE BE ENTITLED.

COMPANY AGREES THAT THIS IS THE VOLUNTARY AND INTENTIONAL RELINQUISHMENT AND ABANDONMENT OF A PRESENTLY-EXISTING KNOWN RIGHT. COMPANY ACKNOWLEDGES THAT IT UNDERSTANDS ALL TERMS AND CONDITIONS OF THIS CONTRACT. COMPANY FURTHER ACKNOWLEDGES AND AGREES THAT THERE WAS AND IS NO DISPARITY OF BARGAINING POWER BETWEEN CITY AND

COMPANY. THIS SECTION SHALL NOT BE CONSTRUED OR INTERPRETED AS A WAIVER OR GOVERNMENTAL IMMUNITY AND SHALL SURVIVE THE TERMINATION OF THIS CONTRACT.

COMPANY IS RELYING ON ITS OWN JUDGMENT. COMPANY HAD THE OPPORTUNITY TO DISCUSS THIS CONTRACT WITH COMPETENT LEGAL COUNSEL PRIOR TO ITS EXECUTION. THE OBLIGATIONS CONTAINED IN THIS SECTION 18 SHALL SURVIVE THE TERMINATION OF THIS CONTRACT.

20. **Governmental Immunity:** By executing this contract CITY is not waiving its right of governmental immunity. CITY is retaining its immunity from suit. CITY is not granting consent to be sued by legislative resolution or action. **THERE IS NO WAIVER OF GOVERNMENTAL IMMUNITY.**

21. **Insurance:**

COMPANY shall at all times during the term of this Contract maintain and keep in full force and effect insurance in the following types and minimum amounts with companies authorized to do business in the State of Texas:

Commercial General Liability (including Contractual liability):

-Personal Injury: \$1,000,000.00 per person
\$1,000,000.00 per occurrence

-Property Damage: \$500,000.00 per occurrence

Business Automobile Liability: \$250,000.00 combined single limit -
Personal Injury and Property Damage

Workers' Compensation: Statutory limits

Employers' Liability: \$500,000.00 per accident or occurrence

The Commercial General Liability shall be on a per project aggregate, including completed operations, and shall be on a claims-occurred basis. This insurance shall name CITY as an additional insured and waive subrogation in favor of CITY.

The Business Automobile Liability insurance provided by COMPANY shall cover any auto for bodily injury and property damage, including owned vehicles, hired and non-city vehicles, and employee non-ownership, and the amount of such policy shall be a minimum of \$250,000.00 covering any vehicle used for the execution of the work that is the subject of this Contract. This insurance shall name CITY as an additional insured and waive subrogation in favor of CITY.

The Workers' Compensation coverage provided by COMPANY shall inure to the benefit of employees employed during the course and scope of their employment by COMPANY pursuant to this Contract. The Workers' Compensation shall waive all rights of subrogation in favor of CITY.

All insurance required pursuant to this Contract shall provide for a waiver of subrogation in favor of CITY. All insurance required pursuant to this Contract, except for Workers' Compensation Insurance, shall name CITY as an additional insured on a claims occurred basis. CITY shall be provided the notice by COMPANY's insurance provider not later than thirty (30) days prior to any reduction or termination of such coverage.

COMPANY shall contractually require all contractors, subcontractors, and sub-subcontractors that work on any portion of the work that is the subject of this Contract to obtain insurance coverage that meets or exceeds the policy requirements and minimum amounts specified herein. All contractors, subcontractors, and sub-subcontractors shall obtain insurance policies that provide blanket waivers of subrogation in favor of the City of Midland and policies that name the City of Midland as an additional insured on a claims occurred basis (except workers' compensation).

The parties agree that, prior to the execution of the Contract, COMPANY shall provide one or more certificates of insurance specifically stating that these requirements have been met and subject to the approval of CITY. CITY shall not be required to provide any insurance whatsoever pursuant to this Contract.

COMPANY certifies that the certificate of insurance provided as required herein complies with the requirements of Chapter 1811 of the Texas Insurance Code. COMPANY shall not use an unapproved certificate of insurance or insert inappropriate language on a certificate. Compliance with state law is the sole responsibility of COMPANY.

22. **Assignment:** COMPANY shall not, either directly or indirectly, assign all or any part of this Contract or any interest, right or privilege herein, without the prior written consent of CITY. The issue on whether or not to grant consent to an assignment is in the sole discretion of CITY.

23. **RELEASE: NOTWITHSTANDING ANY OTHER PROVISION CONTAINED HEREIN, COMPANY HEREBY RELEASES, ACQUITS, RELINQUISHES AND FOREVER DISCHARGES CITY AND CITY'S COUNCIL MEMBERS, EMPLOYEES, AND OFFICERS FROM ANY AND ALL DEMANDS, CLAIMS, DAMAGES OR CAUSES OF ACTION OF ANY KIND WHATSOEVER THAT COMPANY HAS OR MIGHT HAVE IN THE FUTURE, INCLUDING, BUT NOT LIMITED TO, BREACH OF CONTRACT, QUANTUM MERUIT, CLAIMS UNDER THE DUE PROCESS AND TAKINGS CLAUSES OF THE TEXAS AND UNITED STATES CONSTITUTIONS, TORT CLAIMS, OR CITY'S NEGLIGENCE. THE OBLIGATIONS CONTAINED IN THIS SECTION SHALL SURVIVE THE TERMINATION OF THIS CONTRACT.**

24. **Governing Law and Venue:** This contract shall be governed by the laws of the State of Texas. All performance and payment made pursuant to this contract shall be deemed to have occurred in Midland

County, Texas. The obligations and undertakings of each of the parties to this Agreement shall be deemed to have occurred in Midland County, Texas. Exclusive venue for any claims, suits or any other action arising from or connected in any way to this contract or the performance of this contract shall be in Midland County, Texas.

25. **Independent Contractor:** COMPANY shall perform all work and services described herein as an independent contractor and not as an officer, agent, servant, or employee of CITY. COMPANY shall have exclusive control of, and the exclusive right to control the details of the services and work to be performed hereunder, and all persons performing the same. COMPANY shall be solely responsible for the acts and omissions of its officers, agents, employees, contractors and subcontractors and the doctrine of respondeat superior shall not apply as between CITY and COMPANY, its officers, agents, employees, contractors and subcontractors. Nothing in this Contract shall be construed as creating a partnership or joint enterprise between CITY and COMPANY. No person performing any of the work and services described hereunder by COMPANY shall be considered an officer, agent, servant or employee of CITY. Further, it is specifically understood and agreed that nothing in this contract is intended or construed as creating a "Community of Pecuniary Interest" or an "Equal Right of Control" which would give rise to vicarious liability.

COMPANY shall be an independent contractor under this Contract and shall assume all of the rights, obligations and liabilities, applicable to it as such independent contractor hereunder. CITY does not have the power to direct the order in which the work is done. CITY shall not have the right to control the means, methods or details of COMPANY's work. COMPANY shall assume exclusive responsibility for the work. COMPANY is entirely free to do the work in its own way.

26. **Notice of Alleged Breach; Statutory Prerequisites:** As a condition precedent to filing suit for alleged damages incurred by an alleged breach of an express or implied provision of this Contract, COMPANY or its legal representative, shall give the City Manager, or any other reasonable official of CITY, notice in writing (consisting of one (1) original and seven (7) copies of notice attached to a copy of this Contract) of such damages, duly verified, within one hundred twenty (120) days after the same has been sustained. The discovery rule does not apply to the giving of this notice. The notice shall include when, where and how the damages occurred, the apparent extent thereof, the amount of damages sustained, the amount for which COMPANY shall settle, the physical and mailing addresses of COMPANY at the time and date the claim was presented and the physical and mailing addresses of COMPANY for the six (6) months immediately preceding the occurrence of such damages, and the names and addresses of the witnesses upon whom COMPANY relies to establish its claim; and a failure to provide such written notification within the time and manner provided herein shall exonerate, excuse and except CITY from any liability whatsoever. CITY is under no obligation to provide notice to COMPANY that COMPANY's notice is insufficient. CITY reserves the right to request additional information regarding the claim. Said additional information shall be supplied within thirty (30) days after receipt of

notice.

The statutory prerequisites outlined herein constitute jurisdictional requirements pursuant to Section 271.154 of the Texas Local Government Code and Section 311.034 of the Texas Government Code. Notwithstanding any other provision to the contrary, COMPANY's failure to comply with the requirements of this Section shall perpetually bar COMPANY's claim for damages under Chapter 271 of the Texas Local Government Code, and Section 311.034 of the Texas Government Code, regardless if CITY has actual or constructive notice or knowledge of said claim or alleged damages. COMPANY agrees that the requirements of this entire Contract are reasonable. The provisions and obligations of this Section shall survive the termination of this Contract.

27. **Consideration:** The terms of this Contract are supported by good and valuable consideration, the receipt and sufficiency of which is hereby acknowledged by the parties named herein.

28. **Termination At Will:** CITY may terminate this Contract at will for no or any reason upon giving at least one hundred eighty (180) days written notice to COMPANY. The parties to this Contract understand and agree that it is in CITY's sole discretion to cancel the Contract during the term of the Contract without penalty to CITY. COMPANY has no expectation and has received no guarantees that this Contract will not be terminated before the end of the Contract term. The parties have bargained for the flexibility of terminating this Contract upon tender of the requisite notice at any time during the term of the Contract. All work and services under the Contract shall be suspended upon termination of the Contract becoming effective.

29. **Compliance:** COMPANY agrees that it shall comply with Texas Government Code Section 2252.908, *et seq.*, as amended. COMPANY agrees that it shall comply with Texas Local Government Code Section 176.006, *et seq.*, as amended.

30. To the extent that Sections 2271.002 and 2274.002 of the Texas Government Code (collectively, the "Anti-Boycott Statutes") apply to this Contract, Company hereby verifies:

- that Company does not boycott Israel and will not boycott Israel during the term of this Contract;
- that Company does not boycott energy companies and will not boycott energy companies during the term of this Contract; and
- that Company does not have a practice, policy, guidance, or directive that discriminates against a firearm entity or firearm trade association and will not discriminate during the term of this Contract against a firearm entity or firearm trade association.

To the extent that the Anti-Boycott Statutes do not apply to this Contract, such verification is not required, and Company shall be deemed to have not made such verification.

31. **Records Retention and Production of Information.** To the extent that this Contract constitutes a contract described by Section 552.371 of the Texas Government Code, COMPANY shall: (i) preserve all contracting information related to this Contract as provided by the records retention requirements applicable to CITY for the duration of this Contract; (ii) promptly provide to CITY any contracting information related to the Contract that is in the custody or possession of COMPANY on request of CITY; and (iii) on completion of the Contract, either: (a) provide at no cost to CITY all contracting information related to the Contract that is in the custody or possession of COMPANY; or (b) preserve the contracting information related to the Contract as provided by the records retention requirements applicable to CITY.

32. **Public Information.** To the extent that this Contract is a contract described by Section 552.371 of the Texas Government Code, COMPANY agrees as follows in accordance with Section 552.372(b) of the Texas Government Code: The requirements of Subchapter J, Chapter 552, Government Code, may apply to this Contract, and COMPANY agrees that the contract can be terminated if COMPANY knowingly or intentionally fails to comply with a requirement of that subchapter.

33. **Conflict of Terms.** If a conflict of terms or language exists between: (i) any of the provisions of this Contract and (ii) any of the provisions contained in any exhibit(s) attached to this Contract, precedence shall be given to the provisions of this Contract. For the avoidance of any doubt, the provisions contained in this Contract shall supersede any and all conflicting provisions contained in any exhibit(s) attached hereto. Furthermore, the parties acknowledge and agree that any provision contained in an exhibit(s) attached to this Contract that imposes an additional express or implied obligation on CITY is hereby made void and of no force or effect. CITY's sole and exclusive obligations under this Contract are contained in the provisions of this Contract that precede the signature page(s), which evidences the parties' execution.

34. Company agrees that all iron or steel products produced through a manufacturing process and used in the project that is the subject of this Contract shall be produced in the United States in accordance with Government Code § 2252.202, et seq., as amended.

EXECUTED IN DUPLICATE the day and year first above mentioned.

THE CITY OF MIDLAND, TEXAS

By: _____
Tommy Gonzalez, City Manager

ATTEST

Marcia Bentley-German, City Governance Officer/City Secretary

APPROVED ONLY AS TO FORM

John Ohnemiller, City Attorney

COMPANY:

By: _____

Name: _____

Title: _____

STATE OF _____ §

§

COUNTY OF _____ §

BEFORE ME, the undersigned authority, on this ____ day of _____, 20____ personally appeared, _____, an officer of Nouveau Technology Services, LP, known to me to be the person and official whose name is subscribed to the forgoing instrument, and acknowledged to me that he executed the same as the act and deed of said corporation, for the purposes and consideration therein expressed, and in the capacity therein stated.

GIVEN UNDER MY HAND AND SEAL OF OFFICE this the ____ day of _____, 20____.

Nouveau Technology Services LP
 2441 Lacy Ln
 Carrollton, TX 75006
 www.ntsllp.com

Proposal



Phone: 972-484-5077

Fax: 972-484-5072

Proposal: 32142C

Date: 8/14/2023

To:	Project:
City of Midland Attn: Laurie Williams 300 N. Loraine Midland, TX 79701	City of Midland\Momentum Bank Ballpark

Salesperson		
Miles Koon		TIPS: RCSP211001

Scope of Work

Please see attached detailed Scope of Work.

Pricing good for 15 days from date of proposal

Proposal Total:

805,760.00

Acceptance	
Accepted by:	_____
Title:	_____
Date:	_____

1. The Project

- 1.1. Samsung will provide the following systems and components to the project known as Momentum Bank Ballpark (the "Project") located at 5514 Champions Drive, Midland, TX 79706 (the "Project Site") for the City of Midland (the "Owner"), as described herein.

The existing analog audio system will be replaced with modern digital mixing and signal processing technology. The project will involve the procurement, installation, commissioning and replacement of equipment including the mixing console, power systems, audio processing, amplifiers, and speaker systems. Provide training for equipment listed in These replacements will be carried out both outdoors in the stadium and in interior locations such as suites and press areas. To support rack-mounted equipment, new AV racks will be utilized.

2. Scope of Work

Samsung will, directly or indirectly provide and install the following systems and components:

MAIN BOWL AREA:

- (6) JBL ASB6118-WRX-BK speakers mounted to the underside of the roof.
- (13) JBL AW566-BK speakers mounted to the underside of the roof.
- (4) JBL AWC62-BK speakers mounted to the underside of the roof.
- (2) JBL PD6322-WRX speakers mounted to the underside of the roof.
- (8) JBL AWC62-BK speakers mounted to the underside of the suites.
- (22) JBL AWC82-BK speakers mounted to the underside of the suites.
- (12) JBL AWC62-BK speakers mounted to the front outside wall of the suites for seating area.

SUITES (X22):

- (1) BSS EC-4BV-WHT-US volume controller mounted to the suite wall.
- (2) JBL CONTROL Control 16C/T installed in the suite ceilings.

CONCOURSE:

- (22) JBL AWC82-BK speakers mounted overhead.
- (20) JBL CONTROL 25-1 speakers mounted in specified locations.

POLES (X5):

- (4) AW566-BK speakers mounted to specified locations on poles.
- (4) AW595-BK speakers mounted to specified locations on poles.

(3) AW526-BK speakers mounted to specified locations on poles.

SCOREBOARD:

(1) AW526-BK speaker mounted to the scoreboard.

(1) AW595-BK speaker mounted to the scoreboard.

PICNIC AREA:

(12) JBL CONTROL 25-1 speakers mounted in specified locations.

PRODUCTION BOOTH:

(1) ALLEN & HEATH AH-SQ5 mixer equipped with AH-M-SQ-DANTE-A card.

(1) BSS EC-4BV-WHT-US ethernet volume controller mounted to the wall.

(1) JBL CONTROL 25-1 speaker mounted to the walls.

(1) JBL CONTROL Control 16C/T installed in suite ceilings.

PRODUCTION BOOTH RACK 1, EQUIPPED WITH THE FOLLOWING:

(1) ALLEN & HEATH DT168.

(1) BSS BLU-100.

(2) BSS BLU-806 with (2) BLUCARD-IN and (6) BLUCARD-OUT modules.

(3) BSS BLU-BIB.

(3) HEWLETT PACKARD Aruba 2930F-48G-POE+4SFP+.

(1) MIDDLE ATLANTIC RM-KB-LCD17KVMHD.

(2) DELL CORE i7 PC'S.

(1) SHURE ULXD4Q wireless microphone receivers.

(3) CROWN DCi 4 | 1250N amplifiers.

(6) CROWN DCi 8 | 300N amplifiers.

(8) CROWN DCi 8 | 600N amplifiers.

RADIO 3.13.01, 3.13.02, 3.14.01, 3.14.02 (EA.):

(1) BSS EC-4BV-WHT-US volume controller.

(1) JBL CONTROL Control 16C/T installed in the radio ceilings.

RADIO 3.16.01:

(1) BSS EC-4BV-WHT-US volume controller.

(1) JBL CONTROL 25-1 speaker.

(1) JBL CONTROL 25-1L speaker.

(4) JBL CONTROL Control 16C/T installed in the radio ceilings.

2.1. Customer Responsibilities

Customer shall, directly or indirectly:

- Provide 24/7 access to the facility
- Unobscured access to equipment locations
- Provide secured area for hardware
- above. If the scope changes and if affects cost and schedule, the Price and schedule shall be adjusted accordingly.
- This proposal is subject to the parties reaching mutually agreeable terms and conditions.

Item Details

Main Bowl: Roof

- 6 JBL Professional ASB6118-WRX, High Power Subwoofer, 1" X 18" 2242H (Super Vented Gap Low Frequency Driver), Extreme Weather Protection Treatment
- 13 JBL Professional AW566-BK, High Power 2-Way All Weather Loudspeaker, 1 X 15" Low Frequency Driver, Rotatable Horn, 60 X 60 Degree Coverage Pattern, 8 Ohm, Black
- 4 JBL Professional AWC62-BK, Compact All-Weather 2-Way Co-axial Loudspeaker with 6.5" LF - Black
- 2 JBL Professional PD6322/43-WRX, High output three-way full-range loudspeaker with 2 x 12" LF 40 x 30 degree coverage pattern for direct exposure or extreme environment, extreme weather protection treatment

Main Bowl: Under Suites

- 8 JBL Professional AWC62-BK, Compact All-Weather 2-Way Co-axial Loudspeaker with 6.5" LF - Black
- 22 JBL Professional AWC82, All-Weather Compact 2-Way Coaxial Loudspeaker, 8" Low Frequency Driver, 8 Ohm, Grey

Main Bowl: Suites

- 12 JBL Professional AWC62-BK, Compact All-Weather 2-Way Co-axial Loudspeaker with 6.5" LF - Black

Concourse

- 22 JBL Professional AWC62-BK, Compact All-Weather 2-Way Co-axial Loudspeaker with 6.5" LF - Black
- 20 JBL CONTROL 25-1, Pair 5.25" two-way 100Watt, 8 Ohm loudspeaker

Picnic Area

- 12 JBL CONTROL 25-1, Pair 5.25" two-way 100Watt, 8 Ohm loudspeaker

Scoreboard

- 1 JBL Pro AW595-BK,
- 1 JBL Pro AW526-BK,

Indoor Suites: Suite 1

- 1 BSS EC-4BV-WHT-US, Ethernet Controller
- 1 JBL Professional CONTROL 16C/T, Two-Way 6.5" Coaxial Ceiling Loudspeaker (Sold in Pairs)

Indoor Suites: Suite 2

- 1 BSS EC-4BV-WHT-US, Ethernet Controller
- 1 JBL Professional CONTROL 16C/T, Two Way 6.5" Coaxial Ceiling Loudspeaker (Sold in Pairs)

Indoor Suites: Suite 3

- 1 BSS EC-4BV-WHT-US, Ethernet Controller
- 1 JBL Professional CONTROL 16C/T, Two Way 6.5" Coaxial Ceiling Loudspeaker (Sold in Pairs)

Indoor Suites: Suite 4

- 1 BSS EC-4BV-WHT-US, Ethernet Controller
- 1 JBL Professional CONTROL 16C/T, Two Way 6.5" Coaxial Ceiling Loudspeaker (Sold in Pairs)m

Indoor Suites: Suite 5

- 1 BSS EC-4BV-WHT-US, Ethernet Controller
- 1 JBL Professional CONTROL 16C/T, Two-Way 6.5" Coaxial Ceiling Loudspeaker (Sold in Pairs)

Indoor Suites: Suite 6

Ballpark Audio Upgrade

Page 4 of 15

- 1 BSS EC-4BV-WHT-US, Ethernet Controller
- 1 JBL Professional CONTROL 16C/T, Two-Way 6.5" Coaxial Ceiling Loudspeaker (Sold in Pairs)

Indoor Suites: Suite 7

- | | |
|---|--|
| 1 | BSS EC-4BV-WHT-US, Ethernet Controller |
| 1 | JBL Professional CONTROL 16C/T, Two-Way 6.5" Coaxial Ceiling Loudspeaker (Sold in Pairs) |

Indoor Suites: Suite 8

- | | |
|---|--|
| 1 | BSS EC-4BV-WHT-US, Ethernet Controller |
| 1 | JBL Professional CONTROL 16C/T, Two-Way 6.5" Coaxial Ceiling Loudspeaker (Sold in Pairs) |

Indoor Suites: Suite 9

- 1 BSS EC-4BV-WHT-US, Ethernet Controller
- 1 JBL Professional CONTROL 16C/T, Two-Way 6.5" Coaxial Ceiling Loudspeaker (Sold in Pairs)

Indoor Suites: Suite 10

- 1 BSS EC-4BV-WHT-US, Ethernet Controller
- 1 JBL Professional CONTROL 16C/T, Two-Way Coaxial Ceiling Loudspeaker (Sold in Pairs)

Indoor Suites: Suite 11

- 1 BSS EC-4BV-WHT-US, Ethernet Controller
- 1 JBL Professional CONTROL 16C/T, Two-Way 6.5" Coaxial Ceiling Loudspeaker (Sold in Pairs)

Indoor Suites: Suite 12

- 1 BSS EC-4BV-WHT-US, Ethernet Controller
- 1 JBL Professional CONTROL 16C/T, Two-Way 6.5" Coaxial Ceiling Loudspeaker (Sold in Pairs)

Indoor Suites: Suite 13

- 1 BSS EC-4BV-WHT-US, Ethernet Controller
- 1 JBL Professional CONTROL 16C/T, Two-Way 6.5" Coaxial Ceiling Loudspeaker (Sold in Pairs)

Indoor Suites: Suite 14

- 1 BSS EC-4BV-WHT-US, Ethernet Controller
- 1 JBL Professional CONTROL 16C/T, Two-Way 6.5" Coaxial Ceiling Loudspeaker (Sold in Pairs)

Indoor Suites: Suite 15

- 1 BSS EC-4BV-WHT-US, Ethernet Controller
- 1 JBL Professional CONTROL 16C/T, Two-Way 6.5" Coaxial Ceiling Loudspeaker (Sold in Pairs)

Indoor Suites: Suite 16

- 1 BSS EC-4BV-WHT-US, Ethernet Controller
- 1 JBL Professional CONTROL 16C/T, Two-Way 6.5" Coaxial Ceiling Loudspeaker (Sold in Pairs)

Indoor Suites: Suite 17

- 1 BSS EC-4BV-WHT-US, Ethernet Controller
- 1 JBL Professional CONTROL 16C/T, Two-Way 6.5" Coaxial Ceiling Loudspeaker (Sold in Pairs)

Indoor Suites: Suite 18

- 1 BSS EC-4BV-WHT-US, Ethernet Controller
- 1 JBL Professional CONTROL 16C/T, Two-Way 6.5" Coaxial Ceiling Loudspeaker (Sold in Pairs)

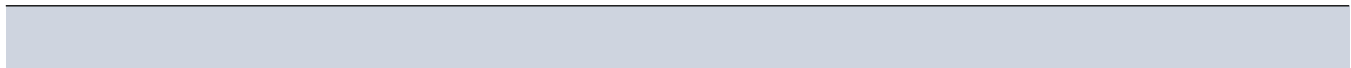
Indoor Suites: Suite 19

Ballpark Audio Upgrade

- 1 BSS EC-4BV-WHT-US, Ethernet Controller
- 1 JBL Professional CONTROL 16C/T, Two-Way 6.5" Coaxial Ceiling Loudspeaker (Sold in Pairs)



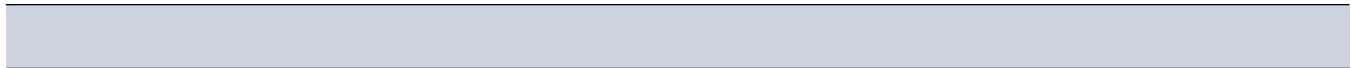
Indoor Suites: Suite 20



- 1 BSS EC-4BV-WHT-US, Ethernet Controller
- 1 JBL Professional CONTROL 16C/T, Two-Way 6.5" Coaxial Ceiling Loudspeaker (Sold in Pairs)



Indoor Suites: Suite 21



- 1 BSS EC-4BV-WHT-US, Ethernet Controller
- 1 JBL Professional CONTROL 16C/T, Two-Way 6.5" Coaxial Ceiling Loudspeaker (Sold in Pairs)

Indoor Suites: Suite 22

- 1 BSS EC-4BV-WHT-US, Ethernet Controller
- 1 JBL Professional CONTROL 16C/T, Two-Way 6.5" Coaxial Ceiling Loudspeaker (Sold in Pairs)

Poles

- 1 Polar Focus Custom Quote, Pole Mounted Speaker Brackets

Poles: Pole 1

- 2 JBL Professional AW566-BK, High Power 2-Way All Weather Loudspeaker, 1 X 15" Low Frequency Driver, Rotatable Horn, 60 X 60 Degree Coverage Pattern, 8 Ohm, Black

Poles: Pole 2

- 2 JBL Pro AW595-BK,
- 1 JBL Professional AW566-BK, High Power 2-Way All Weather Loudspeaker, 1 X 15" Low Frequency Driver, Rotatable Horn, 60 X 60 Degree Coverage Pattern, 8 Ohm, Black

Poles: Pole 3

- 1 JBL Pro AW595-BK,
- 1 JBL Pro AW526-BK,

Poles: Pole 4

- 2 JBL Pro AW526-BK,

Poles: Pole 5

- 1 JBL Professional AW566-BK, High Power 2-Way All Weather Loudspeaker, 1 X 15" Low Frequency Driver, Rotatable Horn, 60 X 60 Degree Coverage Pattern, 8 Ohm, Black

Production Booth

- 1 Allen-Heath AH-SQ-5, 96kHz XCVI FPGA processing, 48 Input Channels, DEEP Processing Ready, 17 Faders / 6 Layers, 12 Stereo mixes+LR, 3 Stereo Matrix, 7 capacitive touchscreen
- 1 Allen-Heath AH-M-DANTE-A, 64 X 64 Dante Card 48kHz
- 1 BSS EC-4BV-WHT-US, Ethernet Controller
- 3 Countryman E6OW5T1SL, E6 Omni Earset Mic, Highest Gain, with Detachable 1mm Cable and TA4F Connector for Shure and Beyerdynamic Wireless Transmitters (Tan)
- 1 JBL Pro CONTROL 47C/T, 6.5" 2 way in-ceiling loudspeaker (pair), 8 ohm
- 1 JBL CONTROL 25-1, Pair 5.25" two-way 100Watt, 8 Ohm loudspeaker
- 1 Platinum SLV Misc,

Production Booth: Rack 1

- 1 Allen-Heath DT168, Dante I/O Expander, 16 microphone preamps and 8 line output
- 3 Aruba Networks 2930F-48G-POE+4SFP+,
- 2 BSS BLU-806, Networked processor
- 1 BSS BLU-100, I/O device
- 3 BSS BLU-BIB, Break-in/out box
- 2 BSS BLUCARD-IN, I/O card
- 6 BSS BLUCARD-OUT, I/O card
- 2 Dell 7060, Micro Form Factor Desktop
- 1 MIDDLE ATLANTIC RM-KB-LCD17KVMHD, KB with LCD Digital Display & KVM
- 1 Shure ULXD4Q=-G50, Quad Digital Wireless Receiver with internal power supply, 1/2 Wave Antenna and Rack Mounting Hardware
- 2 Shure ULXD2/B58=-G50, Handheld Transmitter with BETA 58A® Microphone

- 2 Shure ULXD1=-G50, Digital Wireless Bodypack Transmitter with Miniature 4-Pin Connector
- 4 Shure SB900A, Shure Lithium-Ion Rechargeable Battery
- 1 Shure SBC800-US, 8-Bay Shure Battery Charger
- 2 Shure UA874US, Active Directional Antenna with Gain Switch 470-698 MHz

Production Booth: Rack 2

- 3 CROWN DCI4X1250N, 4x1250W Power Amplifier
- 6 CROWN DCI8X300N, 8x300W Power Amplifier
- 8 CROWN DCI8X600N, 8x600W Power Amplifier
- 43000 West Penn Wire 227GY, 1P 12G STRD USHLD PVC JKT, Gray, 1000 ft
- 26600 West Penn Wire 226BK, 1P 14G STRD USHLD PVC JKT, Black, 1000 ft
- 12500 West Penn Wire 254246EZBL, 4 PR CAT 6 UTP Plenum Blue 1000ft
- 2000 West Penn Wire 452BK0500, 1P 22G STRD SHLD PVC JKT, black, 500 feet

Radio: 3.13.01

- 1 BSS EC-4BV-WHT-US, Ethernet Controller
- 1 JBL Professional CONTROL 16C/T, Two-Way 6.5" Coaxial Ceiling Loudspeaker (Sold in Pairs)

Radio: 3.13.02

- 1 BSS EC-4BV-WHT-US, Ethernet Controller
- 1 JBL Pro CONTROL 47C/T, 6.5" 2 way in-ceiling loudspeaker (pair), 8 ohm

Radio: 3.14.01

- 1 BSS EC-4BV-WHT-US, Ethernet Controller
- 1 JBL Professional CONTROL 167C/T, Two-Way 6.5" Coaxial Ceiling Loudspeaker (Sold in Pairs)

Radio: 3.14.02

- 1 BSS EC-4BV-WHT-US, Ethernet Controller
- 1 JBL Professional CONTROL 16C/T, Two-Way 6.5" Coaxial Ceiling Loudspeaker (Sold in Pairs)

Radio: 3.16.01

- 1 BSS EC-4BV-WHT-US, Ethernet Controller
- 2 JBL CONTROL 25-1, Pair 5.25" two-way 100Watt, 8 Ohm loudspeaker
- 2 JBL Professional CONTROL 16C/T, Two-Way 6.5" Coaxial Ceiling Loudspeaker (Sold in Pairs)



Preliminary Estimate, by estimates

Joe Ferguson

Nouveau Construction & Technology Services

RCSP 211001 - TIPS Cooperative - TIPS Coooperative - 2/01/2022 to 1/31/2024

Momentum Bank Ballpark - 32142C

Joe Ferguson

Estimator: Joe Ferguson

Momentum Bank Ballpark

Division Summary (MF04)

01 - General Requirements
02 - Existing Conditions
03 - Concrete
04 - Masonry
05 - Metals
06 - Wood, Plastics, and Composites
07 - Thermal and Moisture Protection
08 - Openings
09 - Finishes
10 - Specialties
11 - Equipment
12 - Furnishings
13 - Special Construction
14 - Conveying Equipment
21 - Fire Suppression
22 - Plumbing
23 - Heating, Ventilating, and Air-Conditioning (HVAC)
25 - Integrated Automation

Totalling Components

Line Item Subtotal	\$1,007,200.00
CCI-Q2-2023-Midland, Tx (-14.0000%)	\$(141,008.00)

26 - Electrical	
27 - Communications	
28 - Electronic Safety and Security	
31 - Earthwork	
32 - Exterior Improvements	
33 - Utilities	
34 - Transportation	
35 - Waterway and Marine Transportation	
41 - Material Processing and Handling Equipment	
44 - Pollution Control Equipment	
46 - Water and Wastewater Equipment	
48 - Electric Power Generation	
Alternate	\$1,007,200.00
Trades	
Assemblies	
FMR	
MF04 Total (Without totalling components)	\$1,007,200.00

TIPS Standard-JOC (-6.0000%)	\$(60,432.00)
Bonding-Midland ()	

Priced/Non-Priced

Total Priced Items:	1	\$1,007,200.00	
Total Non-Priced Items:	0	\$0.00	0.00%
	1	\$1,007,200.00	

Grand Total

\$805,760.00

PACKET

6.39

September 12, 2023

Preliminary Estimate, by estimates

Estimator: Joe Ferguson

Momentum Bank Ballpark

Item	Description	UM	Quantity	Unit Cost	Total	Book
Alternate						
1 27-51-19-10-1800	Specified Sound System	Job	1.0000	\$1,007,200.00	\$1,007,200.00	CUSTOM P
Used for specified sound system, including all labor and materials listed on Samsung Electronics America proposal dated 8/10/23						
Alternate Total						\$1,007,200.00
Estimate Grand Total						805,760.00

PACKET

6.40

September 12, 2023

"General Decision Number: TX20220261 08/05/2022

Superseded General Decision Number: TX20210261

State: Texas

Construction Type: Building

County: Midland County in Texas.

BUILDING CONSTRUCTION PROJECTS (does not include single family homes or apartments up to and including 4 stories).

Note: Contracts subject to the Davis-Bacon Act are generally required to pay at least the applicable minimum wage rate required under Executive Order 14026 or Executive Order 13658. Please note that these Executive Orders apply to covered contracts entered into by the federal government that are subject to the Davis-Bacon Act itself, but do not apply to contracts subject only to the Davis-Bacon Related Acts, including those set forth at 29 CFR 5.1(a)(2)-(60).

If the contract is entered into on or after January 30, 2022, or the contract is renewed or extended (e.g., an option is exercised) on or after January 30, 2022:	. Executive Order 14026 generally applies to the contract. . The contractor must pay all covered workers at least \$15.00 per hour (or the applicable wage rate listed on this wage determination, if it is higher) for all hours spent performing on the contract in 2022.
If the contract was awarded on or between January 1, 2015 and January 29, 2022, and the contract is not renewed or extended on or after January 30, 2022:	. Executive Order 13658 generally applies to the contract. . The contractor must pay all covered workers at least \$11.25 per hour (or the applicable wage rate listed on this wage determination, if it is higher) for all hours spent performing on that contract in 2022.

The applicable Executive Order minimum wage rate will be adjusted annually. If this contract is covered by one of the Executive Orders and a classification considered necessary for performance of work on the contract does not appear on this wage determination, the contractor must still submit a conformance request.

Additional information on contractor requirements and worker protections under the Executive Orders is available at <https://www.dol.gov/agencies/whd/government-contracts>.

Modification Number

Publication Date

0
1 PACKET01/07/2022
02/25/2022

6.41

September 12, 2023

2

08/05/2022

BOIL0074-003 01/01/2021

	Rates	Fringes
BOILERMAKER.....	\$ 29.47	24.10

ENGI0178-005 06/01/2020

	Rates	Fringes
POWER EQUIPMENT OPERATOR		
(1) Tower Crane.....	\$ 32.85	13.10
(2) Cranes with Pile Driving or Caisson Attachment and Hydraulic Crane 60 tons and above.....	\$ 28.75	10.60
(3) Hydraulic cranes 59 Tons and under.....	\$ 32.35	13.10

* IRON0084-011 06/01/2022

	Rates	Fringes
IRONWORKER, ORNAMENTAL.....	\$ 26.76	7.88

PLUM0404-001 09/01/2020

	Rates	Fringes
PLUMBER.....	\$ 26.05	8.81

* SUTX2014-037 07/21/2014

	Rates	Fringes
BRICKLAYER.....	\$ 20.00	0.00
CARPENTER.....	\$ 13.82 **	0.00
CEMENT MASON/CONCRETE FINISHER...	\$ 13.76 **	0.00
ELECTRICIAN.....	\$ 23.18	6.31
INSULATOR - MECHANICAL (Duct, Pipe & Mechanical System Insulation).....	\$ 19.77	7.13
IRONWORKER, REINFORCING.....	\$ 12.27 **	0.00
IRONWORKER, STRUCTURAL.....	\$ 22.16	5.26
LABORER: Common or General.....	\$ 11.80 **	0.00
LABORER: Mason Tender - Brick...	\$ 11.38 **	0.00
LABORER: Mason Tender - Cement/Concrete.....	\$ 10.58 **	0.00
LABORER: Pipelayer.....	\$ 12.49 **	2.13
LABORER: Roof Tearoff.....	\$ 11.28 **	0.00

PACKET

6.42

OPERATOR:

September 12, 2023

Backhoe/Excavator/Trackhoe.....	\$ 14.25 **	0.00
OPERATOR: Bobcat/Skid		
Steer/Skid Loader.....	\$ 13.93 **	0.00
OPERATOR: Bulldozer.....	\$ 18.29	1.31
OPERATOR: Drill.....	\$ 16.22	0.34
OPERATOR: Forklift.....	\$ 14.83 **	0.00
OPERATOR: Grader/Blade.....	\$ 13.37 **	0.00
OPERATOR: Loader.....	\$ 13.55 **	0.94
OPERATOR: Mechanic.....	\$ 17.52	3.33
OPERATOR: Paver (Asphalt, Aggregate, and Concrete).....	\$ 16.03	0.00
OPERATOR: Roller.....	\$ 12.70 **	0.00
PAINTER (Brush, Roller, and Spray).....	\$ 15.00	0.73
PIPEFITTER.....	\$ 25.80	8.55
ROOFER.....	\$ 14.75 **	0.00
SHEET METAL WORKER (HVAC Duct Installation Only).....	\$ 22.73	7.52
SHEET METAL WORKER, Excludes HVAC Duct Installation.....	\$ 19.50	0.00
TILE FINISHER.....	\$ 11.22 **	0.00
TILE SETTER.....	\$ 14.74 **	0.00
TRUCK DRIVER: Dump Truck.....	\$ 12.39 **	1.18
TRUCK DRIVER: Flatbed Truck.....	\$ 19.65	8.57
TRUCK DRIVER: Semi-Trailer Truck.....	\$ 12.50 **	0.00
TRUCK DRIVER: Water Truck.....	\$ 12.00 **	4.11

WELDERS - Receive rate prescribed for craft performing operation to which welding is incidental.

** Workers in this classification may be entitled to a higher minimum wage under Executive Order 14026 (\$15.00) or 13658 (\$11.25). Please see the Note at the top of the wage determination for more information.

Note: Executive Order (EO) 13706, Establishing Paid Sick Leave for Federal Contractors applies to all contracts subject to the Davis-Bacon Act for which the contract is awarded (and any solicitation was issued) on or after January 1, 2017. If this contract is awarded by the EO, the contractor must provide employees with 1 hour of paid sick leave for every 30 hours

September 12, 2023

they work, up to 56 hours of paid sick leave each year. Employees must be permitted to use paid sick leave for their own illness, injury or other health-related needs, including preventive care; to assist a family member (or person who is like family to the employee) who is ill, injured, or has other health-related needs, including preventive care; or for reasons resulting from, or to assist a family member (or person who is like family to the employee) who is a victim of, domestic violence, sexual assault, or stalking. Additional information on contractor requirements and worker protections under the EO is available at <https://www.dol.gov/agencies/whd/government-contracts>.

Unlisted classifications needed for work not included within the scope of the classifications listed may be added after award only as provided in the labor standards contract clauses (29CFR 5.5 (a) (1) (ii)).

The body of each wage determination lists the classification and wage rates that have been found to be prevailing for the cited type(s) of construction in the area covered by the wage determination. The classifications are listed in alphabetical order of ""identifiers"" that indicate whether the particular rate is a union rate (current union negotiated rate for local), a survey rate (weighted average rate) or a union average rate (weighted union average rate).

Union Rate Identifiers

A four letter classification abbreviation identifier enclosed in dotted lines beginning with characters other than ""SU"" or ""UAVG"" denotes that the union classification and rate were prevailing for that classification in the survey. Example: PLUM0198-005 07/01/2014. PLUM is an abbreviation identifier of the union which prevailed in the survey for this classification, which in this example would be Plumbers. 0198 indicates the local union number or district council number where applicable, i.e., Plumbers Local 0198. The next number, 005 in the example, is an internal number used in processing the wage determination. 07/01/2014 is the effective date of the most current negotiated rate, which in this example is July 1, 2014.

Union prevailing wage rates are updated to reflect all rate changes in the collective bargaining agreement (CBA) governing this classification and rate.

Survey Rate Identifiers

Classifications listed under the ""SU"" identifier indicate that no one rate prevailed for this classification in the survey and the published rate is derived by computing a weighted average rate based on all the rates reported in the survey for that classification. As this weighted average rate includes all rates reported in the survey, it may include both union and non-union rates. Example: SULA2012-007 5/13/2014. SU indicates the rates are survey rates based on a weighted average calculation of rates and are not majority rates. LA indicates the State of Louisiana. 2012 is the year of survey on which these classifications and rates are based. The 007 number, 007 in the example, is an internal number used in producing the

wage determination. 5/13/2014 indicates the survey completion date for the classifications and rates under that identifier.

Survey wage rates are not updated and remain in effect until a new survey is conducted.

Union Average Rate Identifiers

Classification(s) listed under the UAVG identifier indicate that no single majority rate prevailed for those classifications; however, 100% of the data reported for the classifications was union data. EXAMPLE: UAVG-OH-0010 08/29/2014. UAVG indicates that the rate is a weighted union average rate. OH indicates the state. The next number, 0010 in the example, is an internal number used in producing the wage determination. 08/29/2014 indicates the survey completion date for the classifications and rates under that identifier.

A UAVG rate will be updated once a year, usually in January of each year, to reflect a weighted average of the current negotiated/CBA rate of the union locals from which the rate is based.

WAGE DETERMINATION APPEALS PROCESS

1.) Has there been an initial decision in the matter? This can be:

- * an existing published wage determination
- * a survey underlying a wage determination
- * a Wage and Hour Division letter setting forth a position on a wage determination matter
- * a conformance (additional classification and rate) ruling

On survey related matters, initial contact, including requests for summaries of surveys, should be with the Wage and Hour National Office because National Office has responsibility for the Davis-Bacon survey program. If the response from this initial contact is not satisfactory, then the process described in 2.) and 3.) should be followed.

With regard to any other matter not yet ripe for the formal process described here, initial contact should be with the Branch of Construction Wage Determinations. Write to:

Branch of Construction Wage Determinations
Wage and Hour Division
U.S. Department of Labor
200 Constitution Avenue, N.W.
Washington, DC 20210

2.) If the answer to the question in 1.) is yes, then an interested party (those affected by the action) can request review and reconsideration from the Wage and Hour Administrator (See 29 CFR Part 1.8 and 29 CFR Part 7). Write to:

Wage and Hour Administrator
U.S. Department of Labor
200 Constitution Avenue, N.W.
Washington, DC 20210

The request should be accompanied by a full statement of the interested party's position and by any information (wage payment data, project description, area practice material, etc.) that the requestor considers relevant to the issue.

3.) If the decision of the Administrator is not favorable, an interested party may appeal directly to the Administrative Review Board (formerly the Wage Appeals Board). Write to:

Administrative Review Board
U.S. Department of Labor
200 Constitution Avenue, N.W.
Washington, DC 20210

4.) All decisions by the Administrative Review Board are final.

=====

END OF GENERAL DECISIO"



THE CITY OF MIDLAND CONTRACT

Contract No. 23005077

THIS CONTRACT, effective the 23rd day of August, 2023, by and between the City of Midland, hereinafter referred to as "CITY", and Nouveau Technology Services, LP, hereinafter referred to as "COMPANY", is made for the following considerations:

1. **Cost:** Total Proposal: \$ 805,760.00 DOLLARS
2. **Scope of Work:** COMPANY shall perform all work associated with the delivery and installation of a new sound system at Momentum Bank Ballpark, which is purchased by CITY from COMPANY pursuant to this Contract. Said work being more particularly described in the following documents, which are attached hereto and incorporated herein for all purpose.
EXHIBIT A.....Specifications, Proposal or Cost Summary
EXHIBIT B.....Intentionally Omitted
EXHIBIT C.....Intentionally Omitted
EXHIBIT D.....Wage Scale
3. **City:** The words "CITY's Representative" or "representative" shall mean Cristina Burns or the designee under whose supervision these contract documents, including the plans and specifications, were prepared, or who may inspect work performed under this Contract; or such other representative, supervisor, or inspector as may be authorized by CITY to act in any particular capacity under this Contract.
4. **City's Representative:** CITY's Representative may make periodic visits to the site to observe the progress and quality of the executed work and to determine, in general, if the work is proceeding in accordance with the contract documents. CITY's representative will not be required to make exhaustive or continuous on-site inspections to check the quality or quantity of the work, nor will such representative be responsible for the construction means, methods, techniques, sequences or procedures, or the safety precautions incident thereto. CITY's representative will not be responsible for COMPANY's failure to perform the work in accordance with the contract.
5. **Company:** Unless otherwise stipulated, COMPANY shall provide and pay for all materials, supplies, machinery, equipment, tools, superintendence, labor, insurance, and all water, light, power, fuel,

transportation and all other facilities necessary for the execution and completion of the work covered by the contract documents. Unless otherwise specified, all materials shall be new, and both workmanship and materials shall be of a good quality. COMPANY shall, if required, furnish satisfactory evidence as to the kind and quality of materials.

5.1. COMPANY shall, at its expense, obtain all permits and licenses necessary for the performance of this contract and pay all fees and taxes required by law, and comply with all laws, ordinances, rules and regulations governing COMPANY's performance of the contract, including all environmental laws and regulations, whether state or federal.

5.2. All work shall be done and all materials furnished in strict conformity with the contract and specifications.

6. **Minor Work Not Mentioned:** All minor detail of the work not specifically mentioned in the Specifications but obviously necessary for the proper completion of the work, such as the proper connection of new work to old, shall be considered as incidental to and a part of the work for which the prices are named in the contract. COMPANY will not be entitled to any additional compensation therefor unless specifically stated otherwise. Otherwise the term "extra work" as used in this contract shall mean and include all work that may be required by CITY to be done by COMPANY to accomplish any alteration or addition to the work as shown on the Specifications.

6.1. COMPANY shall perform all extra work under the direction of CITY's Representative when presented with a written work order signed by CITY's Representative, subject, however, to the right of the COMPANY to require written confirmation of such extra work order by CITY. Payment for extra work shall be as agreed in the work order.

7. **Safety:** COMPANY shall at all times exercise reasonable precaution for the safety of employees and others on or near the work and shall comply with all applicable provisions of federal, state and municipal laws. All machinery and equipment and other physical hazards shall be guarded in accordance with federal, state or municipal laws or regulations.

8. **INDEMNITY: COMPANY SHALL INDEMNIFY AND HOLD HARMLESS AND DEFEND CITY AND ALL OF CITY'S OFFICERS, AGENTS AND EMPLOYEES FROM ALL SUITS, ACTIONS, CLAIMS, DAMAGES, PERSONAL INJURIES, ACCIDENTAL DEATH, LOSSES, PROPERTY DAMAGE AND EXPENSES OF ANY CHARACTER WHATSOEVER, INCLUDING ATTORNEY'S FEES, BROUGHT FOR OR ON ACCOUNT OF ANY INJURIES OR DAMAGES RECEIVED OR SUSTAINED BY ANY PERSON OR PERSONS OR**

PROPERTY, ON ACCOUNT OF ANY NEGLIGENT ACT OF COMPANY, THEIR AGENTS OR EMPLOYEES, OR ANY SUBCONTRACTOR, IN THE EXECUTION, SUPERVISION AND OPERATIONS GROWING OUT OF OR IN ANY WAY CONNECTED WITH THE PERFORMANCE OF THIS CONTRACT, AND COMPANY WILL BE REQUIRED TO PAY ANY JUDGMENT WITH COSTS WHICH MAY BE OBTAINED AGAINST CITY OR ANY OF ITS OFFICERS, AGENTS OR EMPLOYEES, INCLUDING ATTORNEY'S FEES. THE OBLIGATIONS CONTAINED IN THIS SECTION 8 SHALL SURVIVE THE TERMINATION OF THIS CONTRACT.

COMPANY AGREES THAT IT WILL INDEMNIFY AND SAVE CITY HARMLESS FROM ALL CLAIMS GROWING OUT OF ANY DEMANDS OF SUBCONTRACTORS, LABORERS, WORKMEN, MECHANICS, MATERIALMEN, AND FURNISHERS OF MACHINERY AND PARTS THEREOF, EQUIPMENT, POWER TOOLS AND ALL SUPPLIES, INCURRED IN THE FURTHERANCE OF THE PERFORMANCE OF THIS CONTRACT. WHEN CITY SO DESIRES, COMPANY SHALL FURNISH SATISFACTORY EVIDENCE THAT ALL OBLIGATIONS OF THE NATURE HEREINABOVE DESIGNATED HAVE BEEN PAID, DISCHARGED OR WAIVED. COMPANY, ITS SURETIES AND INSURANCE CARRIERS SHALL DEFEND, INDEMNIFY AND SAVE HARMLESS CITY AND ALL OF ITS OFFICERS, AGENTS AND EMPLOYEES FROM ALL SUITS, ACTIONS, OR CLAIMS OF ANY CHARACTER WHATSOEVER, BROUGHT FOR OR ON ACCOUNT OF ANY INJURIES OR DAMAGES RECEIVED OR SUSTAINED BY ANY PERSON OR PERSONS OR PROPERTY, ARISING FROM ANY ACT OF COMPANY OR ANY SUBCONTRACTOR, THEIR AGENTS OR EMPLOYEES, IN THE EXECUTION AND SUPERVISION OF THIS CONTRACT, AND WILL BE REQUIRED TO PAY ANY JUDGMENT WITH COSTS WHICH MAY BE OBTAINED AGAINST CITY OR ANY OF ITS OFFICERS, AGENTS, OR EMPLOYEES INCLUDING ATTORNEY'S FEES. THE OBLIGATIONS CONTAINED IN THIS SECTION SHALL SURVIVE THE TERMINATION OF THIS CONTRACT.

9. **Start of Work:** COMPANY shall commence work no later than thirty (30) days after receipt of the execution of this document or other written release to proceed and shall complete such work no later than 200 calendar days after release to proceed. (Note – completion extended due to equipment lead time and supply chain delays)

10. **Clean Up:** COMPANY shall promptly remove from CITY's premises all materials condemned by CITY's Representative on account of failure to conform to the contract, whether actually incorporated in the work or not, and COMPANY shall at its own expense promptly replace such condemned materials with other materials conforming to the requirements of the contract. COMPANY shall also bear the

expense of restoring all work of other contractors damaged by any such removal or replacement. If COMPANY does not remove and replace any such condemned materials within a reasonable time after a written notice by CITY, CITY may remove and replace such at COMPANY's expense.

11. **Warranty:** Neither the final payment nor any provision in this contract shall relieve COMPANY of responsibility for faulty materials or workmanship, and he shall remedy any defects due thereto and pay for any damage to other work resulting therefrom, which shall appear within a period of one (1) year from the date of substantial completion. CITY shall give notice of observed defects with reasonable promptness.

12. **Remedy:** CITY may, on account of subsequently discovered evidence, withhold whole or part of any payment to such extent as may be necessary to protect itself from loss on account of:

12.1. Defective work not remedied; or

12.2. Claims filed or reasonable evidence indicating possible filing of claims; or

12.3. Failure of COMPANY to make payments promptly to subcontractors or for material or labor which CITY may pay as an agent for the COMPANY; or

12.4. Damages to another contractor or subcontractor.

When the above grounds to withhold payment are removed, or COMPANY provides a surety bond satisfactory to CITY, which will protect CITY in the amount withheld, payment may be released.

13. **Funding Out:** In the event no funds or insufficient funds are appropriated and budgeted or are otherwise unavailable in any fiscal period for contract payments due under the contract, then this contract shall terminate on the last day of the fiscal period for which full appropriations were made, without penalty or expense to CITY of any kind whatsoever.

14. **Wage Scale:** COMPANY agrees to pay all workmen in his employ no less than the generally prevailing wage rate for employees of similar category in the Permian Basin Area, as is depicted in the wage rate scale attached hereto as EXHIBIT D, and incorporated herein by reference for all legal purposes.

14.1. If applicable, the Davis-Bacon Act, 29 CFR 5.5, and any related acts or regulations are hereby incorporated by reference and made a part of this Contract, and all terms and requirements under said laws, by such incorporation, are made terms and requirements of this Contract, to which the parties to this Contract have agreed to be bound.

15. **Prompt Pay Act:** CITY and COMPANY agree that Texas Government Code, Chapter 2251, Payment for Goods and Services (the "Prompt Pay Act") does not waive governmental immunity.

16. **Payment; Retainage:** After all work is completed by COMPANY, including all Change Orders altering the original scope and amount of the contract are completed, and the CITY has inspected and approved that the work is completed and in compliance with the contract and all subsequent Change Orders, the CITY may thereafter issue payment to COMPANY in the amount of the contract and all Change Orders. The CITY shall be the final judge of when the work is completed by COMPANY. The CITY, in its sole discretion, shall determine if the work under the contract and under any Change Orders has been done to the CITY's requirements.

16.1. The CITY may make periodic payments to COMPANY; provided, however, such periodic payments may only be made pursuant to this section, and only after all work and all Change Orders are completed by COMPANY and approved by the CITY. The approval shall be in the CITY's sole discretion. Requests for progress payments may be made to the extent of the materials and labor completed at the end of each month. Upon approval by the CITY or the CITY's representative, the request and invoice shall be forwarded for payment less 5% retainage. The total of these payments shall not exceed 95% of the total contract amount.

17. **Late Completion; Liquidated Damages:** It is hereby understood and mutually agreed, by and between COMPANY and the CITY, that the date of beginning and the time for completion as specified in the contract of the work to be done hereunder are ESSENTIAL CONDITIONS of this contract; and it is further mutually understood and agreed that the work embraced in this contract shall be commenced on a date to be specified in the "Notice to Proceed." COMPANY agrees that said work shall be prosecuted regularly, diligently, and uninterruptedly at such rate of progress as will ensure full completion thereof within the time specified. It is expressly understood and agreed, by and between COMPANY and the CITY, that the time for the completion of the work described herein is a reasonable time for the completion of the same, taking into consideration the average climatic range and usual industrial conditions prevailing in this locality.

17.1. In the event COMPANY shall neglect, fail or refuse to complete the work within the time herein specified, or any proper extension thereof granted by the CITY, then COMPANY and COMPANY's surety, if any, shall be liable for and does hereby agree, as a part consideration for the awarding of this contract, to pay to the CITY \$500.00, not as a penalty but as liquidated damages for such breach of contract as hereinafter set forth, for each and every day that COMPANY shall be in default after the time stipulated in the contract for completing the work. Further, the CITY shall have the right to cancel this contract for such delay. In the event the CITY cancels this contract pursuant to the terms of this section, the CITY shall pay to COMPANY only those monies deemed appropriate by the CITY, in its sole discretion, to compensate COMPANY for any work actually performed, less any liquidated damages COMPANY owes the CITY.

17.2. The said amount is fixed and agreed upon by and between COMPANY and the CITY because of the impracticability and extreme difficulty of fixing and ascertaining the actual damages the CITY would in such event sustain, and said amount is agreed to be the amount of damages which the CITY would sustain and said amount shall be retained from time to time by the CITY from current periodical estimates.

17.3. It is further agreed that time is of the essence of each and every portion of this contract and of the specifications wherein a definite and certain length of time is fixed for the performance of any act whatsoever; and where under the contract an additional time is allowed for the completion of any work, the new time limit fixed by such extension shall be of the essence of this contract. Provided, that COMPANY shall not be charged with liquidated damages or any excess cost when the CITY determines, in its sole discretion, that COMPANY is without fault and COMPANY's reasons for the time extension are acceptable to the CITY. Provided, further, that COMPANY shall not be charged with liquidated damages of any excess cost when the delay in completion of the work is due:

- a. To any preference, priority or allocation order duly issued by the Government;
- b. To unforeseeable cause beyond the control and without the fault or negligence of COMPANY, including, but not restricted to, acts of God, or of the public enemy, acts of the CITY, acts of another contractor in the performance of a contract with the CITY, fires, floods, epidemics, quarantine restrictions, strikes, freight embargoes, and severe weather; and
- c. To any delays of subcontractors or suppliers occasioned by any of the causes specified in subsections (a) and (b) of this article.

17.4. Provided, further, that COMPANY shall, within ten (10) days from the beginning of such delay, unless the CITY shall, in its sole discretion grant a further period of time prior to the date of final settlement of the contract, notify the CITY, in writing, of the causes of the delay, who shall ascertain the facts and extent of the delay and notify COMPANY within a reasonable time of its decision in the matter.

17.5. COMPANY AGREES THAT THE PAYMENT OF SUCH LIQUIDATED DAMAGES MAY BE RECOVERED BY THE CITY FROM RETAINAGE HELD BY THE CITY. NOTWITHSTANDING ANY OTHER PROVISION HEREOF, COMPANY HEREBY RELEASES, ACQUITS, RELINQUISHES AND FOREVER DISCHARGES CITY, CITY'S EMPLOYEES AND OFFICERS FROM ANY AND ALL DEMANDS, CLAIMS, DAMAGES, OR CAUSES OF ACTION OF ANY KIND WHATSOEVER ARISING FROM THE CITY WITHHOLDING PAYMENT FROM COMPANY AS LIQUIDATED DAMAGES FOR COMPANY'S FAILURE TO COMPLETE THE WORK WITHIN THE TIME SPECIFIED HEREIN, INCLUDING BUT NOT LIMITED TO BREACH OF CONTRACT, QUANTUM MERUIT, CLAIMS UNDER THE DUE PROCESS AND TAKINGS CLAUSES OF THE TEXAS

AND UNITED STATES CONSTITUTIONS, TORT CLAIMS, OR CITY'S NEGLIGENCE.

17.6. COMPANY SHALL RECEIVE NO FINANCIAL COMPENSATION FOR DELAY OR HINDRANCE TO THE WORK EXCEPT IN THE CASE OF NEGLIGENCE IN WHOLE, OR IN PART, BY THE CITY. IN NO EVENT SHALL THE CITY BE LIABLE TO COMPANY OR ANY SUBCONTRACTOR OR SUPPLIER, ANY OTHER PERSON OR ANY SURETY FOR OR ANY EMPLOYEE OR AGENT OF ANY OF THEM, FOR ANY DAMAGES ARISING OUT OF OR ASSOCIATED WITH ANY DELAY OR HINDRANCE TO THE WORK, REGARDLESS OF THE SOURCE OF THE DELAY OR HINDRANCE, INCLUDING EVENTS OF FORCE MAJEURE EXCEPT IN THE CASE OF NEGLIGENCE IN WHOLE, OR IN PART, BY THE CITY. EXCEPT IN THE CASE OF NEGLIGENCE BY THE CITY, COMPANY'S SOLE REMEDY IN ANY SUCH CASE SHALL BE AN EXTENSION OF TIME.

18. No Third-Party Beneficiary: CITY's approval of this contract does not create a third-party beneficiary. There is no third-party beneficiary to this contract. No person or entity who is not a party to this contract shall have any third-party beneficiary or other rights hereunder.

19. WAIVER OF ATTORNEY FEES: BY EXECUTING THIS CONTRACT, COMPANY AGREES TO WAIVE AND DOES HEREBY KNOWINGLY, CONCLUSIVELY, VOLUNTARILY AND INTENTIONALLY WAIVE ANY CLAIM IT HAS OR MAY HAVE IN THE FUTURE AGAINST CITY REGARDING THE AWARD OR ATTORNEY'S FEES, WHICH ARE IN ANY WAY RELATED TO THIS CONTRACT, OR THE CONSTRUCTION, INTERPRETATION OR BREACH OF THIS CONTRACT. COMPANY SPECIFICALLY AGREES THAT IF COMPANY BRINGS OR COMMENCES ANY LEGAL ACTION OR PROCEEDING RELATED TO THIS CONTRACT, THE CONSTRUCTION, INTERPRETATION, VALIDITY OR BREACH OF THIS CONTRACT, INCLUDING, BUT NOT LIMITED TO, ANY ACTION PURSUANT TO THE PROVISIONS OF THE TEXAS UNIFORM DECLARATORY JUDGMENTS ACT (TEXAS CIVIL PRACTICE AND REMEDIES CODE SECTION 37.001, ET SEQ., AS AMENDED), OR CHAPTER 271 OF THE TEXAS LOCAL GOVERNMENT CODE, COMPANY AGREES TO ABANDON, WAIVE AND RELINQUISH ANY AND ALL RIGHTS TO THE RECOVERY OF ATTORNEY'S FEES TO WHICH COMPANY MIGHT OTHERWISE BE ENTITLED.

COMPANY AGREES THAT THIS IS THE VOLUNTARY AND INTENTIONAL RELINQUISHMENT AND ABANDONMENT OF A PRESENTLY-EXISTING KNOWN RIGHT. COMPANY ACKNOWLEDGES THAT IT UNDERSTANDS ALL TERMS AND CONDITIONS OF THIS CONTRACT. COMPANY FURTHER ACKNOWLEDGES AND AGREES THAT THERE WAS AND IS NO DISPARITY OF BARGAINING POWER BETWEEN CITY AND

COMPANY. THIS SECTION SHALL NOT BE CONSTRUED OR INTERPRETED AS A WAIVER OR GOVERNMENTAL IMMUNITY AND SHALL SURVIVE THE TERMINATION OF THIS CONTRACT.

COMPANY IS RELYING ON ITS OWN JUDGMENT. COMPANY HAD THE OPPORTUNITY TO DISCUSS THIS CONTRACT WITH COMPETENT LEGAL COUNSEL PRIOR TO ITS EXECUTION. THE OBLIGATIONS CONTAINED IN THIS SECTION 18 SHALL SURVIVE THE TERMINATION OF THIS CONTRACT.

20. **Governmental Immunity:** By executing this contract CITY is not waiving its right of governmental immunity. CITY is retaining its immunity from suit. CITY is not granting consent to be sued by legislative resolution or action. **THERE IS NO WAIVER OF GOVERNMENTAL IMMUNITY.**

21. **Insurance:**

COMPANY shall at all times during the term of this Contract maintain and keep in full force and effect insurance in the following types and minimum amounts with companies authorized to do business in the State of Texas:

Commercial General Liability (including Contractual liability):

-Personal Injury: \$1,000,000.00 per person
\$1,000,000.00 per occurrence

-Property Damage: \$500,000.00 per occurrence

Business Automobile Liability: \$250,000.00 combined single limit -
Personal Injury and Property Damage

Workers' Compensation: Statutory limits

Employers' Liability: \$500,000.00 per accident or occurrence

The Commercial General Liability shall be on a per project aggregate, including completed operations, and shall be on a claims-occurred basis. This insurance shall name CITY as an additional insured and waive subrogation in favor of CITY.

The Business Automobile Liability insurance provided by COMPANY shall cover any auto for bodily injury and property damage, including owned vehicles, hired and non-city vehicles, and employee non-ownership, and the amount of such policy shall be a minimum of \$250,000.00 covering any vehicle used for the execution of the work that is the subject of this Contract. This insurance shall name CITY as an additional insured and waive subrogation in favor of CITY.

The Workers' Compensation coverage provided by COMPANY shall inure to the benefit of employees and shall be maintained during the course and scope of their employment by COMPANY. This coverage shall survive the termination of this Contract. The Workers' Compensation shall waive all rights of subrogation in favor of CITY.

All insurance required pursuant to this Contract shall provide for a waiver of subrogation in favor of CITY. All insurance required pursuant to this Contract, except for Workers' Compensation Insurance, shall name CITY as an additional insured on a claims occurred basis. CITY shall be provided the notice by COMPANY's insurance provider not later than thirty (30) days prior to any reduction or termination of such coverage.

COMPANY shall contractually require all contractors, subcontractors, and sub-subcontractors that work on any portion of the work that is the subject of this Contract to obtain insurance coverage that meets or exceeds the policy requirements and minimum amounts specified herein. All contractors, subcontractors, and sub-subcontractors shall obtain insurance policies that provide blanket waivers of subrogation in favor of the City of Midland and policies that name the City of Midland as an additional insured on a claims occurred basis (except workers' compensation).

The parties agree that, prior to the execution of the Contract, COMPANY shall provide one or more certificates of insurance specifically stating that these requirements have been met and subject to the approval of CITY. CITY shall not be required to provide any insurance whatsoever pursuant to this Contract.

COMPANY certifies that the certificate of insurance provided as required herein complies with the requirements of Chapter 1811 of the Texas Insurance Code. COMPANY shall not use an unapproved certificate of insurance or insert inappropriate language on a certificate. Compliance with state law is the sole responsibility of COMPANY.

22. **Assignment:** COMPANY shall not, either directly or indirectly, assign all or any part of this Contract or any interest, right or privilege herein, without the prior written consent of CITY. The issue on whether or not to grant consent to an assignment is in the sole discretion of CITY.

23. **RELEASE: NOTWITHSTANDING ANY OTHER PROVISION CONTAINED HEREIN, COMPANY HEREBY RELEASES, ACQUITS, RELINQUISHES AND FOREVER DISCHARGES CITY AND CITY'S COUNCIL MEMBERS, EMPLOYEES, AND OFFICERS FROM ANY AND ALL DEMANDS, CLAIMS, DAMAGES OR CAUSES OF ACTION OF ANY KIND WHATSOEVER THAT COMPANY HAS OR MIGHT HAVE IN THE FUTURE, INCLUDING, BUT NOT LIMITED TO, BREACH OF CONTRACT, QUANTUM MERUIT, CLAIMS UNDER THE DUE PROCESS AND TAKINGS CLAUSES OF THE TEXAS AND UNITED STATES CONSTITUTIONS, TORT CLAIMS, OR CITY'S NEGLIGENCE. THE OBLIGATIONS CONTAINED IN THIS SECTION SHALL SURVIVE THE TERMINATION OF THIS CONTRACT.**

24. **Governing Law and Venue:** This contract shall be governed by the laws of the State of Texas. All performance and payment made pursuant to this contract shall be deemed to have occurred in Midland

County, Texas. The obligations and undertakings of each of the parties to this Agreement shall be deemed to have occurred in Midland County, Texas. Exclusive venue for any claims, suits or any other action arising from or connected in any way to this contract or the performance of this contract shall be in Midland County, Texas.

25. **Independent Contractor:** COMPANY shall perform all work and services described herein as an independent contractor and not as an officer, agent, servant, or employee of CITY. COMPANY shall have exclusive control of, and the exclusive right to control the details of the services and work to be performed hereunder, and all persons performing the same. COMPANY shall be solely responsible for the acts and omissions of its officers, agents, employees, contractors and subcontractors and the doctrine of respondeat superior shall not apply as between CITY and COMPANY, its officers, agents, employees, contractors and subcontractors. Nothing in this Contract shall be construed as creating a partnership or joint enterprise between CITY and COMPANY. No person performing any of the work and services described hereunder by COMPANY shall be considered an officer, agent, servant or employee of CITY. Further, it is specifically understood and agreed that nothing in this contract is intended or construed as creating a "Community of Pecuniary Interest" or an "Equal Right of Control" which would give rise to vicarious liability.

COMPANY shall be an independent contractor under this Contract and shall assume all of the rights, obligations and liabilities, applicable to it as such independent contractor hereunder. CITY does not have the power to direct the order in which the work is done. CITY shall not have the right to control the means, methods or details of COMPANY's work. COMPANY shall assume exclusive responsibility for the work. COMPANY is entirely free to do the work in its own way.

26. **Notice of Alleged Breach; Statutory Prerequisites:** As a condition precedent to filing suit for alleged damages incurred by an alleged breach of an express or implied provision of this Contract, COMPANY or its legal representative, shall give the City Manager, or any other reasonable official of CITY, notice in writing (consisting of one (1) original and seven (7) copies of notice attached to a copy of this Contract) of such damages, duly verified, within one hundred twenty (120) days after the same has been sustained. The discovery rule does not apply to the giving of this notice. The notice shall include when, where and how the damages occurred, the apparent extent thereof, the amount of damages sustained, the amount for which COMPANY shall settle, the physical and mailing addresses of COMPANY at the time and date the claim was presented and the physical and mailing addresses of COMPANY for the six (6) months immediately preceding the occurrence of such damages, and the names and addresses of the witnesses upon whom COMPANY relies to establish its claim; and a failure to provide such written notification within the time and manner provided herein shall exonerate, excuse and except CITY from any liability whatsoever. CITY is under no obligation to provide notice to COMPANY that COMPANY's notice is insufficient. CITY reserves the right to request additional information regarding the claim. Said additional information shall be supplied within thirty (30) days after receipt of

notice.

The statutory prerequisites outlined herein constitute jurisdictional requirements pursuant to Section 271.154 of the Texas Local Government Code and Section 311.034 of the Texas Government Code. Notwithstanding any other provision to the contrary, COMPANY's failure to comply with the requirements of this Section shall perpetually bar COMPANY's claim for damages under Chapter 271 of the Texas Local Government Code, and Section 311.034 of the Texas Government Code, regardless if CITY has actual or constructive notice or knowledge of said claim or alleged damages. COMPANY agrees that the requirements of this entire Contract are reasonable. The provisions and obligations of this Section shall survive the termination of this Contract.

27. **Consideration:** The terms of this Contract are supported by good and valuable consideration, the receipt and sufficiency of which is hereby acknowledged by the parties named herein.

28. **Termination At Will:** CITY may terminate this Contract at will for no or any reason upon giving at least one hundred eighty (180) days written notice to COMPANY. The parties to this Contract understand and agree that it is in CITY's sole discretion to cancel the Contract during the term of the Contract without penalty to CITY. COMPANY has no expectation and has received no guarantees that this Contract will not be terminated before the end of the Contract term. The parties have bargained for the flexibility of terminating this Contract upon tender of the requisite notice at any time during the term of the Contract. All work and services under the Contract shall be suspended upon termination of the Contract becoming effective.

29. **Compliance:** COMPANY agrees that it shall comply with Texas Government Code Section 2252.908, *et seq.*, as amended. COMPANY agrees that it shall comply with Texas Local Government Code Section 176.006, *et seq.*, as amended.

30. To the extent that Sections 2271.002 and 2274.002 of the Texas Government Code (collectively, the "Anti-Boycott Statutes") apply to this Contract, Company hereby verifies:

- that Company does not boycott Israel and will not boycott Israel during the term of this Contract;
- that Company does not boycott energy companies and will not boycott energy companies during the term of this Contract; and
- that Company does not have a practice, policy, guidance, or directive that discriminates against a firearm entity or firearm trade association and will not discriminate during the term of this Contract against a firearm entity or firearm trade association.

To the extent that the Anti-Boycott Statutes do not apply to this Contract, such verification is not required, and Company shall be deemed to have not made such verification.

31. **Records Retention and Production of Information.** To the extent that this Contract constitutes a contract described by Section 552.371 of the Texas Government Code, COMPANY shall: (i) preserve all contracting information related to this Contract as provided by the records retention requirements applicable to CITY for the duration of this Contract; (ii) promptly provide to CITY any contracting information related to the Contract that is in the custody or possession of COMPANY on request of CITY; and (iii) on completion of the Contract, either: (a) provide at no cost to CITY all contracting information related to the Contract that is in the custody or possession of COMPANY; or (b) preserve the contracting information related to the Contract as provided by the records retention requirements applicable to CITY.

32. **Public Information.** To the extent that this Contract is a contract described by Section 552.371 of the Texas Government Code, COMPANY agrees as follows in accordance with Section 552.372(b) of the Texas Government Code: The requirements of Subchapter J, Chapter 552, Government Code, may apply to this Contract, and COMPANY agrees that the contract can be terminated if COMPANY knowingly or intentionally fails to comply with a requirement of that subchapter.

33. **Conflict of Terms.** If a conflict of terms or language exists between: (i) any of the provisions of this Contract and (ii) any of the provisions contained in any exhibit(s) attached to this Contract, precedence shall be given to the provisions of this Contract. For the avoidance of any doubt, the provisions contained in this Contract shall supersede any and all conflicting provisions contained in any exhibit(s) attached hereto. Furthermore, the parties acknowledge and agree that any provision contained in an exhibit(s) attached to this Contract that imposes an additional express or implied obligation on CITY is hereby made void and of no force or effect. CITY's sole and exclusive obligations under this Contract are contained in the provisions of this Contract that precede the signature page(s), which evidences the parties' execution.

34. Company agrees that all iron or steel products produced through a manufacturing process and used in the project that is the subject of this Contract shall be produced in the United States in accordance with Government Code § 2252.202, et seq., as amended.

EXECUTED IN DUPLICATE the day and year first above mentioned.

THE CITY OF MIDLAND, TEXAS

By: _____
Tommy Gonzalez, City Manager

ATTEST

Marcia Bentley-German, City Governance Officer/City Secretary

APPROVED ONLY AS TO FORM

John Ohnemiller, City Attorney

COMPANY:

By: _____

Name: _____

Title: _____

STATE OF _____ §

§

COUNTY OF _____ §

BEFORE ME, the undersigned authority, on this ____ day of _____, 20____ personally appeared, _____, an officer of Nouveau Technology Services, LP, known to me to be the person and official whose name is subscribed to the forgoing instrument, and acknowledged to me that he executed the same as the act and deed of said corporation, for the purposes and consideration therein expressed, and in the capacity therein stated.

GIVEN UNDER MY HAND AND SEAL OF OFFICE this the ____ day of _____, 20____.

Nouveau Technology Services LP
 2441 Lacy Ln
 Carrollton, TX 75006
 www.ntsllp.com

Proposal



Phone: 972-484-5077

Fax: 972-484-5072

Proposal: 32142C

Date: 8/14/2023

To:	Project:
City of Midland Attn: Laurie Williams 300 N. Loraine Midland, TX 79701	City of Midland\Momentum Bank Ballpark

Salesperson		
Miles Koon		TIPS: RCSP211001

Scope of Work

Please see attached detailed Scope of Work.

Pricing good for 15 days from date of proposal

Proposal Total: 805,760.00

Acceptance	
Accepted by:	_____
Title:	_____
Date:	_____

1. The Project

- 1.1. Samsung will provide the following systems and components to the project known as Momentum Bank Ballpark (the "Project") located at 5514 Champions Drive, Midland, TX 79706 (the "Project Site") for the City of Midland (the "Owner"), as described herein.

The existing analog audio system will be replaced with modern digital mixing and signal processing technology. The project will involve the procurement, installation, commissioning and replacement of equipment including the mixing console, power systems, audio processing, amplifiers, and speaker systems. Provide training for equipment listed in These replacements will be carried out both outdoors in the stadium and in interior locations such as suites and press areas. To support rack-mounted equipment, new AV racks will be utilized.

2. Scope of Work

Samsung will, directly or indirectly provide and install the following systems and components:

MAIN BOWL AREA:

- (6) JBL ASB6118-WRX-BK speakers mounted to the underside of the roof.
- (13) JBL AW566-BK speakers mounted to the underside of the roof.
- (4) JBL AWC62-BK speakers mounted to the underside of the roof.
- (2) JBL PD6322-WRX speakers mounted to the underside of the roof.
- (8) JBL AWC62-BK speakers mounted to the underside of the suites.
- (22) JBL AWC82-BK speakers mounted to the underside of the suites.
- (12) JBL AWC62-BK speakers mounted to the front outside wall of the suites for seating area.

SUITES (X22):

- (1) BSS EC-4BV-WHT-US volume controller mounted to the suite wall.
- (2) JBL CONTROL Control 16C/T installed in the suite ceilings.

CONCOURSE:

- (22) JBL AWC82-BK speakers mounted overhead.
- (20) JBL CONTROL 25-1 speakers mounted in specified locations.

POLES (X5):

- (4) AW566-BK speakers mounted to specified locations on poles.
- (4) AW595-BK speakers mounted to specified locations on poles.

(3) AW526-BK speakers mounted to specified locations on poles.

SCOREBOARD:

(1) AW526-BK speaker mounted to the scoreboard.

(1) AW595-BK speaker mounted to the scoreboard.

PICNIC AREA:

(12) JBL CONTROL 25-1 speakers mounted in specified locations.

PRODUCTION BOOTH:

(1) ALLEN & HEATH AH-SQ5 mixer equipped with AH-M-SQ-DANTE-A card.

(1) BSS EC-4BV-WHT-US ethernet volume controller mounted to the wall.

(1) JBL CONTROL 25-1 speaker mounted to the walls.

(1) JBL CONTROL Control 16C/T installed in suite ceilings.

PRODUCTION BOOTH RACK 1, EQUIPPED WITH THE FOLLOWING:

(1) ALLEN & HEATH DT168.

(1) BSS BLU-100.

(2) BSS BLU-806 with (2) BLUCARD-IN and (6) BLUCARD-OUT modules.

(3) BSS BLU-BIB.

(3) HEWLETT PACKARD Aruba 2930F-48G-POE+4SFP+.

(1) MIDDLE ATLANTIC RM-KB-LCD17KVMHD.

(2) DELL CORE i7 PC'S.

(1) SHURE ULXD4Q wireless microphone receivers.

(3) CROWN DCi 4 | 1250N amplifiers.

(6) CROWN DCi 8 | 300N amplifiers.

(8) CROWN DCi 8 | 600N amplifiers.

RADIO 3.13.01, 3.13.02, 3.14.01, 3.14.02 (EA.):

(1) BSS EC-4BV-WHT-US volume controller.

(1) JBL CONTROL Control 16C/T installed in the radio ceilings.

RADIO 3.16.01:

(1) BSS EC-4BV-WHT-US volume controller.

(1) JBL CONTROL 25-1 speaker.

(1) JBL CONTROL 25-1L speaker.

(4) JBL CONTROL Control 16C/T installed in the radio ceilings.

2.1. Customer Responsibilities

Customer shall, directly or indirectly:

- Provide 24/7 access to the facility
- Unobscured access to equipment locations
- Provide secured area for hardware
- above. If the scope changes and if affects cost and schedule, the Price and schedule shall be adjusted accordingly.
- This proposal is subject to the parties reaching mutually agreeable terms and conditions.

Item Details

Main Bowl: Roof

- 6 JBL Professional ASB6118-WRX, High Power Subwoofer, 1" X 18" 2242H (Super Vented Gap Low Frequency Driver), Extreme Weather Protection Treatment
- 13 JBL Professional AW566-BK, High Power 2-Way All Weather Loudspeaker, 1 X 15" Low Frequency Driver, Rotatable Horn, 60 X 60 Degree Coverage Pattern, 8 Ohm, Black
- 4 JBL Professional AWC62-BK, Compact All-Weather 2-Way Co-axial Loudspeaker with 6.5" LF - Black
- 2 JBL Professional PD6322/43-WRX, High output three-way full-range loudspeaker with 2 x 12" LF 40 x 30 degree coverage pattern for direct exposure or extreme environment, extreme weather protection treatment

Main Bowl: Under Suites

- 8 JBL Professional AWC62-BK, Compact All-Weather 2-Way Co-axial Loudspeaker with 6.5" LF - Black
- 22 JBL Professional AWC82, All-Weather Compact 2-Way Coaxial Loudspeaker, 8" Low Frequency Driver, 8 Ohm, Grey

Main Bowl: Suites

- 12 JBL Professional AWC62-BK, Compact All-Weather 2-Way Co-axial
Loudspeaker with 6.5" LF - Black

Concourse

- 22 JBL Professional AWC62-BK, Compact All-Weather 2-Way Co-axial
Loudspeaker with 6.5" LF - Black
- 20 JBL CONTROL 25-1, Pair 5.25" two-way 100Watt, 8 Ohm loudspeaker

Picnic Area

- 12 JBL CONTROL 25-1, Pair 5.25" two-way 100Watt, 8 Ohm loudspeaker

Scoreboard

- 1 JBL Pro AW595-BK,
- 1 JBL Pro AW526-BK,

Indoor Suites: Suite 1

- 1 BSS EC-4BV-WHT-US, Ethernet Controller
- 1 JBL Professional CONTROL 16C/T, Two-Way 6.5" Coaxial Ceiling Loudspeaker (Sold in Pairs)

Indoor Suites: Suite 2

- 1 BSS EC-4BV-WHT-US, Ethernet Controller
- 1 JBL Professional CONTROL 16C/T, Two Way 6.5" Coaxial Ceiling Loudspeaker (Sold in Pairs)

Indoor Suites: Suite 3

- 1 BSS EC-4BV-WHT-US, Ethernet Controller
- 1 JBL Professional CONTROL 16C/T, Two Way 6.5" Coaxial Ceiling Loudspeaker (Sold in Pairs)

Indoor Suites: Suite 4

- 1 BSS EC-4BV-WHT-US, Ethernet Controller
- 1 JBL Professional CONTROL 16C/T, Two Way 6.5" Coaxial Ceiling Loudspeaker (Sold in Pairs)m

Indoor Suites: Suite 5

- 1 BSS EC-4BV-WHT-US, Ethernet Controller
- 1 JBL Professional CONTROL 16C/T, Two-Way 6.5" Coaxial Ceiling Loudspeaker (Sold in Pairs)

Indoor Suites: Suite 6

Ballpark Audio Upgrade

Page 4 of 15

- 1 BSS EC-4BV-WHT-US, Ethernet Controller
- 1 JBL Professional CONTROL 16C/T, Two-Way 6.5" Coaxial Ceiling Loudspeaker (Sold in Pairs)

Indoor Suites: Suite 7

- | | |
|---|--|
| 1 | BSS EC-4BV-WHT-US, Ethernet Controller |
| 1 | JBL Professional CONTROL 16C/T, Two-Way 6.5" Coaxial Ceiling Loudspeaker (Sold in Pairs) |

Indoor Suites: Suite 8

- | | |
|---|--|
| 1 | BSS EC-4BV-WHT-US, Ethernet Controller |
| 1 | JBL Professional CONTROL 16C/T, Two-Way 6.5" Coaxial Ceiling Loudspeaker (Sold in Pairs) |

Indoor Suites: Suite 9

- 1 BSS EC-4BV-WHT-US, Ethernet Controller
- 1 JBL Professional CONTROL 16C/T, Two-Way 6.5" Coaxial Ceiling Loudspeaker (Sold in Pairs)

Indoor Suites: Suite 10

- 1 BSS EC-4BV-WHT-US, Ethernet Controller
- 1 JBL Professional CONTROL 16C/T, Two-Way Coaxial Ceiling Loudspeaker (Sold in Pairs)

Indoor Suites: Suite 11

- 1 BSS EC-4BV-WHT-US, Ethernet Controller
- 1 JBL Professional CONTROL 16C/T, Two-Way 6.5" Coaxial Ceiling Loudspeaker (Sold in Pairs)

Indoor Suites: Suite 12

- 1 BSS EC-4BV-WHT-US, Ethernet Controller
- 1 JBL Professional CONTROL 16C/T, Two-Way 6.5" Coaxial Ceiling Loudspeaker (Sold in Pairs)

Indoor Suites: Suite 13

- 1 BSS EC-4BV-WHT-US, Ethernet Controller
- 1 JBL Professional CONTROL 16C/T, Two-Way 6.5" Coaxial Ceiling Loudspeaker (Sold in Pairs)

Indoor Suites: Suite 14

- 1 BSS EC-4BV-WHT-US, Ethernet Controller
- 1 JBL Professional CONTROL 16C/T, Two-Way 6.5" Coaxial Ceiling Loudspeaker (Sold in Pairs)

Indoor Suites: Suite 15

- 1 BSS EC-4BV-WHT-US, Ethernet Controller
- 1 JBL Professional CONTROL 16C/T, Two-Way 6.5" Coaxial Ceiling Loudspeaker (Sold in Pairs)

Indoor Suites: Suite 16

- 1 BSS EC-4BV-WHT-US, Ethernet Controller
- 1 JBL Professional CONTROL 16C/T, Two-Way 6.5" Coaxial Ceiling Loudspeaker (Sold in Pairs)

Indoor Suites: Suite 17

- 1 BSS EC-4BV-WHT-US, Ethernet Controller
- 1 JBL Professional CONTROL 16C/T, Two-Way 6.5" Coaxial Ceiling Loudspeaker (Sold in Pairs)

Indoor Suites: Suite 18

- 1 BSS EC-4BV-WHT-US, Ethernet Controller
- 1 JBL Professional CONTROL 16C/T, Two-Way 6.5" Coaxial Ceiling Loudspeaker (Sold in Pairs)

Indoor Suites: Suite 19

Ballpark Audio Upgrade

Page 9 of 15

- 1 BSS EC-4BV-WHT-US, Ethernet Controller
- 1 JBL Professional CONTROL 16C/T, Two-Way 6.5" Coaxial Ceiling Loudspeaker (Sold in Pairs)

Indoor Suites: Suite 20

- 1 BSS EC-4BV-WHT-US, Ethernet Controller
- 1 JBL Professional CONTROL 16C/T, Two-Way 6.5" Coaxial Ceiling Loudspeaker (Sold in Pairs)

Indoor Suites: Suite 21

- 1 BSS EC-4BV-WHT-US, Ethernet Controller
- 1 JBL Professional CONTROL 16C/T, Two-Way 6.5" Coaxial Ceiling Loudspeaker (Sold in Pairs)

Indoor Suites: Suite 22

- 1 BSS EC-4BV-WHT-US, Ethernet Controller
- 1 JBL Professional CONTROL 16C/T, Two-Way 6.5" Coaxial Ceiling Loudspeaker (Sold in Pairs)

Poles

- 1 Polar Focus Custom Quote, Pole Mounted Speaker Brackets

Poles: Pole 1

- 2 JBL Professional AW566-BK, High Power 2-Way All Weather Loudspeaker, 1 X 15" Low Frequency Driver, Rotatable Horn, 60 X 60 Degree Coverage Pattern, 8 Ohm, Black

Poles: Pole 2

- 2 JBL Pro AW595-BK,
- 1 JBL Professional AW566-BK, High Power 2-Way All Weather Loudspeaker, 1 X 15" Low Frequency Driver, Rotatable Horn, 60 X 60 Degree Coverage Pattern, 8 Ohm, Black

Poles: Pole 3

- 1 JBL Pro AW595-BK,
- 1 JBL Pro AW526-BK,

Poles: Pole 4

- 2 JBL Pro AW526-BK,

Poles: Pole 5

- 1 JBL Professional AW566-BK, High Power 2-Way All Weather Loudspeaker, 1 X 15" Low Frequency Driver, Rotatable Horn, 60 X 60 Degree Coverage Pattern, 8 Ohm, Black

Production Booth

- 1 Allen-Heath AH-SQ-5, 96kHz XCVI FPGA processing, 48 Input Channels, DEEP Processing Ready, 17 Faders / 6 Layers, 12 Stereo mixes+LR, 3 Stereo Matrix, 7 capacitive touchscreen
- 1 Allen-Heath AH-M-DANTE-A, 64 X 64 Dante Card 48kHz
- 1 BSS EC-4BV-WHT-US, Ethernet Controller
- 3 Countryman E6OW5T1SL, E6 Omni Earset Mic, Highest Gain, with Detachable 1mm Cable and TA4F Connector for Shure and Beyerdynamic Wireless Transmitters (Tan)
- 1 JBL Pro CONTROL 47C/T, 6.5" 2 way in-ceiling loudspeaker (pair), 8 ohm
- 1 JBL CONTROL 25-1, Pair 5.25" two-way 100Watt, 8 Ohm loudspeaker
- 1 Platinum SLV Misc,

Production Booth: Rack 1

- 1 Allen-Heath DT168, Dante I/O Expander, 16 microphone preamps and 8 line output
- 3 Aruba Networks 2930F-48G-POE+4SFP+,
- 2 BSS BLU-806, Networked processor
- 1 BSS BLU-100, I/O device
- 3 BSS BLU-BIB, Break-in/out box
- 2 BSS BLUCARD-IN, I/O card
- 6 BSS BLUCARD-OUT, I/O card
- 2 Dell 7060, Micro Form Factor Desktop
- 1 MIDDLE ATLANTIC RM-KB-LCD17KVMHD, KB with LCD Digital Display & KVM
- 1 Shure ULXD4Q=-G50, Quad Digital Wireless Receiver with internal power supply, 1/2 Wave Antenna and Rack Mounting Hardware
- 2 Shure ULXD2/B58=-G50, Handheld Transmitter with BETA 58A® Microphone

- 2 Shure ULXD1--G50, Digital Wireless Bodypack Transmitter with Miniature 4-Pin Connector
- 4 Shure SB900A, Shure Lithium-Ion Rechargeable Battery
- 1 Shure SBC800-US, 8-Bay Shure Battery Charger
- 2 Shure UA874US, Active Directional Antenna with Gain Switch 470-698 MHz

Production Booth: Rack 2

- 3 CROWN DCI4X1250N, 4x1250W Power Amplifier
- 6 CROWN DCI8X300N, 8x300W Power Amplifier
- 8 CROWN DCI8X600N, 8x600W Power Amplifier
- 43000 West Penn Wire 227GY, 1P 12G STRD USHLD PVC JKT, Gray, 1000 ft
- 26600 West Penn Wire 226BK, 1P 14G STRD USHLD PVC JKT, Black, 1000 ft
- 12500 West Penn Wire 254246EZBL, 4 PR CAT 6 UTP Plenum Blue 1000ft
- 2000 West Penn Wire 452BK0500, 1P 22G STRD SHLD PVC JKT, black, 500 feet

Radio: 3.13.01

- 1 BSS EC-4BV-WHT-US, Ethernet Controller
- 1 JBL Professional CONTROL 16C/T, Two-Way 6.5" Coaxial Ceiling Loudspeaker (Sold in Pairs)

Radio: 3.13.02

- 1 BSS EC-4BV-WHT-US, Ethernet Controller
- 1 JBL Pro CONTROL 47C/T, 6.5" 2 way in-ceiling loudspeaker (pair), 8 ohm

Radio: 3.14.01

- 1 BSS EC-4BV-WHT-US, Ethernet Controller
- 1 JBL Professional CONTROL 167C/T, Two-Way 6.5" Coaxial Ceiling Loudspeaker (Sold in Pairs)

Radio: 3.14.02

- 1 BSS EC-4BV-WHT-US, Ethernet Controller
- 1 JBL Professional CONTROL 16C/T, Two-Way 6.5" Coaxial Ceiling Loudspeaker (Sold in Pairs)

Radio: 3.16.01

- 1 BSS EC-4BV-WHT-US, Ethernet Controller
- 2 JBL CONTROL 25-1, Pair 5.25" two-way 100Watt, 8 Ohm loudspeaker
- 2 JBL Professional CONTROL 16C/T, Two-Way 6.5" Coaxial Ceiling Loudspeaker (Sold in Pairs)



Preliminary Estimate, by estimates

Joe Ferguson

Nouveau Construction & Technology Services

RCSP 211001 - TIPS Cooperative - TIPS Coooperative - 2/01/2022 to 1/31/2024

Momentum Bank Ballpark - 32142C

Joe Ferguson

Estimator: Joe Ferguson

Momentum Bank Ballpark

Division Summary (MF04)

01 - General Requirements
02 - Existing Conditions
03 - Concrete
04 - Masonry
05 - Metals
06 - Wood, Plastics, and Composites
07 - Thermal and Moisture Protection
08 - Openings
09 - Finishes
10 - Specialties
11 - Equipment
12 - Furnishings
13 - Special Construction
14 - Conveying Equipment
21 - Fire Suppression
22 - Plumbing
23 - Heating, Ventilating, and Air-Conditioning (HVAC)
25 - Integrated Automation

Totalling Components

Line Item Subtotal	\$1,007,200.00
CCI-Q2-2023-Midland, Tx (-14.0000%)	\$(141,008.00)

26 - Electrical	
27 - Communications	
28 - Electronic Safety and Security	
31 - Earthwork	
32 - Exterior Improvements	
33 - Utilities	
34 - Transportation	
35 - Waterway and Marine Transportation	
41 - Material Processing and Handling Equipment	
44 - Pollution Control Equipment	
46 - Water and Wastewater Equipment	
48 - Electric Power Generation	
Alternate	\$1,007,200.00
Trades	
Assemblies	
FMR	
MF04 Total (Without totalling components)	\$1,007,200.00

TIPS Standard-JOC (-6.0000%)	\$(60,432.00)
Bonding-Midland ()	

Priced/Non-Priced

Total Priced Items:	1	\$1,007,200.00	
Total Non-Priced Items:	0	\$0.00	0.00%
	1	\$1,007,200.00	

Grand Total

\$805,760.00

PACKET

6.79

September 12, 2023

Preliminary Estimate, by estimates

Estimator: Joe Ferguson

Momentum Bank Ballpark

Item	Description	UM	Quantity	Unit Cost	Total	Book
Alternate						
1	27-51-19-10-1800	Specified Sound System	Job	1.0000	\$1,007,200.00	\$1,007,200.00 CUSTOM P
Used for specified sound system, including all labor and materials listed on Samsung Electronics America proposal dated 8/10/23						
Alternate Total						\$1,007,200.00
Estimate Grand Total						805,760.00

PACKET

6.80

September 12, 2023

"General Decision Number: TX20220261 08/05/2022

Superseded General Decision Number: TX20210261

State: Texas

Construction Type: Building

County: Midland County in Texas.

BUILDING CONSTRUCTION PROJECTS (does not include single family homes or apartments up to and including 4 stories).

Note: Contracts subject to the Davis-Bacon Act are generally required to pay at least the applicable minimum wage rate required under Executive Order 14026 or Executive Order 13658. Please note that these Executive Orders apply to covered contracts entered into by the federal government that are subject to the Davis-Bacon Act itself, but do not apply to contracts subject only to the Davis-Bacon Related Acts, including those set forth at 29 CFR 5.1(a)(2)-(60).

If the contract is entered into on or after January 30, 2022, or the contract is renewed or extended (e.g., an option is exercised) on or after January 30, 2022:	. Executive Order 14026 generally applies to the contract. . The contractor must pay all covered workers at least \$15.00 per hour (or the applicable wage rate listed on this wage determination, if it is higher) for all hours spent performing on the contract in 2022.
If the contract was awarded on or between January 1, 2015 and January 29, 2022, and the contract is not renewed or extended on or after January 30, 2022:	. Executive Order 13658 generally applies to the contract. . The contractor must pay all covered workers at least \$11.25 per hour (or the applicable wage rate listed on this wage determination, if it is higher) for all hours spent performing on that contract in 2022.

The applicable Executive Order minimum wage rate will be adjusted annually. If this contract is covered by one of the Executive Orders and a classification considered necessary for performance of work on the contract does not appear on this wage determination, the contractor must still submit a conformance request.

Additional information on contractor requirements and worker protections under the Executive Orders is available at <https://www.dol.gov/agencies/whd/government-contracts>.

Modification Number

Publication Date

0
1 PACKET01/07/2022
02/25/2022

6.81

September 12, 2023

2

08/05/2022

BOIL0074-003 01/01/2021

	Rates	Fringes
BOILERMAKER.....	\$ 29.47	24.10

ENGI0178-005 06/01/2020

	Rates	Fringes
POWER EQUIPMENT OPERATOR		
(1) Tower Crane.....	\$ 32.85	13.10
(2) Cranes with Pile Driving or Caisson Attachment and Hydraulic Crane 60 tons and above.....	\$ 28.75	10.60
(3) Hydraulic cranes 59 Tons and under.....	\$ 32.35	13.10

* IRON0084-011 06/01/2022

	Rates	Fringes
IRONWORKER, ORNAMENTAL.....	\$ 26.76	7.88

PLUM0404-001 09/01/2020

	Rates	Fringes
PLUMBER.....	\$ 26.05	8.81

* SUTX2014-037 07/21/2014

	Rates	Fringes
BRICKLAYER.....	\$ 20.00	0.00
CARPENTER.....	\$ 13.82 **	0.00
CEMENT MASON/CONCRETE FINISHER...	\$ 13.76 **	0.00
ELECTRICIAN.....	\$ 23.18	6.31
INSULATOR - MECHANICAL (Duct, Pipe & Mechanical System Insulation).....	\$ 19.77	7.13
IRONWORKER, REINFORCING.....	\$ 12.27 **	0.00
IRONWORKER, STRUCTURAL.....	\$ 22.16	5.26
LABORER: Common or General.....	\$ 11.80 **	0.00
LABORER: Mason Tender - Brick...	\$ 11.38 **	0.00
LABORER: Mason Tender - Cement/Concrete.....	\$ 10.58 **	0.00
LABORER: Pipelayer.....	\$ 12.49 **	2.13
LABORER: Roof Tearoff.....	\$ 11.28 **	0.00

PACKET

6.82

OPERATOR:

September 12, 2023

Backhoe/Excavator/Trackhoe.....	\$ 14.25 **	0.00
OPERATOR: Bobcat/Skid		
Steer/Skid Loader.....	\$ 13.93 **	0.00
OPERATOR: Bulldozer.....	\$ 18.29	1.31
OPERATOR: Drill.....	\$ 16.22	0.34
OPERATOR: Forklift.....	\$ 14.83 **	0.00
OPERATOR: Grader/Blade.....	\$ 13.37 **	0.00
OPERATOR: Loader.....	\$ 13.55 **	0.94
OPERATOR: Mechanic.....	\$ 17.52	3.33
OPERATOR: Paver (Asphalt, Aggregate, and Concrete).....	\$ 16.03	0.00
OPERATOR: Roller.....	\$ 12.70 **	0.00
PAINTER (Brush, Roller, and Spray).....	\$ 15.00	0.73
PIPEFITTER.....	\$ 25.80	8.55
ROOFER.....	\$ 14.75 **	0.00
SHEET METAL WORKER (HVAC Duct Installation Only).....	\$ 22.73	7.52
SHEET METAL WORKER, Excludes HVAC Duct Installation.....	\$ 19.50	0.00
TILE FINISHER.....	\$ 11.22 **	0.00
TILE SETTER.....	\$ 14.74 **	0.00
TRUCK DRIVER: Dump Truck.....	\$ 12.39 **	1.18
TRUCK DRIVER: Flatbed Truck.....	\$ 19.65	8.57
TRUCK DRIVER: Semi-Trailer Truck.....	\$ 12.50 **	0.00
TRUCK DRIVER: Water Truck.....	\$ 12.00 **	4.11

WELDERS - Receive rate prescribed for craft performing operation to which welding is incidental.

** Workers in this classification may be entitled to a higher minimum wage under Executive Order 14026 (\$15.00) or 13658 (\$11.25). Please see the Note at the top of the wage determination for more information.

Note: Executive Order (EO) 13706, Establishing Paid Sick Leave for Federal Contractors applies to all contracts subject to the Davis-Bacon Act for which the contract is awarded (and any solicitation was issued) on or after January 1, 2017. If this contract is awarded by the EO, the contractor must provide employees with 1 hour of paid sick leave for every 30 hours

September 12, 2023

they work, up to 56 hours of paid sick leave each year. Employees must be permitted to use paid sick leave for their own illness, injury or other health-related needs, including preventive care; to assist a family member (or person who is like family to the employee) who is ill, injured, or has other health-related needs, including preventive care; or for reasons resulting from, or to assist a family member (or person who is like family to the employee) who is a victim of, domestic violence, sexual assault, or stalking. Additional information on contractor requirements and worker protections under the EO is available at <https://www.dol.gov/agencies/whd/government-contracts>.

Unlisted classifications needed for work not included within the scope of the classifications listed may be added after award only as provided in the labor standards contract clauses (29CFR 5.5 (a) (1) (ii)).

The body of each wage determination lists the classification and wage rates that have been found to be prevailing for the cited type(s) of construction in the area covered by the wage determination. The classifications are listed in alphabetical order of ""identifiers"" that indicate whether the particular rate is a union rate (current union negotiated rate for local), a survey rate (weighted average rate) or a union average rate (weighted union average rate).

Union Rate Identifiers

A four letter classification abbreviation identifier enclosed in dotted lines beginning with characters other than ""SU"" or ""UAVG"" denotes that the union classification and rate were prevailing for that classification in the survey. Example: PLUM0198-005 07/01/2014. PLUM is an abbreviation identifier of the union which prevailed in the survey for this classification, which in this example would be Plumbers. 0198 indicates the local union number or district council number where applicable, i.e., Plumbers Local 0198. The next number, 005 in the example, is an internal number used in processing the wage determination. 07/01/2014 is the effective date of the most current negotiated rate, which in this example is July 1, 2014.

Union prevailing wage rates are updated to reflect all rate changes in the collective bargaining agreement (CBA) governing this classification and rate.

Survey Rate Identifiers

Classifications listed under the ""SU"" identifier indicate that no one rate prevailed for this classification in the survey and the published rate is derived by computing a weighted average rate based on all the rates reported in the survey for that classification. As this weighted average rate includes all rates reported in the survey, it may include both union and non-union rates. Example: SULA2012-007 5/13/2014. SU indicates the rates are survey rates based on a weighted average calculation of rates and are not majority rates. LA indicates the State of Louisiana. 2012 is the year of survey on which these classifications and rates are based. The 007 number, 007 in the example, is an internal number used in producing the

wage determination. 5/13/2014 indicates the survey completion date for the classifications and rates under that identifier.

Survey wage rates are not updated and remain in effect until a new survey is conducted.

Union Average Rate Identifiers

Classification(s) listed under the UAVG identifier indicate that no single majority rate prevailed for those classifications; however, 100% of the data reported for the classifications was union data. EXAMPLE: UAVG-OH-0010 08/29/2014. UAVG indicates that the rate is a weighted union average rate. OH indicates the state. The next number, 0010 in the example, is an internal number used in producing the wage determination. 08/29/2014 indicates the survey completion date for the classifications and rates under that identifier.

A UAVG rate will be updated once a year, usually in January of each year, to reflect a weighted average of the current negotiated/CBA rate of the union locals from which the rate is based.

WAGE DETERMINATION APPEALS PROCESS

1.) Has there been an initial decision in the matter? This can be:

- * an existing published wage determination
- * a survey underlying a wage determination
- * a Wage and Hour Division letter setting forth a position on a wage determination matter
- * a conformance (additional classification and rate) ruling

On survey related matters, initial contact, including requests for summaries of surveys, should be with the Wage and Hour National Office because National Office has responsibility for the Davis-Bacon survey program. If the response from this initial contact is not satisfactory, then the process described in 2.) and 3.) should be followed.

With regard to any other matter not yet ripe for the formal process described here, initial contact should be with the Branch of Construction Wage Determinations. Write to:

Branch of Construction Wage Determinations
Wage and Hour Division
U.S. Department of Labor
200 Constitution Avenue, N.W.
Washington, DC 20210

2.) If the answer to the question in 1.) is yes, then an interested party (those affected by the action) can request review and reconsideration from the Wage and Hour Administrator (See 29 CFR Part 1.8 and 29 CFR Part 7). Write to:

Wage and Hour Administrator
U.S. Department of Labor
200 Constitution Avenue, N.W.
Washington, DC 20210

The request should be accompanied by a full statement of the interested party's position and by any information (wage payment data, project description, area practice material, etc.) that the requestor considers relevant to the issue.

3.) If the decision of the Administrator is not favorable, an interested party may appeal directly to the Administrative Review Board (formerly the Wage Appeals Board). Write to:

Administrative Review Board
U.S. Department of Labor
200 Constitution Avenue, N.W.
Washington, DC 20210

4.) All decisions by the Administrative Review Board are final.

=====

END OF GENERAL DECISIO"



City Council Meeting

Item Number: 7
Meeting Date: September 12, 2023
To: City Council / City Manager
From: Erika Martinez, Manager, Purchasing
Subject: RESOLUTION AWARDING A CONTRACT FOR THE NORTH CITIZEN COLLECTION STATION PROJECT AND THE WEST CITIZEN COLLECTION STATION PROJECT TO ONYX GENERAL CONTRACTORS, LLC, FOR A COST OF \$6,422,091.20; AND TRANSFERRING AND APPROPRIATING FUNDS (DISTRICT: ALL) (GENERAL SERVICES)

Purpose:

Resolution awarding a contract for the North Citizen Collection Station Project and the West Citizen Collection Station Project for the Solid Waste Department to Onyx General Contractors, LLC. of Midland, Texas for a cost of \$6,422,091.20.

Recommended City Council Action:

Approve

Fiscal Impact:

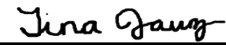
\$1,000,000 will be appropriated from General Fund Unappropriated Fund Balance and Transferred to a project in the Sanitation Construction Fund. This was funding received from a surface use agreement in 2022 and was deposited into the General Fund but meant to be used toward the Collection Station. \$5,422,091.20 will be appropriated from the Solid Waste Fund unappropriated fund balance and will be transferred and appropriated to a project.

Discussion:

Motion 079-2023 approved the specifications and authorized advertisement for bids for the North Citizen Collection Station Project and West Citizen Collection Station Project for the Solid Waste Department. The bid was sent to one hundred sixty (160) vendors. We received a sole bid from Onyx General Contractors, LLC. Staff recommends the acceptance of the sole bid received from Onyx General Contractors, LLC for the construction of the North Citizen Collection Station

Project and West Citizen Collection Stations. Please see the attached memo from Jeffery Ahrlett, Solid Waste Director, for more information.

Therefore, please consider a resolution awarding a contract for the the North Citizen Collection Station Project and the West Citizen Collection Station Project for the Solid Waste Department to Onyx General Contractors, LLC. of Midland, Texas for a cost of \$6,422,091.20.



City Manager's Office



INTEROFFICE MEMORANDUM

TO: Erika Martinez, Purchasing Manager

FROM: Jeffery Ahrlett, Director of Solid Waste

SUBJECT: Awarding a contract for the Citizen Collection Station North and Citizen Collection Station West Construction.

DATE: September 12, 2023

Requesting a resolution awarding a contract for the Citizen Collection Station North and Citizen Collection Station West projects. Award a contract to bidder Onyx General Contractors, LLC. Of Midland, Texas for a cost of \$6,422,091.20.

Onyx has proven experience in the construction of Citizen Collection Station facilities. The Solid Waste Department has worked with Onyx General Contractors in the past as they have built the current Citizen Collection station, as well as the City of Midland Landfill facility which includes a citizen collection station.

Due to the continued growth throughout the City of Midland, Solid Waste believes it is necessary to construct two Citizen Collection Stations to better serve our residents. The North Citizen Collection Station will be located on North 349 near the new water tower. The West Citizen Collection Station will be located on business 20 near Big Sky Drive in.

Solid Waste is seeking council approval to accept the bid of \$6,422,091.20 from Onyx General Contractors, LLC. for the Citizen Collection Station North and Citizen Collection Station West construction project.

RESOLUTION NO. _____

**RESOLUTION AWARDED A CONTRACT FOR THE
NORTH CITIZEN COLLECTION STATION PROJECT
AND THE WEST CITIZEN COLLECTION STATION
PROJECT TO ONYX GENERAL CONTRACTORS, LLC,
FOR A COST OF \$6,422,091.20; AND TRANSFERRING
AND APPROPRIATING FUNDS**

WHEREAS, Motion 079-2023 approved plans and specifications and authorized the advertisement for competitive sealed proposals for the North Citizen Collection Station Project and the West Citizen Collection Station Project; and

WHEREAS, proposals were opened on August 16, 2023, with the sole proposal being submitted by Onyx General Contractors, LLC, as shown on the tabulation attached hereto as Exhibit "A" and incorporated herein for all purposes; and

WHEREAS, the City Council finds the amount proposed by Onyx General Contractors, LLC, to be fair and reasonable; and

WHEREAS, the City Council finds it to be in the public interest to award a contract to Onyx General Contractors, LLC, for the North Citizen Collection Station Project and the West Citizen Collection Station Project;

NOW, THEREFORE, BE IT RESOLVED BY THE CITY COUNCIL OF THE CITY OF MIDLAND, TEXAS:

SECTION ONE. That the City Manager and City Secretary are hereby authorized and directed to execute and attest, respectively, on behalf of the City of Midland, a contract with Onyx General Contractors, LLC, for the North Citizen Collection Station Project and the West Citizen Collection Station Project for a cost of \$6,422,091.20. Said contract to be kept on file in the office of the City Secretary, referenced by the date and number of this Resolution.

SECTION TWO. That \$1,000,000.00 shall be appropriated from the General Fund unappropriated fund balance and transferred to a project in the Sanitation Construction Fund. \$5,422,091.20 shall be appropriated from the Solid Waste Fund unappropriated fund balance

and will be transferred and appropriated to a project for said purposes.

SECTION THREE. That the City Comptroller is hereby authorized and directed to pay Onyx General Contractors, LLC, pursuant to the terms of said contract upon receipt of proper invoices or statements approved by the City Manager.

On motion of Council member _____, seconded by Council member _____, the above and foregoing resolution was adopted by the City Council of the City of Midland at a regular meeting on the _____ day of _____, A.D., 2023, by the following vote:

Council members voting "AYE":

Council members voting "NAY":

Lori Merritt Blong, Mayor

ATTEST:

Marcia Bentley-German, City Secretary

RECOMMENDED AND APPROVED:

Tommy Gonzalez, City Manager

APPROVED AS TO CONTENT
AND COMPLETENESS:

Regina Stephenson, General Services Director

APPROVED ONLY AS TO FORM:

John Ohnemiller, City Attorney

August 23, 2023

Ms. Erika Munoz Martinez, CPM
Purchasing Manager
City of Midland
PO Box 1152
Midland, TX 79702

Re: 6119.21 City of Midland West and North Citizens' Collection Stations
Recommendation for Award

Dear Ms. Martinez:

We reviewed the one Proposal for the noted Project received August 16, 2023, and determined that it was submitted in accordance with guidelines established by the Proposal Documents and those procedures adopted by the City of Midland. While compiling the detailed proposal tabulation, it was found that there were mathematical errors in the totals.

We recommend the Construction Contract for the City of Midland West and North Citizens' Collection Station project be awarded to Onyx General Contractors, LLC per the unit price multiplied by quantity per the proposal tabulation. **Contract amounts for the West Site of \$3,026,672.80 and for the North Site of \$3,395,418.40, combined total of \$ 6,422,091.20.**

For anything further, please contact me at 469.200.7373 if you have questions or wish to discuss this matter further.

Sincerely,

PARKHILL

By 
Spencer Harvey, PE
Project Manager

SJH/pg
Enclosures

September 12, 2023



City of Midland West and North Citizens' Collection Stations

City of Midland, Texas

August 16, 2023

2:00 PM Local Time

PROPOSAL BID				Onyx General Contractors, LLC 1010 S. FM 1788 Midland, Texas 79706	
Item No.	Description	Quantity	Unit	Unit Price	Amount
West Citizen Collection Station					
1	Mobilization (5% Maximum)	1	LS	\$45,000.00	\$45,000.00
2	Erosion Control	1	LS	\$5,000.00	\$5,000.00
3	Excavation	6,800	CY	\$7.80	\$53,040.00
4	Embankment (fill)	12,800	CY	\$19.08	\$244,224.00
5	Furnish and install 3-inch thick Type "B " HMAc, 9" base	800	SY	\$68.28	\$54,624.00
6	Furnish and install 8-Inch thick Concrete pavement and	2,100	SY	\$134.30	\$282,030.00
7	Concrete Drainage Gutter	400	LF	\$40.24	\$16,096.00
8	Concrete Retaining Wall and Steel Rails	920	LF	\$1,200.00	\$1,104,000.00
9	Entrance Gate	1	LS	\$15,270.00	\$15,270.00
10	Exit Gate	1	LS	\$3,870.00	\$3,870.00
11	6' Chain Link Fence	870	LF	\$32.94	\$28,657.80
12	Pavement Markings & Striping	1	LS	\$3,000.00	\$3,000.00
13	Schedule 80 Waterline	720	LF	\$63.60	\$45,792.00
14	SDR 35 Sewerline	100	LF	\$63.60	\$6,360.00
15	Traffic Signage	33	EA	\$720.00	\$23,760.00
16	40'x60' Metal Building	1	LS	\$850,000.00	\$850,000.00
17	Electrical Site Work	1	LS	\$174,298.00	\$174,298.00
18	Septic Tank	1	LS	\$53,651.00	\$53,651.00
19	Water Well	1	LS	\$18,000.00	\$18,000.00
	SUBTOTAL				\$3,026,672.80
North Citizen Collection Station					
20	Mobilization (5% Maximum)	1	LS	\$45,000.00	\$45,000.00
21	Erosion Control	1	LS	\$5,000.00	\$5,000.00
22	Excavation	4,400	CY	\$7.80	\$34,320.00
23	Embankment (fill)	3,600	CY	\$11.10	\$39,960.00
24	Furnish and install 3-inch thick Type "B " HMAc, 9" base course, 12" Subgrade	800	SY	\$68.28	\$54,624.00
25	Furnish and install 8-Inch thick Concrete pavement and reinforcement, 6" base course, 12" Subgrade	2,400	SY	\$134.20	\$322,080.00
26	Concrete Drainage Gutter	400	LF	\$40.24	\$16,096.00
27	Concrete Retaining Wall and Steel Rails	920	LF	\$1,200.00	\$1,104,000.00
28	Entrance Gate	1	LS	\$15,270.00	\$15,270.00
29	Exit Gate	1	LS	\$3,870.00	\$3,870.00
30	6' Chain Link Fence	1,700	LF	\$32.52	\$55,284.00
31	Pavement Markings & Striping	1	LS	\$3,000.00	\$3,000.00
32	Schedule 80 Waterline	1,100	LF	\$63.60	\$69,960.00
33	SDR 35 Sewerline	110	LF	\$63.60	\$6,996.00
34	Traffic Signage	33	EA	\$720.00	\$23,760.00
35	40'x60' Metal Building	1	LS	\$850,000.00	\$850,000.00
36	Electrical Site Work	1	LS	\$163,450.00	\$163,450.00
37	Septic Tank	1	LS	\$96,608.40	\$96,608.40
38	Landscape and Irrigation	1	LS	\$53,460.00	\$53,460.00
39	Entrance Road*	58,000	SF*	\$7.46	\$432,680.00
	SUBTOTAL				\$3,395,418.40
	TOTAL (West Site + North Site)				\$6,422,091.20

August 23, 2023

Ms. Erika Munoz Martinez, CPM
Purchasing Manager
City of Midland
PO Box 1152
Midland, TX 79702

Re: 6119.21 City of Midland West and North Citizens' Collection Stations
Recommendation for Award

Dear Ms. Martinez:

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For anything further, please contact me at 469.200.7373 if you have questions or wish to discuss this matter further.

Sincerely,

PARKHILL

By 
Spencer Harvey, PE
Project Manager

SJH/pg
Enclosures

September 12, 2023



City of Midland West and North Citizens' Collection Stations

City of Midland, Texas

August 16, 2023

2:00 PM Local Time

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3	Excavation	6,800	CY	\$7.80	\$53,040.00
4	Embankment (fill)	12,800	CY	\$19.08	\$244,224.00
5	Furnish and install 3-inch thick Type "B " HMAC, 9" base	800	SY	\$68.28	\$54,624.00
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19	Water Well	1	LS	\$18,000.00	\$18,000.00
	SUBTOTAL				\$3,026,672.80
North Citizen Collection Station					
20	Mobilization (5% Maximum)	1	LS	\$45,000.00	\$45,000.00
21	Erosion Control	1	LS	\$5,000.00	\$5,000.00
22	Excavation	4,400	CY	\$7.80	\$34,320.00
23	Embankment (fill)	3,600	CY	\$11.10	\$39,960.00
24	Furnish and install 3-inch thick Type "B " HMAC, 9" base course, 12" Subgrade	800	SY	\$68.28	\$54,624.00
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37	Septic Tank	1	LS	\$96,608.40	\$96,608.40
38	Landscape and Irrigation	1	LS	\$53,460.00	\$53,460.00
39	Entrance Road*	58,000	SF*	\$7.46	\$432,680.00
	SUBTOTAL				\$3,395,418.40
	TOTAL (West Site + North Site)				\$6,422,091.20

PROJECT MANUAL

CITY OF MIDLAND

West and North Citizens' Collection Stations Midland, Texas



July | 2023

Parkhill Project # 01611921

PACKET

7.11

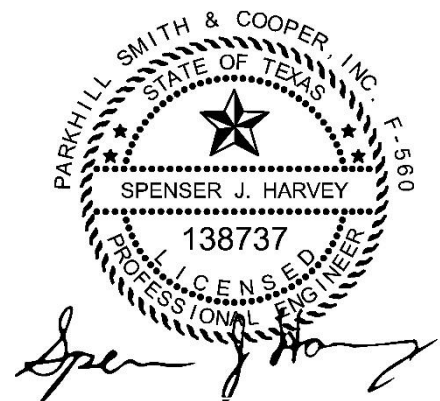
September 12, 2023

PROJECT MANUAL

CITY OF MIDLAND

West and North Citizens' Collection Stations

Midland, Texas



07/14/2023

July | 2023

Parkhill Project # 01611921

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03 10 00	Concrete Forming and Accessories	5
03 20 00	Concrete Reinforcing	3
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Not Used

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05 40 00	Cold-Formed Metal Framing	11
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DIVISION 06 – WOOD, PLASTICS, AND COMPOSITES

06 16 13	Insulating Sheathing (Zip System R Sheathing)	4
06 41 16	Plastic-Laminate-Clad Architectural Cabinets	4
06 64 00	Plastic Paneling	3

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07 21 00	Thermal Insulation	3
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08 11 13	Hollow Metal Doors and Frames	6
08 33 23	Overhead Coiling Doors	3
08 41 13	Aluminum-Framed Entrances and Storefronts	8
08 71 00	Door Hardware	16
08 80 00	Glazing	6

DIVISION 09 – FINISHES

09 22 16	Non-Structural Metal Framing	4
09 29 00	Gypsum Board	5
09 51 13	Acoustical Panel Ceilings	4
09 91 23	Interior Painting	4

DIVISION 10 – SPECIALTIES

10 28 13	Toilet Accessories	4
10 44 16	Fire Extinguishers	2

DIVISIONS 11 – EQUIPMENT

11 40 00	Foodservice Equipment	2
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DIVISION 12 - FURNISHINGS

Not Used

DIVISION 13 – SPECIAL CONSTRUCTION

13 34 19	Metal Building Systems	9
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DIVISIONS 14 – 21

Not Used

DIVISION 22 – PLUMBING

22 05 29	Hangers and Supports	5
22 11 00	Facility Water Distribution	9
22 13 00	Facility Sanitary Sewerage	6
22 33 00	Electric Domestic Water Heaters	3
22 40 00	Plumbing Fixtures	2

DIVISION 23 – HEATING, VENTILATING, AND AIR-CONDITIONING (HVAC)

23 05 00	General Mechanical Requirements	14
23 05 00.20	Basic Mechanical Materials and Methods	10
23 05 53	Identification for HVAC Piping and Equipment	3
23 07 05	HVAC and Plumbing Insulation	7
23 23 00	Refrigerant Piping	5
23 31 00	HVAC Ducts and Casings	5
23 33 00	Air Duct Accessories	5
23 34 00	HVAC Fans	5
23 37 00	Air Inlet and Outlets	2
23 81 26.20	Split System Air-Conditioning Pumps.....	5
23 82 39	Unit Heaters	3

DIVISION 25 – INTEGRATED AUTOMATION

Not Used

DIVISION 26 – ELECTRICAL

26 05 00	Basic Electrical Methods	5
26 05 13	Building Wire and Cable	4
26 05 19	Equipment Wiring Systems	2
26 05 26	Grounding and Bonding	3
26 05 29	Supporting Devices	2
26 05 33	Conduit	5
26 05 33.16	Boxes	3
26 05 53	Electrical Identification	2
26 18 39	Enclosed Motor Controllers	3
26 24 16	Switchboards and Panelboard	3
26 27 26	Wiring Devices	3
26 28 16.16	Enclosed Switches	2
26 51 00	Interior Lighting	3

DIVISION 27 – COMMUNICATIONS

27 13 43	Telephone Communications Cabling	7
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DIVISION 28 – ELECTRONIC SAFETY AND SECURITY

28 15 00	Integrated Access Control Hardware Devices	11
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DIVISION 31 – EARTHWORK

31 10 00	Site Clearing	5
31 20 00	Earth Moving	9
31 22 13	Rough Grading	3
31 23 23	Fill	2

DIVISION 32 – EXTERIOR IMPROVEMENTS²

32 11 23	Aggregate Base Courses	3
32 12 16	Asphalt Paving	5
32 13 13	Concrete Paving	19

DIVISIONS 33 – 48

Not Used

DESIGN PROFESSIONAL RESPONSIBILITY

The Specification Sections authenticated by my seal and signature are limited to the following:

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DIVISION 28 – ELECTRONIC SAFETY AND SECURITY

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07/14/2023

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DESIGN PROFESSIONAL RESPONSIBILITY

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DIVISION 26 – ELECTRICAL

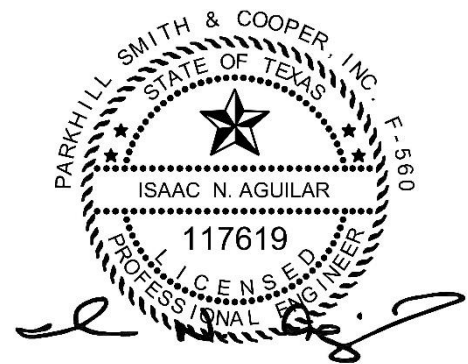
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07/14/2023

DOCUMENT 00 11 20 - REQUEST FOR PROPOSALS

1.1 OWNER

City of Midland
300 North Loraine Street
Midland, Texas 79701

1.2 PROJECT

West and North Citizens' Collection Stations

1.3 ENGINEER/ENGINEER

Parkhill
1700 W. Wall, Suite 100
Midland, Texas 79701
432.697.1447
Attn: R. Ashley Coco, AIA

1.4 DESCRIPTION

- A. You are invited to submit a stipulated sum proposal on the attached forms for General Construction Work including mechanical, plumbing, electrical, Work and for furnishing of all labor, materials, services and equipment necessary for and incidental to the Work as called for on the Drawings and in the Project Manual. The construction is expected to commence by October 02, 2023.
- B. Proposers may submit a proposal for the Work either individually or combined as indicated on the Proposal Form.
- C. A contract may be awarded based on the proposal offering the best value to the Owner for the Project.

1.5 BASIS OF PROPOSALS

- A. Owner will be utilizing the competitive sealed proposal procurement method as authorized by Texas Government Code, Title 10, Subtitle F., Chapter 2269, Subchapter D. The selection criteria used to evaluate each proposer's proposal is stipulated below in paragraph "D. Selection Criteria and Points."
- B. The construction cost budget for this Project is approximately \$6,000,000.00.
- C. Proposals shall be made on a stipulated sum basis on the attached Proposal Forms.
- D. Selection Criteria and Points.
 - 1. (0-40 points) Construction Price - Base Proposal.
 - 2. (0-20 points) Construction Time.
 - 3. (0-10 points) Resume of Project manager.
 - 4. (0-10 points) Resume of job superintendent.
 - 5. (0-10 points) Past and current experience on Projects of similar scope, size, complexity, and location. Include the following information: Owner, Project Name, Date Completed, Project Duration, Proposal Cost, Final Cost, Project Manager and Job Superintendent. If a current employee constructed the Project while working for a different employer clearly delineate that relationship.

6. (0-10 points) List of all litigation, claims, or lawsuits made against your company, an Owner or Engineer in which you were the contractor, including any Projects that your company failed to fulfill the terms of the contract with an Owner in the last five years. Provide status of each.
 7. Letter of Intent to issue Performance and Payment Bonds from proposer's bonding company listing availability of current bonding capacity and amount of Work currently under bond.
 8. Ranking and selection of the proposers will be based on the scoring and evaluation of the listed selection criteria determined to provide the best value to the Owner.
- E. Additional Requirements
1. For the Project Manager and Job Superintendent, provide the following for each:
 - a. Daily responsibilities for the Project.
 - b. Formal education level.
 - c. History of Work experience.
 - d. Personal references including name, position, owner, current telephone number and email address.
 2. In addition to requirements of the proposal documents, Owner may require additional information to establish responsibility of Proposer. Owner may further require identification of proposed subcontractors, suppliers and/or other persons and/or organizations proposed for portions of the Work and substantial data to determine their qualifications and experience. If requested, Proposer must submit all data to the Owner. Owner may also consider and use as part of the evaluation the operating costs, maintenance requirements, performance data and guarantees of major items of material and equipment proposed for incorporation in the Work when such data is required to be submitted in the proposal documents or prior to the award of the contract.
 3. Owner may conduct such investigations as Owner deems necessary to assist in the evaluation of any proposal and to establish the responsibility, qualifications, and financial ability of Proposer, proposed subcontractors, suppliers and other persons and organizations to perform and furnish the Work in accordance with the proposal documents to Owner's satisfaction within the prescribed time.

1.6 SUBMISSION OF PROPOSALS

- A. Address to: City of Midland
Attn: City Secretary's Office
300 North Lorraine Street
Midland, TX 79701
or Mail to:
- B. Location: City of Midland
Attn: City Secretary's Office
P.O. Box 1152
Midland, TX 79702
- C. Date: August 9, 2023
- D. Time: 2:00 p.m., local time.
- E. Proposals received after the submission time on the due date will not be accepted and will be returned unopened to Proposer.

1.7 PROPOSAL DOCUMENTS

- A. Proposal Documents may be examined at the Engineer's office and at the following plan rooms:
1. Dodge Data & Analytics
806.794.2722
Kim.mccallon@construction.com
 2. AGC Plan Room
4500 W Illinois, Suite 201
Midland, Texas 79703
432.520.2220
midland@wtgc.org
 3. Odessa Plan Room
2706 Henderson
Odessa, Texas 79764
432.337.0912
Odessaplanroom@gmail.com
 4. AGC-Abilene
3125 S. 27th
Abilene, Texas 79605
325.676.7447
wtgc@sbcglobal.net
- B. Proposers may secure copies of Proposal Documents as follows:
1. By contacting Pam Gonzales at pgonzales@parkhill.com. Additional information can be found at <https://parkhill.com/projects-for-bid>.
 2. Download documents (.PDF file extension format) from Parkhill's Info Exchange web site after registering as a plan holder with issuing Parkhill office. There is no cost or deposit required for this option.
- C. Only Proposers who obtain Proposal Documents through Parkhill will be registered as a document holder (plan holder) and will therefore automatically receive addenda if/when issued.

1.8 ADDENDA

- A. Addenda will be issued to document holders by City of Midland.

1.9 PRE-PROPOSAL CONFERENCE

- A. A pre-proposal conference will be held on Tuesday, July 25, 2023 at the Project site at 2:30 p.m. local time. Attendance by Proposers is not mandatory.

1.10 PROPOSAL SECURITY

- A. Proposal security in the sum of 5 percent of the total proposal amount and in the form of a cashier's check, certified check, or Surety Proposal Bond, shall accompany all proposals as stipulated in the Instructions to Proposers.

1.11 OPENING OF PROPOSALS

- A. Proposals will be publicly opened in the City Council Chambers immediately after closing of proposal time to identify the names of the proposer and their respective proposed contract

amount. Other contents of the proposals will be afforded security sufficient to preclude disclosure of contents prior to award or rejection action.

- B. After opening the Proposals, the Owner will evaluate and rank each Proposal with respect to the published selection criteria described in section titled BASIS OF PROPOSALS. After opening and ranking, an award may be made on the basis of the initially submitted Proposal, without discussion, clarification or modification, or the Owner may discuss with the selected proposer, offers for cost adjustment and other elements of the Proposal. Other than the data read at the Proposal opening, the Owner shall not disclose any information derived from the Proposals submitted by competing firms in conducting such discussions.
- C. If the Owner determines that it is unable to reach a satisfactory agreement with the first ranked proposer, the Owner will terminate discussions with that proposer. The Owner will then proceed with negotiations with each successive proposer as they appear in the order of ranking until an agreement is reached, or until the Owner has rejected all Proposals. After termination of discussions with any proposer, Owner will not resume discussions with that proposer.
- D. The Owner reserves the right to accept or reject any or all alternates or to accept any combination of alternates considered advantageous to the Owner.
- E. The award or rejection action regarding this Proposal is at the sole discretion of the Owner and the Owner makes no warranty regarding this Proposal that a contract will be awarded to any proposer.
- F. The Owner agrees that if the Contract is awarded, it will be awarded to the proposer offering the best value to the Owner. The Owner is not bound to accept the lowest priced Proposal if that Proposal is judged not to be the best value for the Owner, as determined by the Owner.

1.12 FORMALITIES

- A. The City of Midland reserves the right to waive irregularities and to reject all proposals.

1.13 APPLICABLE GOVERNING LAWS AND REGULATIONS

- A. In accordance with the Instruction to Proposers, all proposers shall comply with State Labor Laws concerning wage rates Texas Family Code concerning affidavit of eligibility to submit proposals non-discrimination in employment and employment of historically underutilized businesses.

END OF SECTION

DOCUMENT 00 21 16 - INSTRUCTIONS TO PROPOSERS

ARTICLE 1 – DEFINITIONS

- 1.1 Proposal Documents include the Proposal Requirements and the proposed Contract Documents. The Proposal Requirements consist of the Request for Proposals, Instructions to Proposers, the proposal form, and other sample proposal and contract forms. The proposed Contract Documents consist of the form of Agreement between the Owner and Contractor, Conditions of the Contract (General, Supplementary and other Conditions), Drawings, Specifications and all Addenda issued prior to execution of the Contract.
- 1.2 Definitions set forth in the General Conditions of the Contract for Construction, or in other Contract Documents are applicable to the Proposal Documents.
- 1.3 Addenda are written, or graphic instruments issued by the Engineer prior to the execution of the Contract which modify or interpret the Proposal Documents by additions, deletions, clarifications or corrections.
- 1.4 A Proposal is a complete and properly signed proposal to do the Work for the sums stipulated therein, submitted in accordance with the Proposal Documents.
- 1.5 The Base Proposal is the sum stated in the Proposal for which the Proposer offers to perform the Work described in the Proposal Documents as the base, to which Work may be added or from which Work may be deleted for sums stated in Alternate Proposals.
- 1.6 An Alternate Proposal (or Alternate) is an amount stated in the Proposal to be added to or deducted from the amount of the Base Proposal if the corresponding change in the Work, as described in the Proposal Documents, is accepted.
- 1.8 A Proposer is a person or entity who submits a Proposal.
- 1.9 A Sub-proposer is a person or entity who submits a proposal to a Proposer for materials, equipment or labor for a portion of the Work.

ARTICLE 2 - PROPOSER'S REPRESENTATIONS

- 2.1 The Proposer, by making a Proposal, represents that:
 - 2.1.1 The Proposer has read and understands the Proposal Documents and the Proposal is made in accordance therewith.
 - 2.1.2 The Proposer has read and understands the Proposal Documents or contract documents, to the extent that such documentation relates to the Work for which the Proposal is submitted.
 - 2.1.3 The Proposer has visited the site, become familiar with local conditions under which the Work is to be performed and has correlated the Proposer's personal observations with the requirements of the proposed Contract Documents.
 - 2.1.4 The Proposal is based upon the materials, equipment and systems required by the Proposal Documents without exception.
 - 2.1.5 By submitting proposal, each proposer agrees to waive any claim it has or may have against the Owner, the Engineer, the Engineer and their respective employees and offices, arising out of or in connection with the administration, evaluation, or recommendation of any proposal; waiver of any

requirements under the Proposal Documents; or the Contract Documents; acceptance or rejection of any proposals; and award of the Contract.

ARTICLE 3 - PROPOSAL DOCUMENTS

3.1 COPIES

- 3.1.1 Proposal may obtain complete sets of the Proposal Documents from Parkhill as stated in Request for Proposals.
- 3.1.5 Proposal Documents will be issued directly to Subproposers or others unless specifically offered in Request for Proposals.
- 3.1.6 Proposers shall use complete sets of Proposal Documents in preparing Proposals; neither the Owner nor Engineer assumes responsibility for errors or misinterpretations resulting from the use of incomplete sets of Proposal Documents.
- 3.1.7 In making copies of the Proposal Documents available on the above terms, the Owner and the Engineer do so only for the purpose of obtaining Proposals on the Work and do not confer a license or grant permission for any other use of the Proposal Documents.

3.2 INTERPRETATION OR CORRECTION OF PROPOSAL DOCUMENTS

- 3.2.1 The Proposer shall carefully study and compare the Proposal Documents with each other, and with other work being proposal concurrently or presently under construction to the extent that it relates to the Work for which the Proposal is submitted, shall examine the site and local conditions, and shall at once report to the Engineer errors, inconsistencies or ambiguities discovered.
- 3.2.2 Proposers and Sub-proposers requiring clarification or interpretation of the Proposal Documents shall make a written request which shall reach the Engineer at least seven days prior to the date for receipt of Proposals.
- 3.2.3 Interpretations, corrections and changes of the Proposal Documents will be made by Addendum. Interpretations, corrections and changes of the Proposal Documents made in another manner will not be binding, and Proposers shall not rely upon them.

3.3 SUBSTITUTIONS

- 3.3.1 The materials, products and equipment described in the Proposal Documents establish a standard of required function, dimension, appearance and quality to be met by any proposed substitution.
- 3.3.2 No substitution will be considered prior to receipt of Proposals unless written request for approval has been received by the Engineer at least 7 days prior to the date for receipt of Proposals. Such requests shall include the name of the material or equipment for which it is to be substituted and a complete description of the proposed substitution including Drawings, performance and test data, and other information necessary for an evaluation. An item by item (line by line) comparison of each item listed in the specification shall be compiled and submitted comparing specified material/product with proposed substitution. A statement setting forth changes in other material, equipment or other portions of the Work including changes in the work of other contracts that incorporation of the proposed substitution would require shall be included. The burden of proof of the merit of the proposed substitution is upon the proposer. Engineer's approval is for manufacturer only, and not specific material, system or equipment. Approved manufacturer's material, system or equipment is subject to additional and final review after award of contract and submitted for Engineer's approval during Construction Administration submittal/shop drawing review process. The Engineer's decision of approval or disapproval of a proposed substitution shall be final.

- 3.3.3 If the Engineer approves a proposed substitution prior to receipt of Proposals, such approval will be set forth in an Addendum. Proposers shall not rely upon approvals made in any other manner.

3.4 ADDENDA

- 3.4.1 Addenda will be issued via City of Midland.
- 3.4.2 Copies of Addenda will be made available for inspection wherever Proposal Documents are on file for that purpose.
- 3.4.3 No Addenda will be issued later than 2 days prior to the date for receipt of Proposals except an Addendum withdrawing the request for Proposals or one which includes postponement of the date for receipt of Proposals.
- 3.4.4 Only Proposers who obtain Proposal Documents through Parkhill will be registered as a document holder (plan holder) and will therefore automatically receive addenda if/when issued.
- 3.4.5 Each Proposer shall ascertain, prior to submitting a Proposal, that the Proposer has received all Addenda issued, and the Proposer shall acknowledge their receipt in the Proposal.

ARTICLE 4 - PROPOSAL PROCEDURES

4.1 FORM AND STYLE OF PROPOSALS

- 4.1.1 Proposals shall be submitted on forms identical to the form included with the Proposal Documents.
- 4.1.2 All blanks on the proposal form shall be filled in by typewriter or manually, in ink.
- 4.1.3 Where so indicated by the makeup of the proposal form, sums shall be expressed in both words and figures, and in case of discrepancy between the two, the amount written in words shall govern.
- 4.1.4 Interlineations, alterations and erasures must be initialed by the signer of the Proposal.
- 4.1.5 All requested Alternates shall be proposed. If no change in cost to the Base Proposal is required, mark "No Change."
- 4.1.5 Where two or more Proposals for designated portions of the Work have been requested, the Proposer may, without forfeiture of the proposal security, state the Proposer's refusal to accept award of less than the combination of Proposals stipulated by the Proposer. The Proposer shall make no additional stipulations on the proposal form nor qualify the Proposal in any other manner.
- 4.1.6 Each copy of the Proposal shall include the legal name of the Proposer and a statement that the Proposer is a sole proprietor, partnership, corporation or other legal entity. Each copy shall be signed by the person or persons legally authorized to bind the Proposer to a contract. A Proposal by a corporation shall further give the state of incorporation and have the corporate seal affixed. A Proposal submitted by an agent shall have a current power of attorney attached certifying the agent's authority to bind the Proposer.
- 4.1.8 All costs associated with the preparation, submission and delivery of Proposal is the sole responsibility of the Proposer.

4.2 PROPOSAL SECURITY

- 4.2.1 Each Proposal shall be accompanied by a proposal security as stipulated in the Request for Proposals, in the form and amount required, pledging that the Proposer will enter into a Contract with the Owner on the terms stated in the Proposal and will furnish bonds covering the faithful performance of the Contract and payment of all obligations arising thereunder. Should the Proposer refuse to enter into such Contract or fail to furnish such bonds, the amount of the proposal security shall be forfeited to the Owner as liquidated damages, not as a penalty. The amount of the proposal security shall not be forfeited to the Owner in the event the Owner fails to comply with Subparagraph 6.2.1.
- 4.2.2 The surety bond shall be written on AIA Document A310, Proposal Bond, or a similar standard form of the Surety, and the attorney-in-fact who executes the bond on behalf of the Surety, shall affix to the bond a certified and current copy of the power of attorney.
- 4.2.3 The Owner will have the right to retain the proposal security of Proposers to whom an award is being considered until either (a) the Contract has been executed and bonds have been furnished, or (b) the specified time has elapsed so that Proposals may be withdrawn, or (c) all Proposals have been rejected.

4.3 SUBMISSION OF PROPOSALS

- 4.3.1 All copies of the Proposal, the proposal security and other documents required to be submitted with the Proposal shall be enclosed in a sealed opaque envelope. The envelope shall be addressed as indicated in the Request for Proposals and shall be identified with the Project name, the Proposer's name, and address and, if applicable, the designated portion of the Work for which the Proposal is submitted. If the Proposal is sent by mail, the sealed envelope shall be enclosed in a separate mailing envelope with the notation "SEALED PROPOSAL ENCLOSED" on the face thereof.
- 4.3.2 Proposals shall be deposited at the designated location prior to the time and date for receipt of Proposals. Proposals received after the time and date for receipt of Proposals will be returned unopened.
- 4.3.3 The Proposer shall assume full responsibility for timely delivery at the location designated for receipt of Proposals.
- 4.3.4 Oral, telephonic or telegraphic Proposals are invalid and will not receive consideration.
- 4.3.5 The Proposer shall be responsible for all costs associated with preparing the Proposal Document response. The Owner and Engineer shall not incur any costs associated with the production and printing of the Proposal Document and post proposal information.
- 4.3.6 The Proposer shall prepare 6 hard copies and 1 copy in pdf. on a USB flash drive of his proposal information which will be sealed in an opaque envelope.

4.4 MODIFICATION OR WITHDRAWAL OF PROPOSAL

- 4.4.1 A Proposal may not be modified, withdrawn, or canceled by the Proposer during the stipulated time period following the time and date designated for the receipt of Proposals, and each Proposer so agrees in submitting a Proposal.

- 4.4.2 Prior to the time and date designated for receipt of Proposals, a Proposal submitted may be modified or withdrawn by notice to the party receiving Proposals at the place designated for receipt of Proposals. Such notice shall be in writing over the signature of the Proposer or by telegram; if by telegram, written confirmation over the signature of the Proposer shall be mailed and postmarked on or before the date and time set for receipt of Proposals. A change shall be so worded as not to reveal the amount of the original Proposal.
- 4.4.3 Withdrawn Proposals may be resubmitted up to the date and time designated for the receipt of Proposals provided that they are then fully in conformance with these Instructions to Proposers.

ARTICLE 5 - CONSIDERATION OF PROPOSALS

5.1 OPENING OF PROPOSALS

- 5.1.1 As stated in the Request for Proposals, the properly identified Proposals, received on time, will be opened publicly and will be read aloud. An abstract of the same information may, at the discretion of the Owner, be made available to the Proposers within a reasonable time.

5.2 REJECTION OF PROPOSALS

- 5.2.1 The Owner shall have the right to reject any, or all Proposals, reject a Proposal not accompanied by a required proposal security, or by other data required by the Proposal Documents, or reject a Proposal which is in any way incomplete or irregular.

5.3 ACCEPTANCE OF PROPOSAL (AWARD)

- 5.3.1 It is the intent of the Owner to award a Contract to the lowest responsible Proposer provided the Proposal has been submitted in accordance with the requirements of the Proposal Documents and does not exceed the funds available. The Owner shall have the right to waive informalities or irregularities in a Proposal received and to accept the Proposal which, in the Owner's judgment, is in the Owner's own best interests. The issuance of this request for proposals does not obligate the Owner to enter into a contract.
- 5.3.2 The Owner shall have the right to accept Alternates in any order or combination, unless otherwise specifically provided in the Proposal Documents, and to determine the low Proposer on the basis of the sum of the Base Proposal and Alternates accepted.
- 5.3.3 Each proposer agrees to waive any claim it has or may have against the Owner, the Engineer, and their respective employees, arising out of or in connection with the administration, evaluation, or recommendation of any proposal.

ARTICLE 6 - POST-PROPOSAL INFORMATION

6.1 CONTRACTOR'S QUALIFICATION STATEMENT

- 6.1.1 Proposers to whom award of a Contract is under consideration shall submit to the Engineer, upon request, a properly executed AIA Document A305-2020, Contractor's Qualification Statement, Exhibit A, Exhibit B (except for paragraph B.1) and Exhibit C (except for paragraph C.2). Exhibits D and E are not required.

6.2 OWNER'S FINANCIAL CAPABILITY

- 6.2.1 The Owner shall, at the request of the Proposer to whom an award of a Contract is under consideration and no later than seven days prior to the expiration of the time for withdrawal of Proposals, furnish to the Proposer reasonable evidence that financial arrangements have been made to fulfill the Owner's obligations under the Contract. Unless such reasonable evidence is furnished, the Proposer will not be required to execute the Agreement between the Owner and Contractor.

6.3 SUBMITTALS

- 6.3.1 The Proposer shall, as soon as practicable, after notification of selection for the award of a Contract, furnish to the Owner through the Engineer in writing:

6.3.1.1 a designation of the Work to be performed with the Proposer's own forces:

6.3.1.2 names of the manufacturers, products and the suppliers of principal items or systems of materials and equipment proposed for the Work; and

6.3.1.3 names of subcontractors, persons, or entities (including those who are to furnish materials or equipment fabricated to a special design) proposed for the principal portions of the Work.

- 6.3.2 The Proposer will be required to establish, to the satisfaction of the Engineer and Owner, the reliability and responsibility of the persons or entities proposed to furnish and perform the Work described in the Proposal Documents.

- 6.3.3 Prior to the award of the Contract, the Engineer will notify the Proposer in writing if either the Owner or Engineer, after due investigation, has reasonable objection to a person or entity proposed by the Proposer. If the Owner or Engineer has reasonable objection to a proposed person or entity, the Proposer may, at the Proposer's option, (1) withdraw the Proposal, or (2) submit an acceptable substitute person or entity, with an adjustment in the Base Proposal or Alternate Proposal to cover the difference in cost occasioned by such substitution. The Owner may, accept the adjusted proposal price or disqualify, the Proposer. In the event of either withdrawal or disqualification, proposal security will not be forfeited.

- 6.3.4 Persons and entities proposed by the Proposer and to whom the Owner and Engineer have made no reasonable objection must be used on the Work for which they were proposed and shall not be changed except with the written consent of the Owner and Engineer.

ARTICLE 7 - PERFORMANCE BOND AND PAYMENT BOND

7.1 BOND REQUIREMENTS

- 7.1.1 The Proposer shall furnish bonds covering the faithful performance of the Contract and payment of all obligations arising thereunder.

- 7.1.2 The cost shall be included in the Proposal.

7.2 TIME OF DELIVERY AND FORM OF BONDS

- 7.2.1 The Proposer shall deliver the required bonds to the Owner prior to the execution of the Contract.

- 7.2.2 The bonds shall be written on AIA Document A312, Performance Bond and Payment Bond or the Bonding Company's standard bond forms. Both bonds shall be written in the amount of the Contract Sum.

- 7.2.3 The bonds shall be dated on or after the date of the Contract.
- 7.2.4 The Proposer shall require the attorney-in-fact who executes the required bonds on behalf of the surety, to affix thereto a certified and current copy of the power of attorney.

ARTICLE 8 - INSURANCE

8.1 INSURANCE REQUIREMENTS

- 8.1.1 The Proposer shall furnish insurance in the types and amount of coverage required, and shall be secured from sources as defined in the Owner/Contractor Agreement.
- 8.1.2 The cost shall be included in the Proposal.

8.2 TIME OF DELIVERY AND FORM OF INSURANCE

- 8.2.1 The Proposer shall deliver the required certificates of insurance coverage to the Owner upon its execution of the Contract.
- 8.2.2 The insurance certificate shall be written on a form acceptable to the Owner. Insurance shall be written in the amount required by the Contract.
- 8.2.3 The insurance certificates shall be dated on or before the date of the Contract.

ARTICLE 9 - FORM OF AGREEMENT BETWEEN OWNER AND CONTRACTOR

9.1 FORM TO BE USED

- 9.1.1 The Agreement for the Work will be written on Owner provided document.

ARTICLE 10 - APPLICABLE GOVERNING LAWS AND REGULATIONS

10.1 WAGE RATES

- 10.1.1 All Contractors must comply with State Labor Laws as required by current amended provisions of Section 2 of Article 5159a, Texas Civil Statutes. Contractor is required to pay not less than the specified minimum wage rates of the various applicable classes of labor.
- 10.1.2 The Contractor shall forfeit as a penalty to the State, sixty dollars (\$60.00) for each laborer, workman or mechanic employed for each calendar day or portion thereof, if such laborer, workman or mechanic is paid less than the said stipulated rates for any work done under said contract, by Contractor or by their subcontractor.

10.4 NON-DISCRIMINATION

10.4.2 During the proposal and performance of this Contract, the Contractor agrees as follows:

10.4.2.1 The Contractor shall not discriminate against any employee or applicant for employment because of race, color, religion, sex, age, or national origin. The Contractor shall take affirmative action to ensure that applicants are employed, and that employees are treated during employment without regard to their race, color, sex, religion, age, or national origin. Such action shall include, but not be limited to, the following: Employment, upgrading, demotion, or transfer; recruitment or recruitment advertising; layoff or termination; rates of pay or other forms of compensation; and selection for training, including apprenticeship. The Contractor agrees to post in conspicuous places, available to employees or applicants for employment, notices to be provided setting forth the provisions of this non-discrimination article.

10.5 HISTORICALLY UNDERUTILIZED BUSINESS

10.5.2 The Contractor shall include a "Historically Underutilized Business Policy Statement" in all subcontracts pertaining to the Work as follows:

City of Midland is committed to make efforts to assist Historically Underutilized Businesses (HUBs) to receive at least thirty percent (30%) of the total value of all contract awards issued by the state. Therefore, HUBs qualified to do so are encouraged to propose; and all business that propose are encouraged to give particular attention in preparing their proposals to include HUBs as subcontractors and material suppliers at any tier for a total value of at least 30% of the amount of their proposal. **Each proposer is required to state in its proposal (HUB Proposal Supplement) the percentage of the proposal amount represented by women owned HUBs, the percentage represented by minority-owned HUBs, and the combined total of each.**

HUB Subcontracting Program Reporting Policy, Responsibilities at the time of award:

The State of Texas operates under the basic principles of free and vigorous competition. In accordance with House Bill 2626, 73rd Legislature, all state agencies are to give a good faith effort to award at least thirty percent (30%) of the total value of all contracts to certified HUBs. Achievement of the goal may be reached by the state contracting directly with HUB vendors or by the state's general contractors establishing contracts with HUB vendors as subcontractors, suppliers or material providers.

All contractors are required to prepare the reporting forms within the designated time period stated on each form to assist City of Midland's efforts to document HUB vendor usage. Contractors that have demonstrated past HUB participation are still expected to provide documentation at the prescribed times.

General Services Commission (GSC) will assist contractors in identifying HUB businesses, call 512.463.3612. If contractors have difficulty in obtaining HUB vendors or meeting the goal targeted, contractor will be required to provide City of Midland with information under the good faith effort criteria listed below:

Delivery of a written notice to all HUB Subcontractors or Suppliers identified on the GSC HUB Certification Directory, contractor group listings, State Agency listings, other government agencies listings, and to any local HUB who requested information on the job. The notice will contain (1) adequate information about the plans, specifications, and requirements of the Contract and Subcontract work, and (2) a contact person within the Contractor's office to answer questions.

Provide documentation on the type of solicitations made for HUB participation, include records, and submit evidence of correspondence and responses from HUBs. In accordance with normal industry practices, divide contract into small, economically feasible segments which could be performed by HUBs, include dollar amount offered to HUB.

Evidence of the steps taken to assist in financing, bonding, and technical assistance services for HUBs where HUBs are otherwise qualified and information as to the Contractors bonding requirements, the procedure for obtaining any needed bond, and the telephone number of one or more acceptable surety companies contacted. Provide an explanation for rejection to any HUB whose proposal is rejected, unless another HUB is accepted for the same work, as follows: (1) where price competitiveness is not the reason, a written rejection notice will include the reason for rejection, and (2) where price competitiveness is the reason, a meeting will be held, if requested, with the price-rejected HUB to discuss the rejection.

10.5.3 City of Midland will review and evaluate the above documentation on the basis of demonstrated "good faith effort." Additional positive efforts or technical assistance may be provided and/or suggested by GSC. GSC will assist contractors in affirmative action plans to achieve the state's HUB contracting goal, call .512.463.3612.

10.5.4 An Historically Underutilized Business is defined by stature as (a) a corporation formed for profit in which at least 51 percent of the equity is owned by one or more women or Black, Hispanic, Asian Pacific, or Indian Americans, (b) a sole proprietorship 100 percent owned, operated, and controlled by such person(s), (c) a partnership in which such person(s) own at least 51 percent of its assets and interest and have proportionate control of partnership affairs, (d) a joint venture of HUBs, or (e) a supplier contract between an HUB and a prime contractor under which the HUB manufactures, distributes, or warehouses and ships the supplies.

10.5.5 **The proposer shall indicate in the appropriate space on the HUB Proposal Supplement whether or not the proposer meets the definition of an Historically Underutilized Business.**

10.5.6 **The proposer shall also indicate in the appropriate space on the HUB Proposal Supplement whether or not the proposer meets the following definition of a small business:**

A Small Business is a corporation, partnership, sole proprietorship or other legal entity formed for the purpose of making a profit which is independently owned and operated and has either fewer than 100 employees or less than \$1,000,000 in gross annual receipts during the past calendar or fiscal year.

END OF SECTION

DOCUMENT 00 26 00 - PROCUREMENT SUBSTITUTION PROCEDURES

1.1 DEFINITIONS

- A. Procurement Substitution Requests: Requests for changes in products, materials, equipment, and methods of construction from those indicated in the Procurement and Contracting Documents, submitted prior to receipt of Proposals.
- B. Substitution Requests: Requests for changes in products, materials, equipment, and methods of construction from those indicated in the Contract Documents, submitted following Contract award. See Section 01 25 00 "Substitution Procedures" for conditions under which substitution requests will be considered following Contract award.

1.2 QUALITY ASSURANCE

- A. Compatibility of Substitutions: Investigate and document compatibility of proposed substitution with related products and materials. Engage a qualified testing agency to perform compatibility tests recommended by manufacturers.

1.3 PROCUREMENT SUBSTITUTIONS

- A. Procurement Substitutions, General: By submitting a Proposal, the Proposer represents that its Proposal is based on materials and equipment described in the Procurement and Contracting Documents, including Addenda. Proposers are encouraged to request approval of qualifying substitute materials and equipment when the Specifications Sections list materials and equipment by product or manufacturer name.
- B. Procurement Substitution Requests will be received and considered by Owner when the following conditions are satisfied, as determined by Architect; otherwise requests will be returned without action:
 - 1. Extensive revisions to the Contract Documents are not required.
 - 2. Proposed changes are in keeping with the general intent of the Contract Documents, including the level of quality of the Work represented by the requirements therein.
 - 3. The request is fully documented and properly submitted.

1.4 SUBMITTALS

- A. Procurement Substitution Request: Submit to Architect. Procurement Substitution Request must be made in writing in compliance with the following requirements:
 - 1. Requests for substitution of materials and equipment will be considered if received no later than 7 days prior to date of Proposal opening.
 - 2. Submittal Format: Submit 3 copies or 1 PDF copy of each written Procurement Substitution Request, using CSI Substitution Request Form 1.5C. All copies must be legible.
 - 3. Provide product data in a side-by-side, line-by-line review. Substitution Request Form 1.5C received without product data will be returned unanswered. Additionally, provide appropriate drawings, samples, tests, and reports as necessary to support and clarify product data. Attach all as backup data to CSI Substitution Request Form 1.5C.

- B. Architect's Action:
 - 1. Architect may request additional information or documentation necessary for evaluation of the Procurement Substitution Request. Architect will notify all Proposers of acceptance of the proposed substitute by means of an Addendum to the Procurement and Contracting Documents.
- C. Architect's approval of a substitute during the Proposal process does not relieve Contractor of the responsibility to submit required Shop Drawings and to comply with all other requirements of the Contract Documents.

END OF DOCUMENT

SECTION 00 31 00 – AVAILABLE PROJECT INFORMATION

PART 1 - GENERAL

1.1 SUMMARY

A. Related Sections:

1. Division 01 Specification Sections apply to Work of this Section.

1.2 INFORMATION

A. Property Survey:

1. A survey of the property was authorized by the Owner, and the survey was made by:

Parkhill
1700 W Wall Street
Midland, TX 79701
(432) 697-1447

2. Site layout, Drawings and boundary traverse and closure information included in the Drawings.
3. Property survey and Site improvement layout is available for Contractor's information.

1.3 RESPONSIBILITY

- A. Proposers are expected to examine the Site survey information then determine for themselves the validity of the information contained there-in as it relates to this Project.
- B. Engineer and Owner do not guarantee continuity of conditions indicated at boring locations and assume no responsibility for variations of subsoil quality or conditions.
- C. Engineer and Owner assume no responsibility for variations of Site survey information.

PART 2 - PRODUCTS (Not Used)

PART 3 - EXECUTION (Not Used)

END OF SECTION

SECTION 00 31 32 - GEOTECHNICAL DATA

PART 1 - GENERAL

1.1 SUMMARY

- A. Related Requirements:
 - 1. Division 01 Specification Sections apply to Work of this Section.

1.2 INFORMATION

- A. Geotechnical Data:
 - 1. An investigation of subsurface soil conditions at the construction site was authorized by Owner, and investigations at the West CCS Site were made by:

Beyond Engineering and Testing
011-B South County Road 1260
Midland, TX 79706
432.561.5780

Investigations at the North CCS Site were made by:

Terracon
10400 State Hwy 191
Miland, TX 79707
432.684.9600

- 2. The two reports, in their entirety, are bound at the end of this Section.

1.3 GEOTECHNICAL DATA

- A. This Document with its referenced attachments is part of the Procurement and Contracting Requirements for Project. They provide Owner's information for Proposers' convenience and are intended to supplement rather than serve in lieu of [Proposers' own investigations. This Document and its attachments are not part of the Contract Documents.
- B. Because subsurface conditions indicated by the soil borings are a sampling in relation to the entire construction area, and for other reasons, the Owner, Architect, Engineer, the Architect's or Engineer's consultants, and the firm reporting the subsurface conditions do not warranty the conditions below the depths of the borings or that the strata logged from the borings are necessarily typical of the entire site. Any party using the information described in the soil borings and geotechnical report shall accept full responsibility for its use.
 - 1. The opinions expressed in this report are those of a geotechnical engineer and represent interpretations of subsoil conditions, tests, and results of analyses conducted by a geotechnical engineer. Owner is not responsible for interpretations or conclusions drawn from the data.
 - 2. Any party using information described in the geotechnical report shall make additional test borings and conduct other exploratory operations that they may require to determine the character of subsurface materials that may be encountered.

3. Proposers are expected to examine the geotechnical data reports and then determine for themselves the validity of the information contained there-in as it relates to this Project.

PART 2 - PRODUCTS (Not Used)

PART 3 - EXECUTION (Not Used)

END OF SECTION

January 5, 2022

Via email: jahrlett@midlandtexas.gov

Attn: Mr. Jeffrey Ahrlett
Director of Solid Waste
City of Midland
300 N Loraine
Midland TX 79701

**Reference: Geotechnical Report
Citizen's Collection Station
6400 West Highway 80
Midland, Texas
BEYOND Project No. GT2111061**

Dear Mr. Ahrlett:

Beyond Engineering and Testing, LLC (BEYOND) is pleased to present our geotechnical engineering study for the proposed Citizen's Collection Center project in Midland, Texas. City of Midland (Client) commissioned this geotechnical engineering study to explore and evaluate the subsurface conditions at the site, develop geotechnical design parameters, and provide related construction recommendations for the project. Our geotechnical report describes our field exploration and laboratory testing program, our engineering interpretation pertinent to the project, as well as earthwork guidelines for the project.

We appreciate the opportunity to serve you. We look forward to working with you on construction materials testing services during construction phase. Note that BEYOND is already under contract with Client for this project. As such, a simple change order is needed to approve testing services during construction phase. Please call us if you have any questions concerning this report or any of our other services.

Respectfully submitted,
Beyond Engineering and Testing, LLC



Appasaheb "Amar" Kadam
Project Manager, E.I.T.

GEOTECHNICAL REPORT

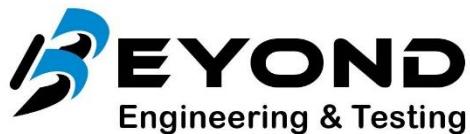
Citizen's Collection Station

6400 WEST HIGHWAY 80
MIDLAND, TEXAS

Prepared For:

City of Midland
300 N Loraine, Midland, Texas 79701

Prepared By:



Beyond Engineering and Testing, LLC
3011-B South County Road 1260
Midland, Texas 79706

432.561.5780 | www.BEYONDET.com

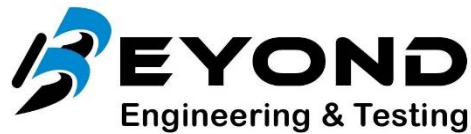
January 5, 2022
BEYOND Project No. GT2111061

Geotechnical Report

Citizen's Collection Station

6400 WEST HIGHWAY 80
MIDLAND, TEXAS

This Report Prepared By:



Beyond Engineering and Testing, LLC

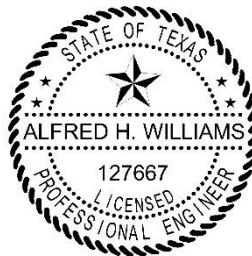
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Midland, TX 79706

432.561.5780 | www.BeyondET.com

Prepared by:

A handwritten signature in black ink, appearing to read 'Appasaheb Kadam', written over a horizontal line.

Appasaheb "Amar" Kadam
Project Manager, E.I.T



01/05/2022

Reviewed by:

A handwritten signature in black ink, appearing to read 'Alfred Williams', written over a horizontal line.

Alfred Williams, P.E.
Geotech Department Manager

FIRM REGISTRATION NO. F-19523 - TEXAS

January 5, 2022

Project No. GT2111061

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PACKET

7.41

September 12, 2023

**Geotechnical Report
Citizen's Collection Station
Midland, Texas**

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APPENDIX A

Figure 1: Project Site Location Map
Figure 2: Borehole Locations Map
Figure 3: Site Vicinity Geologic Map
Log of Boring Key
Logs of Boring
Summary of Laboratory Test Results
Xenco Analytical Report

**Geotechnical Report
Citizen's Collection Station
Midland, Texas**

1.0 INTRODUCTION

Beyond Engineering and Testing, LLC (BEYOND) is pleased to present our subsurface exploration and geotechnical engineering evaluation for the proposed Citizen's Collection Station project. The proposed project site will be situated near 6400 West Highway 80 in Midland, Texas at GPS coordinates (31.955276, -102.159771). The approximate project location is shown on Figure 1, Project Site Location Map, within Appendix A.

The purpose of this geotechnical investigation and report is to:

- Explore subsurface conditions;
- Conduct field and laboratory testing to characterize the engineering properties of subsurface materials;
- Provide geotechnical engineering parameters for the design and construction of foundation systems;
- Provide pavement recommendations, and;
- Provide earthwork requirements.

The recommendations contained in this report are based upon field and laboratory test results, engineering analyses, experience with similar subsurface conditions, and our project understanding.

2.0 PROPOSED CONSTRUCTION

BEYOND understands the proposed project will comprise of Citizen's Collection Station facility which consists of 40 feet by 60 feet metal building, concrete pavement, a built-up ramp and retaining walls for roll-off drops.

3.0 FIELD EXPLORATION

BEYOND prepared and executed a field exploration program for the proposed project on November 19, 2021. The approximate boring locations are shown on Figure 2, Borehole Locations Map, within Appendix A of this report. A summary of approximate geographic latitude and longitude coordinates and depth of each boring drilled as part of the subsurface exploration program is presented in Table 3.0.1.

Table 3.0.1 – Summary of Boring Locations and Depths

Boring No.	Latitude (degrees)	Longitude (degrees)	Total Boring Depth (feet)
B-1	31.955617	-102.157978	19
B-2	31.955419	-102.158930	19
B-3	31.955276	-102.159771	19

Notes: Latitude and longitude coordinates provided in Table 3.0.1 were obtained from a hand-held GPS device with accuracy of approximate 15 to 20 feet.

BEYOND utilized air rotary drilling method to advance the boreholes. We collected samples using Standard Penetration Testing (SPT) split spoon samplers. We collected all samples from the samplers in the field, performed visual soil classification, labeled the samples as to location and depth, and bagged soil samples to minimize moisture changes. We conducted the SPT tests in general accordance with ASTM D1586: Standard Test Method for Standard Penetration Test (SPT) and Split-Barrel Sampling of Soils. SPT test results are shown on the attached Boring Logs under the “Field Data” column and are preceded by the letter “N”. SPT testing was performed using automatic hammer.

BEYOND prepared field logs for each boring drilled. The field logs contain visual classifications of the materials encountered during drilling as well as interpolation of the subsurface conditions between samples. We also observed for groundwater level in the borehole while advancing the boreholes. These observations are discussed in subsequent sections of this report.

The project engineer reviewed the field logs, samples, and laboratory data to make appropriate modifications to the field logs. BEYOND classified soils in general accordance with the Unified Soil Classification System (USCS). The soil classification symbols on the boring logs are described in the *Boring Log Key* included in Appendix A. The final logs of boring include modifications based on our laboratory test results and observations performed on the soil samples collected in the field. The final logs of boring describe the materials encountered, strata thickness, the various depths at which the samples were obtained, as well as field test results.

4.0 SUBSURFACE CONDITIONS

4.1 Regional Geology

As per the geologic Atlas of Texas, Pecos sheet, the geology at the project site and in the vicinity consists of the following.

Quaternary Period Units

- **Playa Deposits (Qp):** Shallow, closed, depressions that have filled mainly with clay and silt, along with minor amounts of sand.
- **Windblown Cover Sand (Qcs/Qbd):** Eolian deposits comprised of fine- to medium-grained sand-sized quartz grains, silty in nature, with calcareous and caliche deposits being common. Windblown sediments can reach 10 feet in thickness.

Site vicinity geologic map is shown on Figure 3 within Appendix A of this report.

4.2 Subsurface Stratigraphy

As indicated on our logs of borings drilled as part of this study, native soils were encountered beneath approximately 2 inches of topsoil and extended to the bottom of the boring. The native soils generally encountered are as follows:

- Loose to very dense sand with varying amounts of clay, silt and gravel.

Bedrock was not encountered in any of the borings completed as part of this study.

The above descriptions are general and depth ranges are approximate because boundaries between different strata are seldom clear and abrupt in the field. In addition, the lines separating major strata types on the logs of borings do not necessarily represent distinct lines of demarcation of the various strata. Detailed logs of borings for locations drilled as part of this study, which present the stratum descriptions, types of sampling used, laboratory test data, and additional field data, are presented in Appendix A. The Boring Log Key, defining the terms and descriptive symbols used on each log of boring, is also presented in Appendix A.

4.3 Groundwater Conditions

BEYOND did not encounter groundwater during drilling operations.

Based on the Texas Water Development Board (TWDB) Groundwater Database of water wells within a 0.25-mile radius from the project site locations, groundwater levels at adjacent water wells were recorded at depths of 39 to 42 feet below ground surface. These measurements are from submitted driller's well reports from 2014.

It is imperative to note that the short-term groundwater level observations performed as part of this study are not an accurate evaluation of groundwater levels at the project site and should not be interpreted as a comprehensive groundwater study. The observations made during this investigation may also not represent conditions at the time of construction and it should be understood the presence of groundwater may have an effect on certain construction activities and long-term performance of foundations and pavements. Groundwater levels are highly dependent on climatic and hydrologic conditions before and after construction, and site development including irrigation demands, drainage and other factors. If a detailed groundwater study is desired, a groundwater hydrologist should be retained to perform these services.

5.0 LABORATORY TESTS

BEYOND performed various laboratory tests to determine the soil's physical properties. These tests allow us to classify soils and to assess soil performance under the project design conditions. Laboratory tests are presented in each respective *Log of Boring* and in the *Summary of Laboratory Tests* in Appendix A. The project geotechnical engineer assigned appropriate laboratory tests on selected soil samples. BEYOND performed the following laboratory methods for soil analyses:

- Standard Practice for Classification of Soils for Engineering Purposes (Unified Soil Classification System): ASTM D2487;
- Standard Test Methods for Laboratory Determination of Water (Moisture) Content of Soil and Rock by Mass: ASTM D2216;
- Standard Test Methods for Liquid Limit, Plastic Limit, and Plasticity Index of Soils: ASTM D4318;
- Standard Test Methods for Amount of Material in Soils Finer than No. 200 (75-µm) Sieve: ASTM D1140;
- Sulfate and Chlorides Content: EPA 300/300.1;

5.1 **Geotechnical Laboratory Test Results**

Moisture content tests were performed, in accordance with ASTM D2216, on selected soil samples. The test results are provided on Logs of Boring in Appendix A of the report as well as on the Summary of Laboratory Results in Appendix A of this report.

Percent finer than No. 200 (75-µm) sieve tests were performed, in accordance with ASTM D1140, on selected soil samples. The test results are provided on Logs of Boring in Appendix A of the report as well as on the Summary of Laboratory Results in Appendix A of this report.

Laboratory test results indicate that the native clay soils have liquid limit (LL) values range from non-plastic to 39% and plastic limit (PL) value ranging from non-plastic to 23%, with Plasticity Index (PI) values ranging from about non plastic to 23%. Based on FHWA-NHI-10-016 for the method of identifying potentially expansive soils as shown in Table 5.1.1, the soils at this proposed project site possess low swell potential.

Table 5.1.1 – Method of Identifying Potentially Expansive Soils (from FHWA-NHI-10-016)

Liquid Limit (%)	Plasticity Index	Potential Swell (%)	Potential Swell Classification
< 50	< 25	< 0.5	Low
50 to 60	25 to 35	0.5 to 1.5	Marginal
> 60	> 35	> 1.5	High

The Potential Vertical Rise (PVR) is the potential ability of a soil material to swell, at a given density, moisture and loading condition, when exposed to capillary or surface water. We estimate the PVR value for lightly loaded slabs-on-grade or shallow footings to be less than 1-inch, using the TxDOT method Tex-124-E.

A summary of laboratory testing results is presented in Appendix A of this report.

5.2 Soil Corrosiveness

BEYOND obtained the services of Xenco Laboratories to perform analytical tests to determine the content of soluble sulfate and chloride in the soils at or near foundation bearing depths. The results of soluble sulfate and chloride content are summarized in Table 5.2.1.

Table 5.2.1 – Results of Soluble Sulfate and Chloride Content

Boring No.	Depth of Sample (feet)	Soluble Chlorides (mg/kg)	Soluble Sulfate (mg/kg)
B-1	0	<4.95	<4.95

These test results indicate non-corrosive chloride content and negligible sulfate contents. The Xenco test results are included within Appendix A.

6.0 FOUNDATION DESIGN AND GEOTECHNICAL RECOMMENDATIONS

BEYOND understands the proposed Citizen's Collection Station facility consists of a 40 foot by 60 foot metal building, concrete and asphalt pavement, a built-up ramp and retaining walls for roll-off drops.

Based on the site geotechnical conditions, shallow foundations may be used to support the proposed buildings. Earthwork requirements for the proposed buildings are provided under Section 7.

We recommend that BEYOND's geotechnical engineer or our qualified representative be retained to observe shallow foundation excavations in this area to assess the need for any over-excavation and re-compaction and/or replacement.

6.1 Shallow Foundations

We recommend that the spread footings at the site should have a minimum embedment of 2 feet below final site grade for confinement, and the strip footings should have a minimum embedment of 1.5 feet below final site grade. The footings should bear on soils placed in accordance with Section 7 of this report. We recommend a minimum width of 12 inches for strip footings and a minimum of 24 inches for spread footings.

For our engineering analyses, we utilized the strength parameters provided in Table 6.1.1. Site grading plans for the proposed project site were not available during preparation of this report. BEYOND assumes final grade of the drop area will be approximately 1 to 6 feet higher than existing site grade.

Table 6.1.1 – Engineering Properties of Subsurface Materials for Shallow Foundation

Angle of Internal Friction, ϕ' (degree)	Total Unit Weight, γ (pcf)	Ultimate Coefficient of Friction, μ
30	110	0.35

Table 6.1.2 provides the values for net allowable bearing pressures against general shear failure based on a factor of safety of 3 for continuous and footings that bear on soils placed in accordance with Section 7 of this report. We estimate total footing settlement should not exceed 1-inch based on the allowable bearing pressures provided in Table 6.1.2.

Table 6.1.2 – Allowable Bearing Pressures for Shallow Foundations

Footing Type	Footing Width (feet)	Footing Depth (feet)	Allowable Bearing Pressure (psf)
Continuous Footing	1.0	1.5	1,250
Continuous Footing	1.5	1.5	1,500
Spread Footing	2.0	2.0	2,500
Spread Footing	2.0	3.0	3,500

Proper drainage must be maintained during construction and throughout the life of the structures to provide for improved shallow foundation performance. Other design and construction recommendations as outlined in the ACI design manual should be followed.

6.2 Floating Floor Slab for Building

A floating slab-on-grade is structurally independent of the spread footings. This option is also viable for the proposed building. The slab-on-grade can be supported on properly prepared subgrade in accordance with Section 7.1 of this report. A properly prepared subgrade should provide a modulus of subgrade reaction, K_1 , of about 90 psi/inch, where K_1 corresponds to modulus of subgrade reaction corresponds to a 1-ft x 1-ft plate.

For square footing on cohesionless soil subgrade, the subgrade modulus value may be modified for various foundation widths based upon the following equation:

$$K_s = K_1 \left[\frac{B+1}{2B} \right]^2$$

Where:

K_s = adjusted modulus of subgrade reaction based on actual footing width;

K_1 = modulus of subgrade reaction corresponds to a 1-ft x 1-ft plate;

B = footing width (in feet)

We recommend an optional crushed stone layer of four (4) inches in thickness immediately below the floor slab. The crushed stone should meet TxDOT Item 247, Grade 3. The crushed stone will provide increased support, assist in reducing differential floor settlements, and provide uniform friction across the bottom of the slab. Most importantly, the crushed stone allows truck traffic during construction without rutting. The design team may choose to avoid the crushed stone layer. With this option, we recommend using a pump to place concrete. Using a pump avoids truck traffic on the finished subgrade.

Based on our experience of similar projects, we provide the following guidelines for concrete floor slab design and construction. The concrete specifications should require a low water/cement ratio and the concrete should be placed with a relatively dry slump. Control joints should be constructed while the concrete is relatively green, before it shrinks. Spacing for control joints should be 15 to 20 feet to control shrinkage cracks.

In order to improve aesthetics by reducing shrinkage cracks and irregular surface textures, BEYOND also recommends the following: the ready-mix concrete should arrive at the target slump and the contractor should not be allowed to add water to the mixture. Water sprayed onto the slab during 'bull floating' must be minimal; otherwise, alligator cracking of the surface may develop. If vapor barriers are used, the designer should also consider adding a thin sand cushion on top of the vapor barrier. This bedding sand allows the concrete to cure evenly from top to bottom. Other design and construction recommendations as outlined in the ACI design manual should be followed.

6.3 Lateral Earth Pressures

Following are recommended equivalent fluid pressures for below-grade walls using native soils or imported materials as backfill. When backfilling adjacent to retaining walls, the contractor should be careful not to over-compact soils adjacent to the wall, thus inducing additional lateral stresses on the retaining walls. Proper drainage should be provided away from the walls during all phases of construction and post-construction grading. Below grade basement walls are considered as non-yielding walls due to restrained at the top to prevent sufficient movement to develop active condition. The at-rest lateral pressures are the appropriate earth pressures to use for design of basement walls. Active earth pressure may be for walls that exhibit a certain degree of horizontal movement, such as cantilevered retaining walls.

Positive drainage should be provided to prevent the buildup of hydrostatic water pressure on the walls. To prevent hydrostatic build-up, retaining walls should incorporate a wall drain for collection and removal of surface water behind the walls. A clean, granular, free-draining materials with no more than 5% passing the No. 200 sieve is the preferred backfill for wall drains. Acceptable backfill would be crushed material with a gradation of in general conformance with ASTM C33, No. 57 or 67 aggregate. The high permeability of such material, combined with adequate drainage, such as weepholes at the bottom of the wall, prevents hydrostatic build-up. If no positive drainage is provided, hydrostatic water pressure should be considered in the design of the walls.

Backfill materials for the retaining wall should be placed and compacted to a minimum compaction of 95% of the maximum dry density as determined by ASTM D698 and moisture conditioned within +/- 2% of optimum moisture content. The loose thickness of each layer before compacting shall not exceed 8 inches. Close to retaining walls, smaller compactors should use to prevent excessive lateral pressures against the retaining walls from stress caused by heavy compactors.

Table 6.3.1 – Equivalent Fluid Pressures for Lateral Earth Pressures

Soil Type	Lateral Earth Pressure Condition	Lateral Earth Pressure Coefficient	Equivalent Fluid Pressure (psf/ft)
Native or Imported Cohesionless Soils $\phi'=31$, $\gamma_t=115$ pcf	At-Rest Condition	$k_o=0.48$	56
	Active Condition	$k_a=0.32$	37
	Passive Condition	$k_p=3.12$	360

The values apply only to cases where the ground surface is level. BEYOND should be contacted to provide suitable values for cases where the ground surface is sloped. These earth pressure values do not include safety factors or hydrostatic pressure. Surcharge loads should also be considered.

6.4 Seismic Parameters

The following seismic parameters are based on the 2015 International Building Code (IBC) and a Site Class D for this project site. The Mapped Spectral Response Acceleration for the 1 second (S_1) and short periods (S_s) were computed using the U.S. Seismic Design Maps web-based application program developed by the Applied Technology Council (ATC). Table 6.4.1 summarizes recommended seismic parameters to be used in the design:

Table 6.4.1 Recommended Seismic Parameters

Parameter	Calculated Value
S_s – Mapped Spectral Response Acceleration at Short Period (0.2-Second)	0.124 g
S_1 – Mapped Spectral Response Acceleration at 1-Second Period	0.033 g
F_a (Site Coefficient) – Site Class D	1.6
F_v (Site Coefficient) – Site Class D	2.4

Note: Seismic Parameters were obtained from <https://hazards.atcouncil.org/#/>

7.0 FOUNDATION CONSTRUCTION CRITERIA

In this section, we provide various specifications and construction recommendations to allow earthwork to meet the intent of the geotechnical parameters provided in Section 6. We recommend that BEYOND be retained to provide verification testing services during construction. This allows us to verify that construction of foundation items are in compliance with our recommendations.

7.1 Site Preparation

Prior to construction, the contractor should establish proper and positive drainage to maintain a relatively dry condition at the proposed construction site. This will be important if any work is attempted during prolonged rainfall periods. Water ponding in construction areas should be avoided.

Winter weather conditions can also impact the construction process. Newly placed fill should not be placed on frozen subgrade and frozen material should not be used for fill.

Site preparation should begin by removing surface debris, vegetation, organic topsoil, loose soil and major root systems, if any. Compact resulting subgrade and verify stability using a proof-roll test. Conduct a proof-roll tests using a loaded dump truck or loaded double-axle water truck with a minimum weight of 20 tons. Passing proof-roll tests must show less than ½-inch deflection and no area pumping. Any soft spots or areas that exhibit pumping should be excavated and re-compacted to a minimum compaction of 98% of the maximum dry density as determined by ASTM D698 and moisture conditioned within +/- 2% of optimum moisture content.

The base of each foundation excavation should be observed by the geotechnical engineer or a qualified representative prior to foundation installation.

7.2 Select Fill Below Foundation and Floor Slab

Select non-expansive fill material placed within foundation and floor slab areas should meet one of the following soil classifications: SC-SM, SM, SC, CL, GC or GW-GC. In addition, select fill shall possess a plasticity index, PI of less than 18 and shall not possess particle sizes greater than 3-inches. Native soils within the upper 5 feet below existing site grade may be used as select fill. Additional testing should be performed during construction to verify the suitability of native soils as select fill.

Select fill below the foundation should be placed in loose lifts not exceeding 8-inches and should be compacted to a minimum compaction of 98% of the maximum dry density as determined by ASTM D698 and moisture conditioned within +/- 2% of optimum moisture content for cohesive soils or moisture conditioned within +/- 3% of optimum moisture content for cohesionless soils. Compacted backfill density should be verified by nuclear density tests, with at least one test per 2,500 square feet for each lift under buildings and one test per 5,000 square feet in other areas.

7.3 Shallow Foundation Construction

The following construction criteria and general guidance should be observed during shallow foundation construction:

1. Remove loose soils from footing excavations. Do not allow loose, excavated soils from the footings to be spread out within the building pad. These loose soils will cause differential settlements.
2. Excavations for footings should be accomplished with a smooth-mouthed bucket. If a toothed bucket is used, excavation with this bucket should be terminated a few inches above final grade and the excavation completed with a smooth-mouthed bucket or by manual labor. Debris or loose material in the bottom of the excavation should be re-compacted or removed prior to placing concrete. This is especially important along footing excavations.

3. The foundation excavation should be sloped sufficiently to create internal sumps for runoff collection and removal. Foundation excavations subject to rainfall and possible deterioration from accumulated water should be protected using a protective “mud-slab” (concrete). If surface runoff water or groundwater seepage accumulates at the bottom of the foundation excavation, it should be collected and removed and not allowed to adversely affect the quality of the bearing surface.
4. The foundation excavations should be checked for size and cleaned of loose material and debris prior to the placement of reinforcing steel. Precautions should be taken during the placement of reinforcement and concrete to prevent the loose excavated material from falling into the excavation.
5. Prior to the placement of concrete, any water must be removed from the foundation excavation.
6. Prompt placement of concrete in the excavation as it is completed, cleaned, and observed is strongly recommended.

7.4 Open Excavations

Temporary construction slopes and/or permanent embankment slopes should be protected from surface runoff water. Site grading should be designed to allow drainage at planned areas where erosion protection is provided, instead of allowing surface water to flow down unprotected slopes. Surcharge loads, either static or dynamic, should not be applied to an excavation slope. Construction equipment should be prevented from traveling along or near the top of the excavation slope. Monitoring of temporary slopes, trenches, and dewatering during construction should be undertaken by the contractor to detect early warnings of movement within slopes, structures, pavements, etc.

In all cases of excavations in soils, sloped excavations and trench shields are required for excavations greater than four feet in depth. The contractor’s “Competent Person” (as defined by OSHA) must inspect each trench to determine the type of bench or slope that is actually required. With all excavations, only a “competent person” shall determine whether sloped, benched, or trench shields can be used. OSHA and applicable state and local standards should be observed and followed. Site safety is the responsibility of the contractor.

7.5 Drainage

Proper drainage should be provided away from the foundation elements during all phases of construction and post-construction grading. Proper drainage is essential to the long-term stability of the structure. Ponding of water near the foundation elements from improper drainage should not be permitted. Downspouts should use splash blocks that divert water away from the foundation. Planters near buildings should be lined and should not allow saturation of soils near the foundation.

8.0 PAVEMENTS

The proposed pavement sections presented here are calculated based solely on engineering structural parameters. Construction cost is not included in this analysis. Daily traffic volume or 18-kips Equivalent Single-Axle Loads (ESALs) for the proposed pavement was not available during preparation of this report. We anticipate traffic will mainly consist of passenger cars, pick-up trucks and haul trucks to transport the trash receptacles. We understand the facility will utilize the pavement sections outlined in Table 8.1.1. Based on the proposed pavement sections and assumptions below we have calculated the estimated ESAL's that the pavement can support over a design life of 20 years.

8.1 Design Recommendations for Pavements

BEYOND calculated pavement section options in accordance with the *AASHTO Guide for Design of Pavement Structures 1993*. For pavement analysis we assumed the following parameters:

- Design life: 20 years;
- Reliability: 85% (Flexible) or 90% (Rigid);
- Overall Standard Deviation: 0.45 (Flexible) or 0.35 (Rigid);
- Initial Serviceability: 4.2 (Flexible) or 4.5 (Rigid);
- Terminal Serviceability: 2.0 (Flexible) or 2.5 (Rigid);
- Assumed CBR-value: 6.0
- Design Resilient Modulus (psi): 8,000
- Asphaltic Concrete: Layer structural coefficient of 0.44, and a drainage coefficient of 1.0; and
- Untreated Base Course: Layer structural coefficient of 0.14, and a drainage coefficient of 1.0.
- Concrete compressive strength: 3,500 psi

Table 8.1.1 presents our pavement sections based on our assumed design parameters.

Table 8.1.1 Recommended Pavement Section

Option	Estimated ESAL's	Concrete Thickness (inches)	HMAC Thickness (inches)	Untreated Aggregate Base Course Thickness (inches)
Light Duty Asphalt	25,000	--	2.0	6.0
Heavy Duty Asphalt	275,000	--	3.0	9.0
Concrete Pavement	900,000	8.0	--	6.0

The concrete pavement should be designed by the Civil Engineer to have proper reinforcement. As a general guideline, a minimum of #3 reinforcing bars at 18 inches on-center-each-way (OCEW) is recommended for the proposed concrete pavement.

8.2 Material Specifications

The pavement should be specified, constructed, and tested to meet the following requirements:

1. *Natural Subgrade* – Remove all vegetation and construction debris. Scarify the resulting subgrade to at least 12 inches, moisture condition and compact to a minimum of 98% of the maximum density per ASTM D698 and moisture conditioned within +/- 2% of optimum moisture content for cohesive soils or moisture conditioned within +/- 3% of optimum moisture content for cohesionless soils. The compacted surface shall be proof-rolled using a loaded tandem-axle dump truck or water truck of 25 tons or heavier. Passing proof-roll tests must show less than 1-inch deflection and no area pumping. Soft spots or areas exhibiting pumping should be excavated and re-compacted. Use select fill placed in accordance with Section 7.3 to reach final target site grade.
2. *Crushed Limestone Base Material (Flexible Base)* - Crushed rock as per Texas Department of Transportation, Standard Specifications for Construction and Maintenance of Highways, Streets and Bridges (2014), Item 247, **Grade 2** or better. The material should be compacted to a minimum of **95%** of the maximum density as per **ASTM D1557**.
3. *Portland Cement Concrete* - BEYOND recommends using a TxDOT **Class P** concrete mix design, or similar.
4. *HMAC – Type B* Hot Mix Asphaltic Concrete surface course. This material should meet TxDOT Item 340 specifications.
5. *Prime Coat* – Texas Department of Transportation Item 310.

9.0 LIMITATIONS

Recommendations contained in this report are based on our field observations and subsurface explorations, limited laboratory tests, and our present knowledge of the proposed construction. It is possible that soil conditions will vary between or beyond the points explored. If soil conditions are encountered that differ from those described herein, we should be notified immediately. If the scope of the proposed design or construction changes from that described in this report, our data should also be reviewed.

We prepared this report in substantial compliance with the generally accepted geotechnical engineering practice, as it exists in the area at the time of our study. No warranty is expressed or implied. The recommendations provided in this report are based on the assumption that BEYOND will conduct an adequate program of tests and observations during the construction phase in order to evaluate compliance with our recommendations.

This report may be used only by the client, their design team, and only for the purposes stated, within three years from its issuance. Land use, site conditions (both on site and off site) or other factors may change over time, and additional work may be required with the passage of time. Any party other than the client who wishes to use this Report shall notify BEYOND of such intended use. Based on the intended use of the report, BEYOND may require that additional work

be performed and that an updated report be issued. Non-compliance with any of these requirements by the client or anyone else will release BEYOND from any liability resulting from the use of this report by any unauthorized party.

This is a geotechnical engineering report and is not intended to provide information about possible contaminated soils or the locations of any abandoned underground storage tanks. The owner should consult with an environmental specialist to determine whether this site is suitable from an environmental perspective.

Other standards or documents referenced in any given standard cited in this report, or otherwise relied upon by the authors of this report, are only mentioned in the given standard; they are not incorporated into it or "included by reference," as that latter term is used relative to contracts or other matters of law.

APPENDIX A

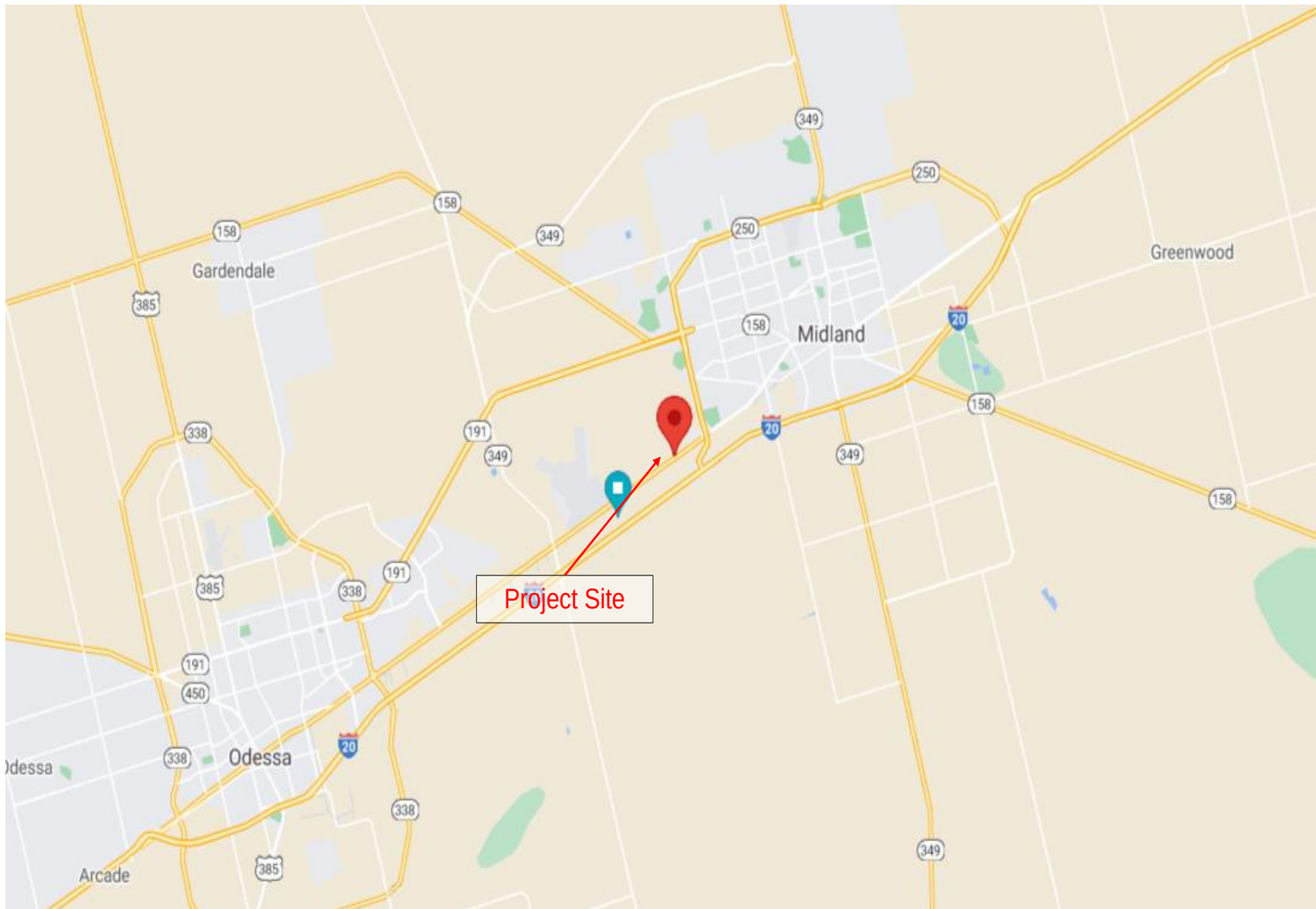


Figure 1- Project Site Location Map

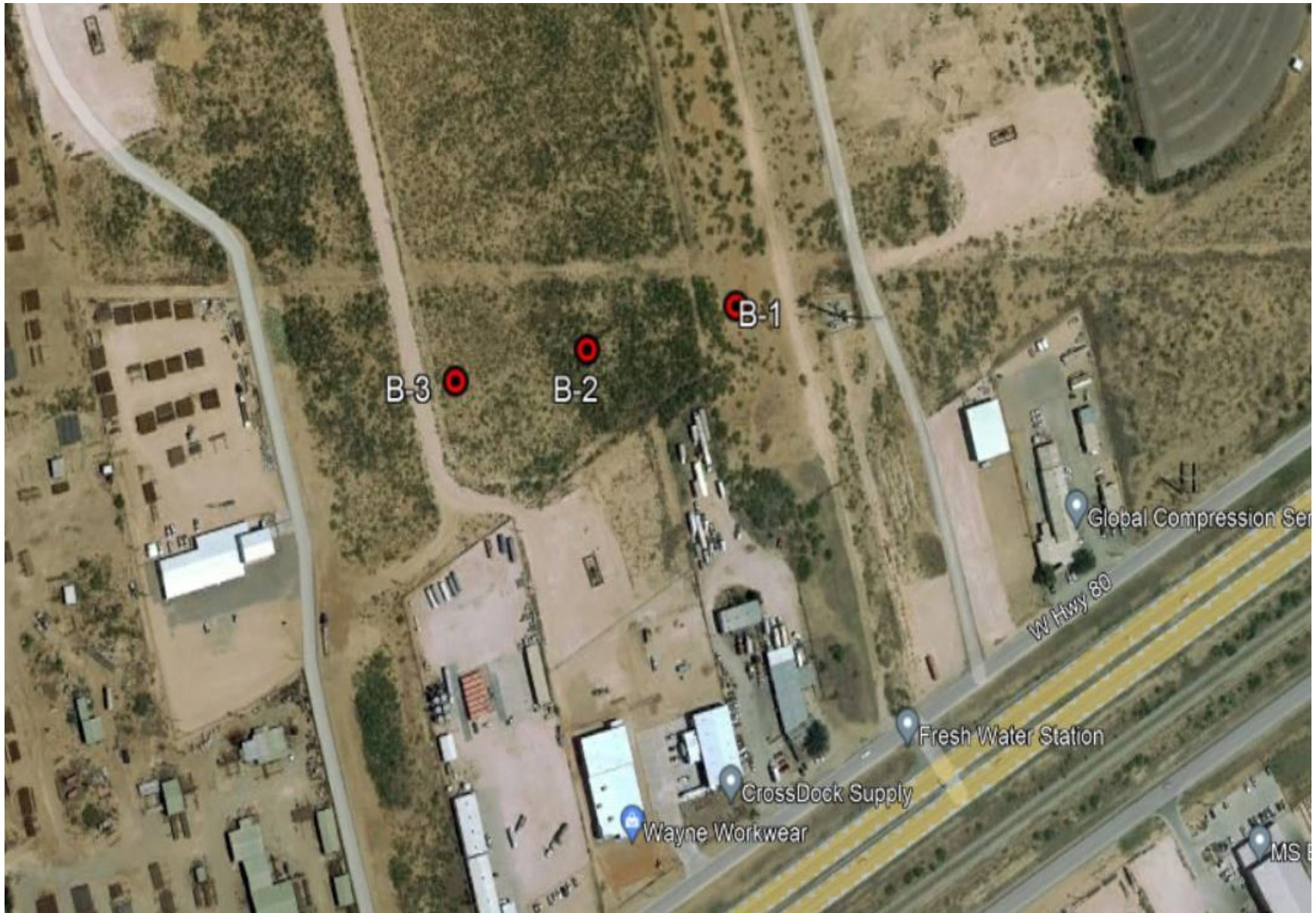


Figure 2 - Borehole Locations Map

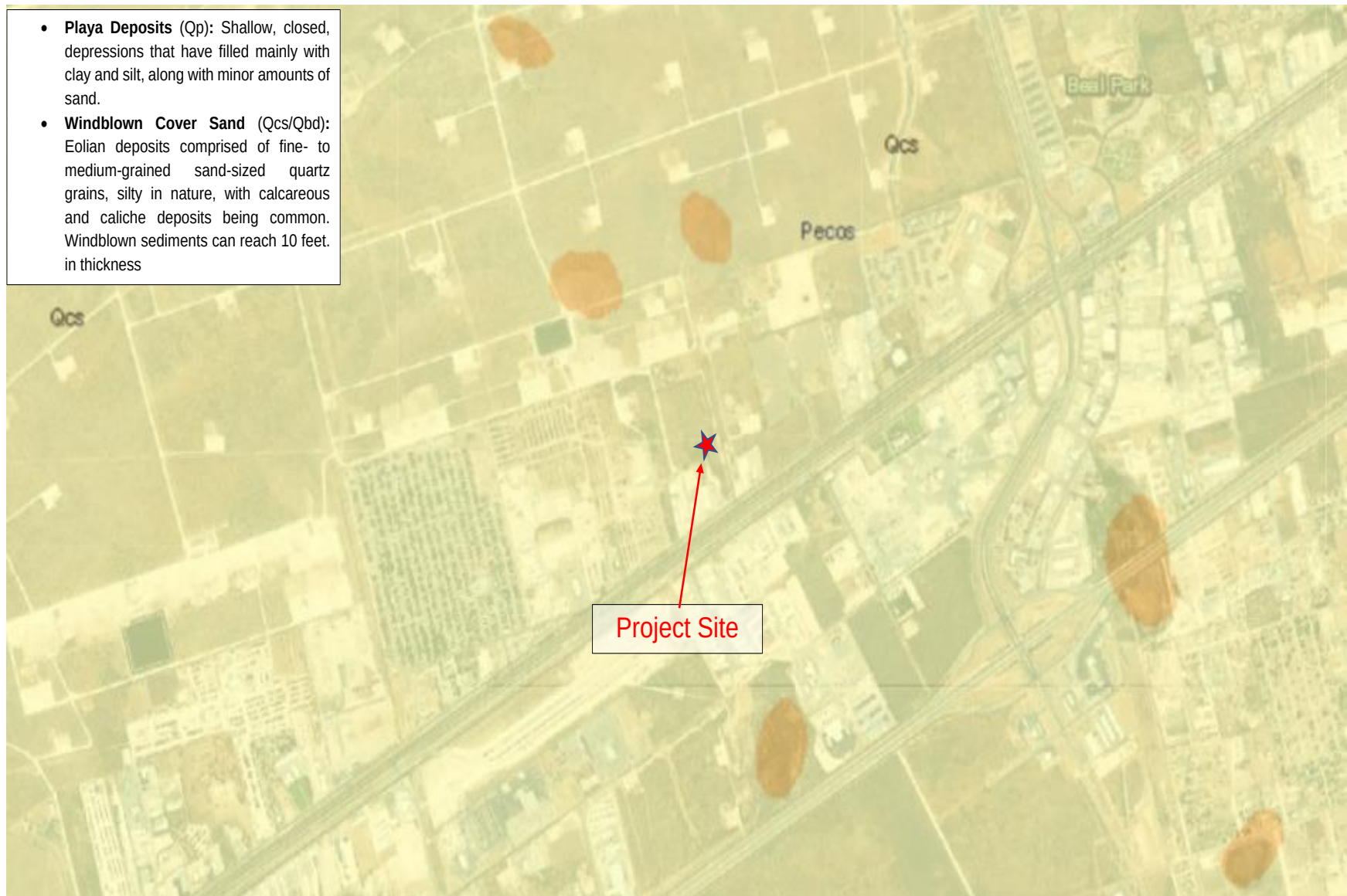


Figure 3 - Site Vicinity Geologic Map

LOG OF BORING KEY

SOIL SYMBOL		FIELD DATA		LABORATORY DATA								DRILLING METHOD(S):	
		DEPTH (FT)	SAMPLES	N: BLOWS/FT P: TONS/SQ FT T: BLOWS R: % RQD: %	MOISTURE CONTENT (%)	ATTERBERG LIMITS			DRY DENSITY POUNDS/CU.FT	COMPRESSIVE STRENGTH (TONS/SQ. FT)	STRAIN AT FAILURE (%)	CONFINING PRESSURE (POUNDS/SQ IN)	MINUS NO. 200 SIEVE (%)
					LIQUID LIMIT	PLASTIC LIMIT	PLASTICITY INDEX						
		5	-- AUGER CUTTINGS										
			N = 50 (SPT) -- SPLIT SPOON SAMPLE										
			P = +4.5 -- INTACT SHELBY TUBE SAMPLE										
			Water Level at Time Drilling, or as Shown										
			Water Level at End of Drilling, or as Shown										
10		N = 40 (MC) -- MODIFIED CALIFORNIA SAMPLE											
		T = 100/2.5" (TCP)											
		Water Level After 24 Hours, or as Shown											
		R = 100											
		RQD = 50 -- ROCK CORE SAMPLE											
15													

DESCRIPTION OF STRATUM

Modified California (RS)	Standard Split-spoon (SS)	Pocket Penetrometer	Consistency
SPT # blows/ft	SPT # blows/ft	Unconfined Compressive Strength (tsf)	
< 3	< 2	< 0.25	Very Soft
3-6	2-4	0.25-0.5	Soft
7-12	5-8	0.5-1.0	Medium Stiff
13-25	9-15	1.0-2.0	Stiff
26-50	16-30	2.0-4.0	Very Stiff
> 50	> 30	> 4.0	Hard

Modified California (RS)	Standard Split-spoon (SS)	Relative Density
SPT # blows/ft	SPT # blows/ft	
0-6	< 4	Very Loose
7-18	4-10	Loose
19-58	11-30	Medium Dense
59-98	31-50	Dense
> 98	> 50	Very Dense

-- TESTING SYMBOL DEFINITIONS --

N - STANDARD PENETRATION TEST RESISTANCE
 P - POCKET PENETROMETER RESISTANCE
 T - TXDOT CONE PENETRATION RESISTANCE
 R - ROCK CORE RECOVERY
 RQD - ROCK QUALITY DESIGNATION

TYPICAL SOIL AND ROCK SYMBOLS (USCS CLASSIFICATION)

 Lean Clay (CL)	 Silty, Clayey Sand (SC-SM)	 Bedrock
 Fat Clay (CH)	 Poorly-Graded Sand (SP)	 Basalt
 Silt (ML)	 Well-Graded Sand (SW)	 Limestone
 Elastic Silt (MH)	 Poorly-Graded Gravel (GP)	 Sandstone
 Silty Clay (CL-ML)	 Well-Graded Gravel (GW)	 Siltstone
 Clayey Sand (SC)	 Clayey Gravel (GC)	 Shale
 Silty Sand (SM)	 Silty Gravel (GM)	 Fill Material

DEGREE OF WEATHERING

- 1) Unweathered: No evidence of any chemical or mechanical alteration.
- 2) Slightly weathered: Slight discoloration on surface, slight alteration along discontinuities, less than 10% of the rock volume altered.
- 3) Moderately weathered: Discoloring evident, surface pitted and altered with alteration penetrating well below rock surfaces, weathering "halos" evident, 10 to 50% of the rock volume altered.
- 4) Highly weathered: Entire mass discolored, alteration pervading nearly all of the rock with some pockets of slightly weathered rock noticeable, some minerals leached away.
- 5) Decomposed: Rock reduced to a soil with relic rock texture, generally molded and crumbled by hand.

SOIL STRUCTURE

- Calcareous..... Containing calcium carbonate
- Slickensided..... The presence of planes of weakness having a slick and glossy appearance
- Interbedded..... Alternating layers of varying material

LOG OF BORING B-1

SHEET 1 of 1



Beyond Engineering and Testing, LLC
 3011-B South County Road 1260
 Midland, Texas 79706
 Telephone: 432.561.5780
 www.BeyondET.com

CLIENT: City of Midland
 PROJECT: Citizen's Collection Station
 LOCATION: Midland, Texas
 NUMBER: GT2111061
 DATE(S) DRILLED: 11/19/21

BEYOND E&T LOG - LOG A GNNL01.GDT - 12/10/21 08:12 - C:\USERS\AMARKADAM\RCID\DESKTOP\GEO\TECH\GT2111061 CITIZEN'S COLLECTION CENTER\FIELD INVESTIGATION\GT2111061 CITIZEN'S COLLECTION CENTER\CENTER.GPJ

FIELD DATA				LABORATORY DATA							DRILLING METHOD(S):				
SOIL SYMBOL	DEPTH (FT)	SAMPLES	N: BLOWS/FT P: TONS/SQ FT T: BLOWS R: % RQD: %	MOISTURE CONTENT (%)	ATTEBERG LIMITS			DRY DENSITY POUNDS/CU.FT	COMPRESSIVE STRENGTH (TONS/SQ. FT)	STRAIN AT FAILURE (%)	CONFINING PRESSURE (POUNDS/SQ IN)	MINUS NO. 200 SIEVE (%)	Air Rotary		
					LL	PL	PI						GROUNDWATER INFORMATION:		
													Groundwater not encountered during or immediately after drilling		
													SURFACE ELEVATION:		
DESCRIPTION OF STRATUM															
	5	 N = 16  N = 26  N = 38  N = 50/1.5"	1.4									17.1	Topsoil 1.5 inches SILTY SAND (SM), brown, medium dense to very dense, dry, fine to medium grained Grading trace Gravel, light brown		
	10	 N = 25	6.8	39	23	16						23.2	CLAYEY SAND (SC), with gravel, light brown, medium dense, dry, fine to medium grained		
	15	 N = 50/6"											SILTY SAND (SM), brown, very dense, dry, fine to medium grained		
			 N = 50/5"											Total Depth = 19 ft.	
N - STANDARD PENETRATION TEST RESISTANCE P - POCKET PENETROMETER RESISTANCE T - TXDOT CONE PENETRATION RESISTANCE R - ROCK CORE RECOVERY RQD - ROCK QUALITY DESIGNATION													REMARKS: GPS COORDINATES: Lat. 31.955617, Long. -102.157978 September 12, 2023		
7.61															

LOG OF BORING B-2

SHEET 1 of 1



Beyond Engineering and Testing, LLC
3011-B South County Road 1260
Midland, Texas 79706
Telephone: 432.561.5780
www.BeyondET.com

CLIENT: City of Midland
PROJECT: Citizen's Collection Station
LOCATION: Midland, Texas
NUMBER: GT2111061
DATE(S) DRILLED: 11/19/21

BEYOND E&T LOG - LOG A GNNL01.GDT - 12/10/21 08:12 - C:\USERS\AMARKADAM\RC\DESKTOP\GEO\TECH\GT2111061 CITIZEN'S COLLECTION CENTER\FIELD INVESTIGATION\GT2111061 CITIZEN'S COLLECTION CENTER\CENTER.GPJ

FIELD DATA		LABORATORY DATA										DRILLING METHOD(S):	
SOIL SYMBOL	DEPTH (FT)	SAMPLES	N: BLOWS/FT P: TONS/SQ.FT T: BLOWS R: % RQD: %	MOISTURE CONTENT (%)	ATTERBERG LIMITS			DRY DENSITY POUNDS/CU.FT	COMPRESSIVE STRENGTH (TONS/SQ. FT)	STRAIN AT FAILURE (%)	CONFINING PRESSURE (POUNDS/SQ IN)	MINUS NO. 200 SIEVE (%)	Air Rotary
					LL	PL	PI						GROUNDWATER INFORMATION: Groundwater not encountered during or immediately after drilling
													SURFACE ELEVATION:
													DESCRIPTION OF STRATUM
			N = 6										Topsoil 2 inches SILTY SAND (SM), brown, loose, dry, fine to medium grained
			N = 9	5.3	24	13	11					37.9	CLAYEY SAND (SC), with gravel, light brown, loose to dense, dry, fine to medium grained
	5		N = 10	6.4									Grading trace Gravel
			N = 16	11.2	38	15	23					34.4	
	10		N = 50/6"										SILTY SAND (SM), light brown, very dense, dry, fine to medium grained Grading with Gravel
	15		N = 50/2"										
			N = 50/1.5"										
													Total Depth = 19 ft.
N - STANDARD PENETRATION TEST RESISTANCE P - POCKET PENETROMETER RESISTANCE T - TXDOT STANDARD PENETRATION RESISTANCE R - ROCK CORE RECOVERY RQD - ROCK QUALITY DESIGNATION													REMARKS: GPS COORDINATES: Lat. 31.955419, Long. -102.158930 September 12, 2023

7.62

LOG OF BORING B-3

SHEET 1 of 1

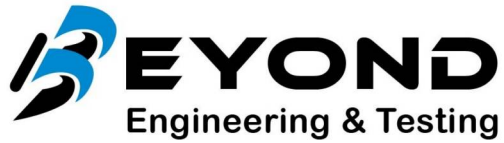


Beyond Engineering and Testing, LLC
 3011-B South County Road 1260
 Midland, Texas 79706
 Telephone: 432.561.5780
 www.BeyondET.com

CLIENT: City of Midland
 PROJECT: Citizen's Collection Station
 LOCATION: Midland, Texas
 NUMBER: GT2111061
 DATE(S) DRILLED: 11/19/21

BEYOND E&T LOG - LOG A GNNL01.GDT - 12/10/21 08:12 - C:\USERS\AMARKADAM\RCID\DESKTOP\GEO\TECH\GT2111061 CITIZEN'S COLLECTION CENTER\FIELD INVESTIGATION\GT2111061 CITIZEN'S COLLECTION CENTER\LOG A GNNL01.GDT

FIELD DATA		LABORATORY DATA										DRILLING METHOD(S):	
SOIL SYMBOL	DEPTH (FT)	SAMPLES N: BLOWS/FT P: TONS/SQ.FT T: BLOWS R: % RQD: %	MOISTURE CONTENT (%)	ATTERBERG LIMITS			DRY DENSITY POUNDS/CU.FT	COMPRESSIVE STRENGTH (TONS/SQ. FT)	STRAIN AT FAILURE (%)	CONFINING PRESSURE (POUNDS/SQ IN)	MINUS NO. 200 SIEVE (%)	GROUNDWATER INFORMATION:	
				LL	PL	PI						SURFACE ELEVATION:	
												DESCRIPTION OF STRATUM	
		N = 14	4.7	22	13	9					29.5	Topsoil 1.5 inches	
		N = 18										CLAYEY SAND (SC), with gravel, light brown, medium dense, dry, fine to medium grained	
		N = 20	4.8	20	12	8					36.7		
		N = 12											
		N = 77	4.8										
	5											Grading trace Gravel, light brown	
		N = 50/3"											
	10											SILTY SAND (SM), brown, very dense, dry, fine to medium grained	
		N = 50/2"											
	15											Total Depth = 19 ft.	
												REMARKS:	
												GPS COORDINATES: Lat. 31.955276, Long. -102.159771	
												September 12, 2023	
												7.63	
												N - STANDARD PENETRATION TEST RESISTANCE	
												P - POCKET PENETROMETER RESISTANCE	
												T - TXDOT STANDARD PENETRATION RESISTANCE	
												R - ROCK CORE RECOVERY	
												RQD - ROCK QUALITY DESIGNATION	



Beyond Engineering and Testing, LLC
3011-B South County Road 1260
Midland, Texas 79706
Telephone: 432.561.5780
www.BeyondET.com

SUMMARY OF LABORATORY RESULTS

CLIENT: City of Midland
PROJECT: Citizen's Collection Station
LOCATION: Midland, Texas
NUMBER: GT2111061

Borehole	Depth (ft)	USCS	Water Content (%)	Dry Unit Weight (pcf)	< No. 200	LL	PL	PI	Compressive Strength (tsf)	Strain at Failure (%)	Confining Pressure (psi)	Chlorides (%/weight)	Sulfates (%/weight)	pH	Minimum Resistivity (ohm-cm)
B-1	0.0		1									0.0005	0.0005		
B-1	2.0	SM	2		17	NP	NP	NP							
B-1	8.5	SC	7		23	39	23	16							
B-2	2.0	SC	5		38	24	13	11							
B-2	4.0		6												
B-2	6.0	SC	11		34	38	15	23							
B-3	0.0	SC	5		30	22	13	9							
B-3	4.0	SC	5		37	20	12	8							
B-3	8.5		5												

PACKET

7.64

September 12, 2023

Client Sample Results

Client: Beyond Engineering & Testing, LLC
Project/Site: Citizen's Collection Center

Job ID: 880-9035-1

Client Sample ID: B-1

Lab Sample ID: 880-9035-1

Date Collected: 12/07/21 00:00

Matrix: Solid

Date Received: 12/07/21 13:42

Sample Depth: 0 - 1.5

Method: 300.0 - Anions, Ion Chromatography - Soluble

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	<4.95	U	4.95	mg/Kg			12/09/21 14:43	1
Sulfate	<4.95	U	4.95	mg/Kg			12/09/21 14:43	1

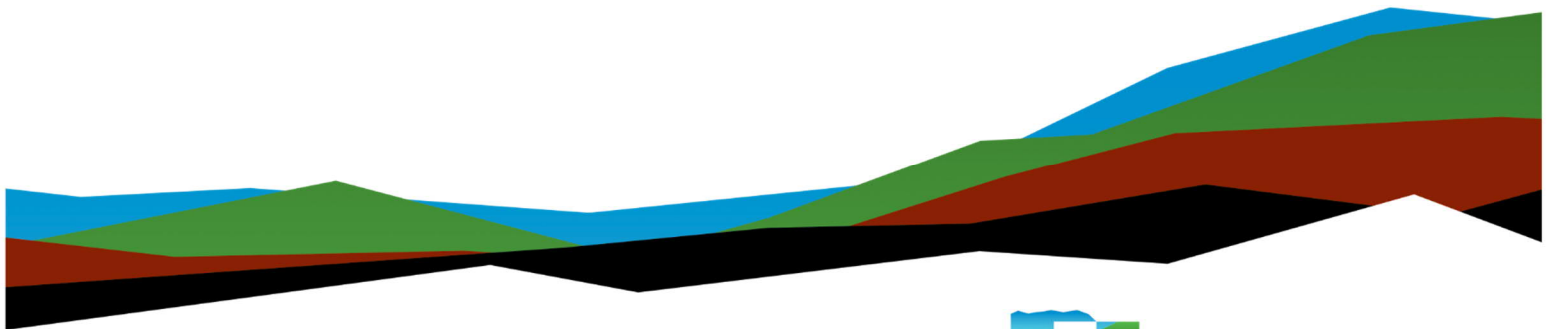
Midland North CCS

Geotechnical Engineering Report

July 14, 2023 | Terracon Project No. A4235100

Prepared for:

Parkhill
4222 85th St
Lubbock, TX 79423



PACKET

7.66



10400 State Hwy 191
Midland, TX 79707
P (432) 684-9600
Terracon.com

July 14, 2023

Parkhill
4222 85th St
Lubbock, TX 79423

Attn: Mr. R. Ashley Coco - Senior Architectural Project Manager
E: acoco@Parkhill.com

Re: Geotechnical Engineering Report
Midland North CCS
2.5 Miles N-NW of Intersection of US Highway 349 and Occidental Parkway
Midland County, TX
Terracon Project No. A4235100

Dear Mr. Coco:

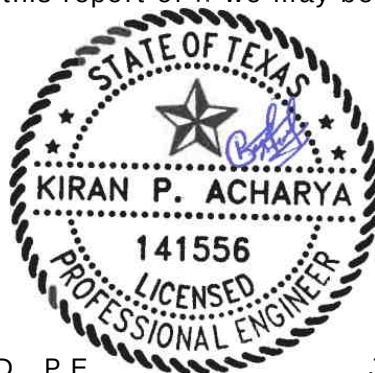
We have completed Geotechnical Engineering services for the above referenced project in general accordance with Terracon Email Quote dated May 25, 2023, and a Consulting Services Agreement between Parkhill and Terracon dated May 31, 2023. This report presents the findings of the subsurface exploration and provides geotechnical recommendations concerning earthwork and the design as well as construction of foundations, and pavements for the proposed project.

We appreciate the opportunity to be of service to you on this project. If you have any questions concerning this report or if we may be of further service, please contact us.

Sincerely,

Terracon

Kiran P. Acharya, Ph.D., P.E.
Project Engineer



FOR

Jitendra "JT" Thakur, Ph.D., P.E.
Geotechnical Department Manager

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Exploration and Testing Procedures
Photography Log

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Exploration and Laboratory Results

Supporting Information

Note: This report was originally delivered in a web-based format. **Blue Bold** text in the report indicates a referenced section heading. The PDF version also includes hyperlinks which direct the reader to that section and clicking on the  logo will bring you back to this page. For more interactive features, please view your project online at client.terracon.com.

Refer to each individual Attachment for a listing of contents.

Report Summary

Topic ¹	Overview Statement ²
Project Description	This project is to construct a small single-story pre-engineered metal building and a paved "Citizens Collection Station (CCS)" area for city of Midland Solid Waste department.
Geotechnical Characterization	Clayey gravel with sand was encountered within the upper about 2 feet of existing grades, underlain by very dense, cemented, calcareous materials, locally called "caliches". We expect on-site subsurface materials have low potential for shrink/swell with fluctuations in moisture content. The on-site subsurface materials can generally be used as structural fill provided that the caliche materials are crushed into sizes less than 4 inches in maximum dimensions, and they meet structural fill requirements. Groundwater was not encountered during our field exploration.
Earthwork	Heavy duty equipment will generally be suitable for earthwork, and utility trench excavations on the project site. Controlled blasting could be required for utility trench excavations in confined areas.
Shallow Foundations	Shallow foundations such as spread and/or continuous strip footings can generally be used to support the building. Net allowable bearing pressure of 3,000 pounds per square foot (psf) be used for design of shallow foundations.
Pavements	<u>Asphalt Pavement:</u> 1.5" asphalt concrete over 8" of aggregate base course for Class I 2" asphalt concrete over 8" of aggregate base course for Class II 2.5" asphalt concrete over 10" of aggregate base course for Class III <u>Concrete Pavement:</u> 5" PCC over 4" aggregate base for Category A 6" PCC over 4" aggregate base for Category D 7" PCC over 4" aggregate base for Category E
General Comments	This section contains important information about the limitations of this geotechnical engineering report.

1. If the reader is reviewing this report as a pdf, the topics above can be used to access the appropriate section of the report by simply clicking on the topic itself.
2. This summary is for convenience only. It should be used in conjunction with the entire report for design purposes.

Introduction

This report presents the results of our subsurface exploration and Geotechnical Engineering services performed for the Midland North CCS to be located about 2.5 Miles N-NW of Intersection of US Highway 349 and Occidental Parkway in Midland County, TX. The purpose of these services was to provide information and geotechnical engineering recommendations relative to:

- Subsurface soil conditions
- Groundwater conditions
- Seismic site classification per IBC
- Site preparation and earthwork
- Foundation design and construction
- Pavement design and construction

The geotechnical engineering scope of services for this project included the advancement of soil-test borings, laboratory testing, engineering analysis, and preparation of this report.

Drawings showing the site and boring locations are shown on the [Site Location](#) and [Exploration Plan](#), respectively. The results of laboratory testing performed on soil samples obtained from the site during our field exploration are included on the boring logs in the [Exploration Results](#) section.

Project Description

Our initial understanding of the project was provided in our proposal and was discussed during project planning. A period of collaboration has transpired since the project was initiated, and our final understanding of the project conditions is as follows:

Item	Description
Information Provided	A project site location and a construction layout were received from Mr. R. Ashley Coco of Parkhill via an email on May 25, 2023.
Proposed Structures	This project includes construction of a small pre-engineered metal building on the southern end, and a paved area for trash collection at the northern portion of the site. The paved area will be a CCS for city of Midland Solid Waste department.

Item	Description
Foundation Types	We expect the building will be supported on shallow foundations, such as spread and/or continuous strip footings.
Finished Floor Elevation	Finished floor elevation is assumed to be within 2 feet of existing grades.
Maximum Loads (Assumed)	■ Column loads: 50 kips ■ Wall loads: 1.5 kips per linear foot (klf) ■ Slab loads: 125 psf
Pavements (Assumed)	We understand that CCS area will be paved. We assume that the traffic classification for design of asphalt pavement will consist of: ■ Class I: Parking stalls for autos and pickup trucks [Equivalent Single Axle Loads (ESALs) = 7,000] ■ Class II: Traffic consisting of home delivery trucks, trash pickup (ESALs = 27,000) ■ Class III: Delivery lanes with up to ten 3-axle trucks per day (ESALs = 107,000) The anticipated ACI traffic categories and daily truck traffic for design of concrete pavement are assumed to consist of: ■ Category A: Car and auto parking areas and access lanes, 10 trucks per day ■ Category D: Heavy-duty trucks, 1 truck per day ■ Category E: Fire or trash truck lanes, 1 truck per day The pavement design period is 20 years.

Terracon should be notified if any of the above information is inconsistent with the planned construction, especially the grading limits and structural loads, as modifications to our recommendations may be necessary.

Site Conditions

The following description of site conditions is derived from our site visit in association with the field exploration and our review of publicly available geologic and topographic maps.

Item	Description
Parcel Information	Midland North CCS site is located about 2.5 Miles N-NW of Intersection of US Highway 349 and Occidental Parkway in Midland County, TX. The coordinates of approximate center of the site are 32.1038°N, 102.0955°W. See Site Location
Existing Improvements	None
Current Ground Cover	Exposed soils, grasses, and mesquites
Existing Topography	Relatively flat

We also collected photographs at the time of our field exploration program. Representative photos are provided in our [Photography Log](#).

Geotechnical Characterization

We have developed a general characterization of the subsurface conditions based upon our review of the subsurface exploration, laboratory data, geologic setting, and our understanding of the project. This characterization, termed GeoModel, forms the basis of our geotechnical calculations and evaluation of the site. Conditions observed at each exploration point are indicated on the individual log. The individual log can be found in the [Exploration Results](#) and the GeoModel can be found in the [Figures](#) attachment of this report.

As part of our analyses, we identified the following model layers within the subsurface profile. For a more detailed view of the model layer depths at the boring location, please refer to the GeoModel.

Model Layer	Layer Name	General Description
1	Sand and Gravel	Clayey gravel with sand; very dense
2	Caliche	Silty clayey sand with gravel; very dense

Excavation difficulties are generally anticipated within Model Layer 2.

Caliche is a calcium-carbonate-cemented material. Caliche has many resemblances to rock. It is difficult to excavate caliche materials.

The borings were advanced in the dry using air rotary drilling technique that allows short-term groundwater observation to be made while drilling. Groundwater seepage was not

encountered or observed in either of the borings within the maximum drilling depths of about 24 feet bgs at the time of our field exploration. Groundwater is not expected to affect shallow foundation construction at this site.

Groundwater conditions may be different at the time of construction. Groundwater conditions may change because of seasonal variations in rainfall, runoff, and other conditions not apparent at the time of drilling. The possibility of groundwater level fluctuations should be considered when developing the design and construction plans for the project. Long-term groundwater monitoring was outside the scope of services for this project.

Seismic Site Class

The seismic design requirements for buildings and other structures are based on Seismic Design Category. Site Classification is required to determine the Seismic Design Category for a structure. The Site Classification is based on the upper 100 feet of the site profile defined by a weighted average value of either shear wave velocity, standard penetration resistance, or undrained shear strength in accordance with Section 20.4 of ASCE 7 and the International Building Code (IBC). Based on the soil/rock properties observed at the site and as described on the exploration log and results, our professional opinion is for that a Seismic Site Classification of C be considered for the project. Subsurface exploration at this site was extended to a maximum depth of about 24 feet bgs. The site properties below the boring depth to 100 feet were estimated based on our experience and knowledge of geologic conditions of the general area. Additional deeper boring or geophysical testing may be performed to confirm the conditions below the current boring depth.

Geotechnical Overview

The area to the west of the project site is previously developed. Although no deleterious materials, such as construction debris, or organics were encountered during our field exploration or observed in the collected samples, we caution that potential existing fill that contains deleterious materials could exist on the project site in areas away from our borings. If deleterious materials are detected during construction, Terracon should be notified immediately to provide consultation. In general, deleterious materials can be replaced with structural fill.

The site appears suitable for the proposed development based upon geotechnical conditions encountered in the test borings, provided that the recommendations provided in this report are implemented in the design and construction phases of this project.

We expect on-site subsurface materials have low potential for shrink/swell with fluctuations in moisture content. Moisture-induced potential vertical movements are estimated to be less than 1 inch. The on-site soils are generally suitable for use as structural fill. Based on the conditions encountered and estimated load-settlement relationships, the proposed building can be supported on shallow spread/continuous strip footings.

According to the 2021 International Structures Code (Section 1613.3.2), IBC seismic site classification for this site is determined to be C. The recommendations contained in this report are based upon the results of field and laboratory testing (presented in the [Exploration Results](#)), engineering analyses, and our current understanding of the proposed project. The [General Comments](#) section provides an understanding of the report limitations.

Earthwork

Earthwork will include clearing and grubbing, excavations, and fill placement. The following sections provide recommendations for use in the preparation of specifications for the work. Recommendations include critical quality criteria as necessary to render the site in the state considered in our geotechnical engineering evaluation for foundations.

Site Preparation

Prior to placing fill, striping of existing topsoil, vegetations, and root mats should be performed in the proposed development area. The soil materials which contain less than 5 percent organics can be reused as structural fill provided the material is moisture conditioned and properly compacted.

Subgrade Preparation

We suggest after site preparation operation is conducted; the entire site should be proofrolled. The proofrolling should be conducted with an adequately loaded vehicle such as a fully-loaded tandem-axle dump truck. The proofrolling should be performed under the observation of the Geotechnical Engineer or representative. Areas excessively deflecting under the proofrolling should be delineated and subsequently addressed by the Geotechnical Engineer. Excessively wet or dry material should either be removed, or moisture conditioned and recompacted as per [Fill Placement and Compaction Requirements](#) section.

All exposed areas which will receive fill, once properly cleared and benched where necessary, should be scarified to a minimum depth of 10 inches, and compacted per the

compaction requirements in this report. Compacted structural fill soils should then be placed to the proposed design grade and the moisture content and compaction of subgrade soils should be maintained until foundation or pavement construction.

Excavation

Based on the conditions encountered, we believe heavy-duty equipment, such as a hoe ram, a heavy dozer equipped with a ripper, a rock saw or jack hammer or with rock trenching equipment, will generally be required for earthwork and utility-trench excavations. Controlled blasting (trench excavations) could be required for utility trench excavations in confined areas. The bottom of excavations should be thoroughly cleaned of loose soils and disturbed materials prior to backfill placement and/or construction.

The descriptions provided below are a guide to conditions generally encountered in the region of the project site. Required excavation techniques will vary based on weathering of the materials to be excavated, the fracturing, jointing and overall stratigraphy of the feature. Actual field conditions usually display a gradual weathering progression with poorly defined and uneven boundaries between layers of different materials. We recommend that the following definitions for rock in earthwork excavation be included in bid documents:

Excavation Type	Definition
Mass Excavation	Any material occupying an original volume of more than 1 cubic yard which cannot be excavated with a single-toothed ripper drawn by a crawler tractor having a minimum draw bar pull rating of not less than 80,000 pounds usable pull (Caterpillar D-8 or larger).
Trench Excavation	Any material occupying an original volume of more than 1/2 cubic yard which cannot be excavated with a backhoe having a bucket curling rate of not less than 40,000 pounds, using a rock bucket and rock teeth (a John Deere 790 or larger).

Fill Material Types

Fill required to achieve design grade should be classified as structural fill and general fill. Structural fill is material used below, or within 10 feet of structures, pavements, or constructed slopes. General fill is material used to achieve grade outside of these areas.

Reuse of On-Site Soil: Excavated on-site soil may be re-used as fill. Material property requirements for on-site soil for use as general fill and structural fill are noted in the table below:

Property	General Fill	Structural Fill
Composition	Free of deleterious material	Free of deleterious material
Maximum particle size	6 inches	4 inches
Fines content	Not limited	10% to 50% Passing No. 200 sieve
Plasticity	Not limited	Maximum liquid limit of 35 and maximum plasticity index of 15
GeoModel Layer Expected to be Suitable ^{1,2}	1,2	1,2

1. Based on subsurface exploration. Actual material suitability should be determined in the field at time of construction.
2. Caliche materials should be crushed into sizes less than 4 inches in maximum dimensions and should meet structural fill requirements before they can be used as structural fill.

Imported Fill Materials: Imported fill materials should meet the following material property requirements. Regardless of its source, compacted fill should consist of approved materials that are free of organic matter and debris. Frozen material should not be used, and fill should not be placed on a frozen subgrade.

Soil Type ¹	USCS Classification	Acceptable Parameters (for Structural Fill)
Low Plasticity Cohesive	CL, CL-ML	Liquid Limit less than 35 Plasticity index less than 15 25% to 50% retained on No. 200 sieve
Granular	GW, GP, GM, GC, SW, SP, SM, SC	10% to 50% passing No. 200 sieve

1. Structural and general fill should consist of approved materials free of organic matter and debris. A sample of each material type should be submitted to the Geotechnical Engineer for evaluation prior to use on this site.

Fill Placement and Compaction Requirements

Structural and general fill should meet the following compaction requirements.

Item	Structural Fill	General Fill
Maximum Lift Thickness	8 inches or less in loose thickness when heavy, self-propelled compaction equipment is used 4 inches in loose thickness when hand-guided equipment (i.e., jumping jack or plate compactor) is used	Same as structural fill
Minimum Compaction Requirements ^{1,2}	At least 95% of the material's maximum dry density in all fill areas.	Same as structural fill
Water Content Range ¹	-2% to +2% of optimum moisture content	As required to achieve min. compaction requirements

1. Maximum density and optimum water content as determined by the standard Proctor test (ASTM D 698).
2. If the granular material is a coarse sand or gravel, or of a uniform size, or has a low fines content, compaction comparison to relative density may be more appropriate. In this case, granular materials should be compacted to at least 70% relative density (ASTM D 4253 and D 4254).

Utility Trench Backfill

Any soft or unsuitable materials encountered at the bottom of utility trench excavations should be removed and replaced with structural fill or bedding material in accordance with public works specifications for the utility to be supported. This recommendation is particularly applicable to utility work requiring grade control and/or in areas where subsequent grade raising could cause settlement in the subgrade supporting the utility. Trench excavation should not be conducted below a downward 1:1 projection from existing foundations without engineering review of shoring requirements and geotechnical observation during construction.

Trench backfills should be mechanically placed and compacted as discussed earlier in this report. Compaction of initial lifts should be accomplished with hand-operated tampers or other lightweight compactors. Where trenches are placed beneath slabs or footings, the backfill should satisfy the gradation and plasticity index requirements of engineered fill discussed in this report. Flooding or jetting for placement and compaction of backfill is not recommended.

Grading and Drainage

Positive drainage should be provided during construction and maintained throughout the life of the development. Infiltration of water into utility trenches or foundation excavations should be prevented during construction. Water retained next to the foundation areas can result in soil movements greater than those discussed in this report. Greater movements can result in unacceptable differential foundation movements. The roof should have gutters/drains with downspouts that discharge onto splash blocks at a distance of at least 10 feet from the building.

In areas where sidewalks or paving do not immediately adjoin structures, we recommend that protective slopes be provided with a minimum grade of approximately 5 percent for at least 10 feet from foundation areas. After foundations construction, final grades should be verified to document effective drainage has been achieved. Grades around the structures should also be periodically inspected and adjusted as necessary as part of the structures' maintenance program. Where paving or flatwork abuts the structure, a maintenance program should be established to effectively seal and maintain joints and prevent surface water infiltration.

Earthwork Construction Considerations

Shallow excavations for the proposed structures are anticipated to be accomplished with heavy duty construction equipment. Upon completion of earthwork, care should be taken to maintain the subgrade water content prior to construction foundations. Construction traffic over the completed subgrades should be avoided. The site should also be graded to prevent ponding of surface water on the prepared subgrades or in excavations. Water collecting over or adjacent to construction areas should be removed. If the subgrade freezes, desiccates, saturates, or is disturbed, the affected material should be removed, or the materials should be scarified, moisture conditioned, and recompacted prior to foundation construction.

As a minimum, excavations should be performed in accordance with OSHA 29 CFR, Part 1926, Subpart P, "Excavations" and its appendices, and in accordance with any applicable local and/or state regulations.

Construction site safety is the sole responsibility of the contractor who controls the means, methods, and sequencing of construction operations. Under no circumstances shall the information provided herein be interpreted to mean Terracon is assuming responsibility for construction site safety or the contractor's activities; such responsibility shall neither be implied nor inferred.

Excavations or other activities resulting in ground disturbance have the potential to affect adjoining properties and structures. Our scope of services does not include review of available final grading information or consider potential temporary grading performed

by the contractor for potential effects such as ground movement beyond the project limits. A preconstruction/precondition survey should be conducted to document nearby property/infrastructure prior to any site development activity. Excavation or ground disturbance activities adjacent or near property lines should be monitored or instrumented for potential ground movements that could negatively affect adjoining property and/or structures.

Construction Observation and Testing

The earthwork efforts should be monitored under the direction of the Geotechnical Engineer or representative. Monitoring should include documentation of adequate removal of vegetation and topsoil, proof-rolling and mitigation of areas delineated by the proof-roll to require mitigation.

Each lift of compacted fill should be tested, evaluated, and reworked as necessary until approved by the Geotechnical Engineer prior to placement of additional lifts. Each lift of fill should be tested for density and water content at a frequency of at least one test for every 2,500 square feet of compacted fill in the proposed structure areas, and at least one test for every 5,000 square feet of compacted fill in the proposed pavement construction area. One density and water content test should be conducted for every 50 linear feet of compacted utility trench backfill.

In areas of foundation excavations, the bearing subgrade should be evaluated under the direction of the Geotechnical Engineer or representative. In the event that unanticipated conditions are encountered, the Geotechnical Engineer should prescribe mitigation options.

In addition to the documentation of the essential parameters necessary for construction, the continuation of the Geotechnical Engineer into the construction phase of the project provides the continuity to maintain the Geotechnical Engineer's evaluation of subsurface conditions, including assessing variations and associated design changes.

Shallow Foundations

If the site has been prepared in accordance with the requirements noted in [Earthwork](#), the following design parameters are applicable for shallow foundations.

Design Parameters – Compressive Loads

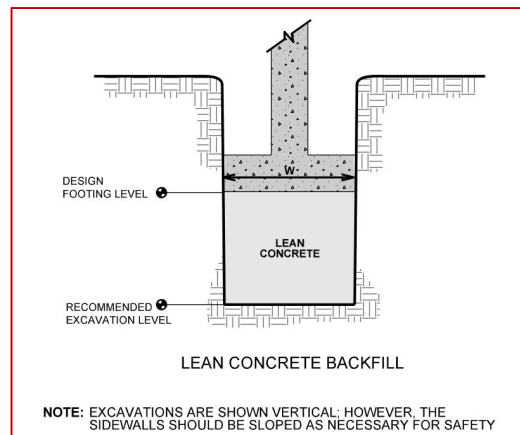
Item	Description
Maximum Net Allowable Bearing Pressure ^{1, 2}	3,000 psf (footings)
Required Bearing Stratum ³	GeoModel Layer 1 or 2 or properly compacted structural fill extending to undisturbed native soils)
Minimum Foundation Dimensions	30 inches for spread footings 18 inches for continuous strip footings
Ultimate Passive Resistance ⁴	360 pcf
Sliding Resistance ⁵	0.35
Minimum Embedment below Finished Grade ⁶	24 inches
Estimated Total Settlement from Structural Loads ²	Less than 1 inch
Estimated Differential Settlement ^{2, 7}	Less than 1/2 inch

1. The maximum net allowable bearing pressure is the pressure in excess of the minimum surrounding overburden pressure at the footing base elevation. Values assume that exterior grades are no steeper than 20% within 10 feet of structure.
2. Values provided are for the maximum loads noted in [Project Description](#). Additional geotechnical consultation will be necessary if higher loads are anticipated.
3. Unsuitable or soft soils should be over-excavated and replaced per the recommendations presented in [Earthwork](#).
4. Use of passive earth pressures require the sides of the excavation for the spread footing foundation to be nearly vertical and the concrete placed neat against these vertical faces or that the footing forms be removed, and compacted structural fill be placed against the vertical footing face. Assumes no hydrostatic pressure.
5. Can be used to compute sliding resistance where foundations are placed on suitable soil/materials. Frictional resistance for granular materials is dependent on the bearing pressure which may vary due to load combinations. For fine-grained materials, lateral resistance using cohesion should not exceed ½ the dead load.
6. Embedment necessary to minimize the effects of frost and/or seasonal water content variations. For sloping ground, maintain depth below the lowest adjacent exterior grade within 5 horizontal feet of the structure.
7. Differential settlements are noted for equivalent-loaded foundations and bearing elevation as measured over a span of 50 feet.

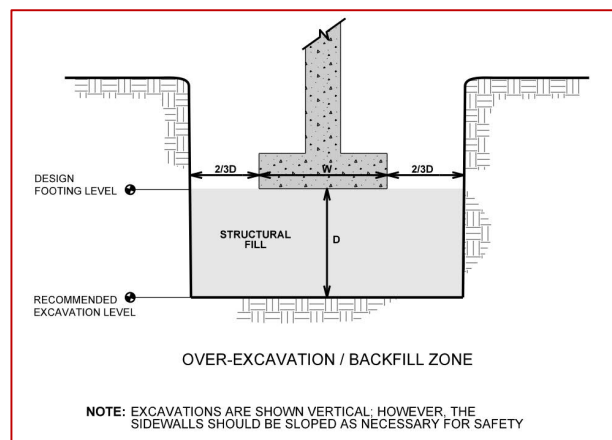
Foundation Construction Considerations

As noted in [Earthwork](#), the footing excavations should be evaluated under the observation of the Geotechnical Engineer. The base of all foundation excavations should be free of water and loose soil, prior to placing concrete. Concrete should be placed soon after excavating to reduce bearing soil disturbance. Care should be taken to prevent wetting or drying of the bearing materials during construction. Excessively wet or dry material or any loose/disturbed material in the bottom of the footing excavations should be removed/reconditioned before foundation concrete is placed.

If unsuitable bearing soils are observed at the base of the planned footing excavation, the excavation should be extended deeper to suitable soils, and the footings could bear directly on these soils at the lower level or on lean concrete backfill placed in the excavations. The lean concrete replacement zone is illustrated on the sketch below.



Alternatively, over-excavation for structural fill placement below footings should be conducted as shown below. The over-excavation should be backfilled up to the footing base elevation, with suitable fill placed, as recommended in the [Earthwork](#) section.



Floor Slabs

Floor Slab Design Parameters

Design parameters for floor slabs assume the requirements for [Earthwork](#) have been followed. Specific attention should be given to positive drainage away from the structure and positive drainage of the aggregate base beneath the floor slab.

Item	Description
Floor Slab Support ¹	At least 12 inches of properly compacted native soils or properly compacted caliche materials (sizes less than 4 inches in maximum dimensions and meet structural fill requirement) or properly compacted structural fill as needed to achieve finished pad elevation.
Estimated Modulus of Subgrade Reaction ²	125 psi/inch for point loading conditions

1. Floor slabs should be structurally independent of building footings or walls to reduce the possibility of floor slab cracking caused by differential movements between the slab and foundation.
2. Modulus of subgrade reaction is an estimated value based upon our experience with the subgrade condition, the requirements noted in [Earthwork](#), and the floor slab support as noted in this table. It is provided for point loads. For large area loads the modulus of subgrade reaction would be lower.

A conventional slab-on-grade system can be used on the project site; no structural slab is necessary because on-site soils are not expansive soils. The use of a vapor retarder should be considered beneath concrete slabs on grade covered with wood, tile, carpet, or other moisture sensitive or impervious coverings, when the project includes humidity-controlled areas, or when the slab will support equipment sensitive to moisture. When conditions warrant the use of a vapor retarder, the slab designer should refer to ACI 302 and/or ACI 360 for procedures and cautions regarding the use and placement of a vapor retarder.

Saw-cut contraction joints should be placed in the slab to help control the location and extent of cracking. For additional recommendations, refer to the ACI Design Manual. Joints or cracks should be sealed with a waterproof, non-extruding compressible compound specifically recommended for heavy duty concrete pavement and wet environments.

Where floor slabs are tied to perimeter walls or turn-down slabs to meet structural or other construction objectives, our experience indicates differential movement between the walls and slabs will likely be observed in adjacent slab expansion joints or floor slab cracks beyond the length of the structural dowels. The Structural Engineer should account for potential differential settlement through use of sufficient control joints, appropriate reinforcing, or other means.

Floor Slab Construction Considerations

Finished subgrade, within and for at least 5 feet beyond the floor slab, should be protected from traffic, rutting, or other disturbance and maintained in a relatively moist condition until floor slabs are constructed. If the subgrade should become damaged or desiccated prior to construction of floor slabs, the affected material should be removed, and structural fill should be added to replace the resulting excavation. Final conditioning of the finished subgrade should be performed immediately prior to placement of the floor slab support course.

The Geotechnical Engineer or representative should approve the condition of the floor slab subgrades immediately prior to placement of the floor slab support course, reinforcing steel, and concrete. Attention should be paid to high traffic areas that were rutted and disturbed earlier, and to areas where backfilled trenches are located.

Pavements

Pavement – Subgrade Preparation

The natural subgrade should be uniformly compacted to the criteria in section [Fill Placement and Compaction Requirements](#) of this report. It should then be protected and maintained in a moist condition until the pavement is placed. Pavement subgrades should be graded to prevent ponding and infiltration of excessive moisture on or adjacent to the pavement subgrade surface.

Site grading is generally accomplished early in the construction phase. However, as construction proceeds, the subgrade may be disturbed due to utility excavations, construction traffic, desiccation, or rainfall. Thus, the pavement subgrade may not be suitable for pavement construction and corrective action will be required. The subgrade should be carefully evaluated at the time of pavement construction for signs of disturbance or excessive rutting. If disturbance has occurred, pavement subgrade areas should be reworked, moisture conditioned, and properly compacted to the recommendations provided in this report immediately prior to paving.

General Pavement Comments

Pavement designs are provided for the traffic conditions and pavement life conditions as noted in [Project Description](#) and in the following sections of this report. A critical aspect of pavement performance is site preparation. Pavement designs noted in this section must be applied to the site which has been prepared as recommended in the [Earthwork](#) section.

Pavement Design Parameters

A California Bearing Ratio (CBR) of 4 was used for the subgrade for the asphaltic concrete (AC) pavement designs. A modulus of subgrade reaction of 125 pci was used for the portland cement concrete (PCC) pavement designs. The value was empirically derived based upon our experience with the similar subgrade soils and our expectation of the quality of the subgrade as prescribed by the Site Preparation conditions as outlined in [Earthwork](#). A modulus of rupture of 550 psi was used in design for the concrete (based on correlations with a minimum 28-day compressive strength of 4,000 psi).

Pavement Section Thicknesses

The following table provides our opinion of minimum thickness for Asphaltic Concrete (AC) sections:

Asphaltic Concrete Design

Layer	Thickness (inches)		
	Traffic Class I ¹	Traffic Class II ¹	Traffic Class III ¹
AC ^{2, 3}	1.5	2	2.5
Aggregate Base	8	8	10

1. See [Project Description](#) for more specifics regarding traffic assumptions.
2. All materials should meet the Texas Department of Transportation (TXDOT) Standard Specifications for Highway Construction.
 - Asphaltic Surface – Plant mixed, hot laid Type C or D Surface, meeting the master specifications requirements of 2014 TXDOT Standard Specifications Item SS 3224 (2011) and specific criteria for the job mix formula.
 - Asphaltic Base - Crushed limestone base meeting all of the requirements of 2014 TxDOT Item 247, Type A, Grade 1-2.
3. A minimum 1.5-inch surface course should be used on AC pavements.

The following table provides our estimated minimum thickness of Portland Cement Concrete (PCC) pavements.

Portland Cement Concrete Design

Layer	Thickness (inches)		
	Traffic Category A ¹	Traffic Category D ¹	Traffic Category E ¹
PCC ²	5	6	7
Aggregate Base	4	4	4

1. See [Project Description](#) for more specifics regarding traffic classifications.
2. All materials should meet the Texas Department of Transportation (TXDOT) Standard Specifications for Highway Construction.

Areas for parking of heavy vehicles, concentrated turn areas, and start/stop maneuvers could require thicker pavement sections. Edge restraints (i.e., concrete curbs or aggregate shoulders) should be planned along curves and areas of maneuvering vehicles.

Although not required for structural support, a minimum 4-inch-thick base course layer is recommended to help reduce potential for slab curl, shrinkage cracking, and subgrade pumping through joints. Proper joint spacing will also be required to prevent excessive slab curling and shrinkage cracking. Joints should be sealed to prevent entry of foreign material and doweled where necessary for load transfer. PCC pavement details for joint spacing, joint reinforcement, and joint sealing should be prepared in accordance with ACI 330 and ACI 325.

Where practical, we recommend early-entry cutting of crack-control joints in PCC pavements. Cutting of the concrete in its “green” state typically reduces the potential for micro-cracking of the pavements prior to the crack control joints being formed, compared to cutting the joints after the concrete has fully set. Micro-cracking of pavements may lead to crack formation in locations other than the sawed joints, and/or reduction of fatigue life of the pavement.

Openings in pavements, such as decorative landscaped areas, are sources for water infiltration into surrounding pavement systems. Water can collect in the islands and migrate into the surrounding subgrade soils thereby degrading support of the pavement. Islands with raised concrete curbs, irrigated foliage, and low permeability near-surface soils are particular areas of concern. The civil design for the pavements with these conditions should include features to restrict or collect and discharge excess water from the islands. Examples of features are edge drains connected to the stormwater collection system, longitudinal subdrains, or other suitable outlets and impermeable barriers

preventing lateral migration of water such as a cutoff wall installed to a depth below the pavement structure.

Pavement Drainage

Pavements should be sloped to provide rapid drainage of surface water. Water allowed to pond on or adjacent to the pavements could saturate the subgrade and contribute to premature pavement deterioration. In addition, the pavement subgrade should be graded to provide positive drainage within the granular base section. Appropriate sub-drainage or connection to a suitable daylight outlet should be provided to remove water from the granular subbase.

Pavement Maintenance

The pavement sections represent minimum recommended thicknesses and, as such, periodic upkeep should be anticipated. Preventive maintenance should be planned and provided for through an on-going pavement management program. Maintenance activities are intended to slow the rate of pavement deterioration and to preserve the pavement investment. Pavement care consists of both localized (e.g., crack, and joint sealing and patching) and global maintenance (e.g., surface sealing). Additional engineering consultation is recommended to determine the type and extent of a cost-effective program. Even with periodic maintenance, some movements and related cracking may still occur, and repairs may be required.

Pavement performance is affected by its surroundings. In addition to providing preventive maintenance, the civil engineer should consider the following recommendations in the design and layout of pavements:

- Final grade adjacent to paved areas should slope down from the edges at a minimum 2%.
- Subgrade and pavement surfaces should have a minimum 2% slope to promote proper surface drainage.
- Install pavement drainage systems surrounding areas anticipated for frequent wetting.
- Install joint sealant and seal cracks immediately.
- Seal all landscaped areas in or adjacent to pavements to reduce moisture migration to subgrade soils.
- Place compacted, low permeability backfill against the exterior side of curb and gutter.
- Place curb, gutter and/or sidewalk directly on clay subgrade soils rather than on unbound granular base course materials.

General Comments

Our analysis and opinions are based upon our understanding of the project, the geotechnical conditions in the area, and the data obtained from our site exploration. Variations will occur between exploration point locations or due to the modifying effects of construction or weather. The nature and extent of such variations may not become evident until during or after construction. Terracon should be retained as the Geotechnical Engineer, where noted in this report, to provide observation and testing services during pertinent construction phases. If variations appear, we can provide further evaluation and supplemental recommendations. If variations are noted in the absence of our observation and testing services on-site, we should be immediately notified so that we can provide evaluation and supplemental recommendations.

Our Scope of Services does not include either specifically or by implication any environmental or biological (e.g., mold, fungi, bacteria) assessment of the site or identification or prevention of pollutants, hazardous materials, or conditions. If the owner is concerned about the potential for such contamination or pollution, other studies should be undertaken.

Our services and any correspondence are intended for the sole benefit and exclusive use of our client for specific application to the project discussed and are accomplished in accordance with generally accepted geotechnical engineering practices with no third-party beneficiaries intended. Any third-party access to services or correspondence is solely for information purposes to support the services provided by Terracon to our client. Reliance upon the services and any work product is limited to our client and is not intended for third parties. Any use or reliance of the provided information by third parties is done solely at their own risk. No warranties, either express or implied, are intended or made.

Site characteristics as provided are for design purposes and not to estimate excavation cost. Any use of our report in that regard is done at the sole risk of the excavating cost estimator as there may be variations on the site that are not apparent in the data that could significantly affect excavation cost. Any parties charged with estimating excavation costs should seek their own site characterization for specific purposes to obtain the specific level of detail necessary for costing. Site safety and cost estimating including excavation support and dewatering requirements/design are the responsibility of others.

Construction and site development have the potential to affect adjacent properties. Such impacts can include damages due to vibration, modification of groundwater/surface water flow during construction, foundation movement due to undermining or subsidence from excavation, as well as noise or air quality concerns. Evaluation of these items on nearby properties are commonly associated with contractor means and methods and are not addressed in this report. The owner and contractor should consider a preconstruction/precondition survey of surrounding development. If changes in the

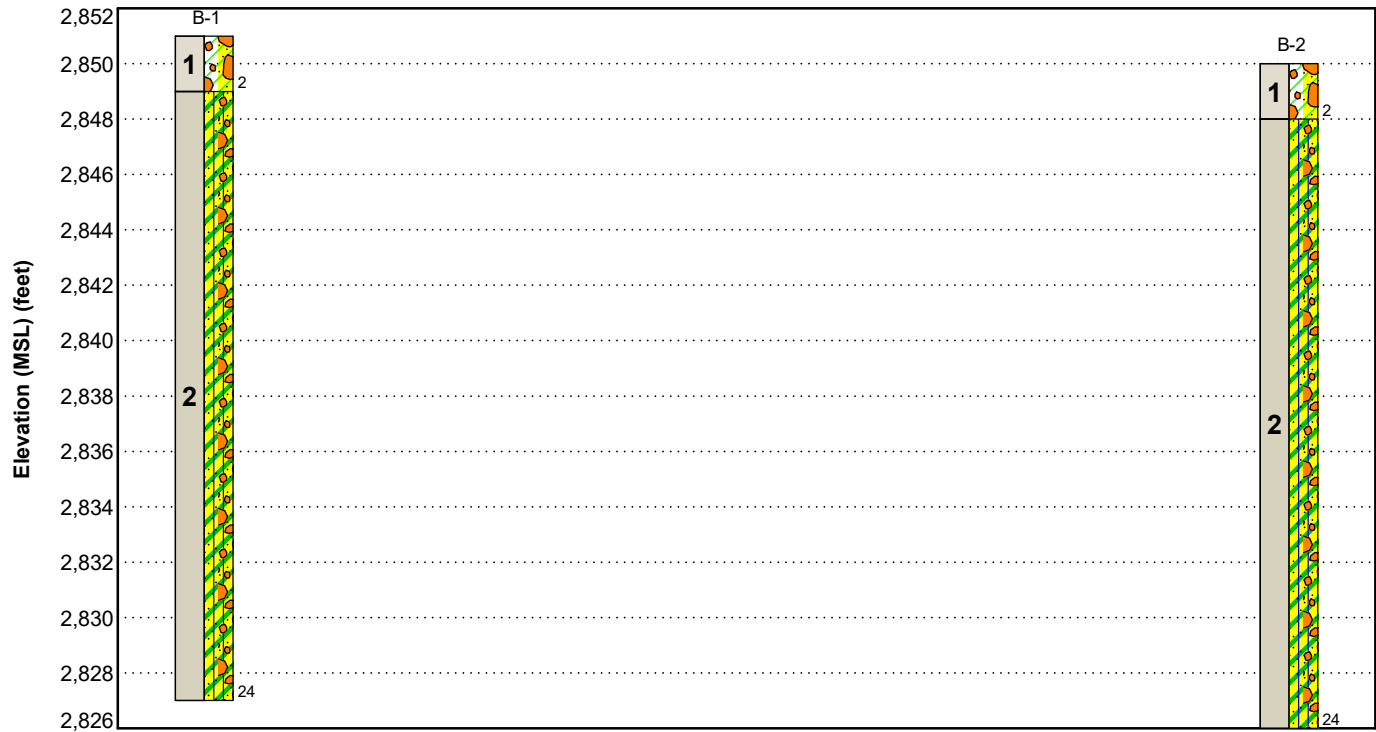
nature, design, or location of the project are planned, our conclusions and recommendations shall not be considered valid unless we review the changes and either verify or modify our conclusions in writing.

Figures

Contents:

GeoModel

GeoModel



This is not a cross section. This is intended to display the Geotechnical Model only. See individual logs for more detailed conditions.

Model Layer	Layer Name	General Description
1	Sand and Gravel	Clayey gravel with sand; very dense
2	Caliche	Silty clayey sand with gravel; very dense

LEGEND

-  Clayey Gravel with Sand
-  Silty Clayey Sand with Gravel

NOTES:
Layering shown on this figure has been developed by the geotechnical engineer for purposes of modeling the subsurface conditions as required for the subsequent geotechnical engineering for this project. Numbers adjacent to soil column indicate depth below ground surface.

Attachments

Exploration and Testing Procedures

Field Exploration

Number of Borings	Boring Depth (feet) ^{1, 2}	Location
B-1	24	Building Footprint Area
B-2	24	Citizens Collection Station (CCS) Area
1. Below ground surface 2. Borings were terminated at depths of about 1 foot shorter than the planned depths due to very dense caliche materials.		

Boring Layout and Elevations: Terracon personnel provided the boring layout. Elevations were estimated at the boring locations using Google Earth Pro. We used handheld GPS equipment to locate borings with an estimated horizontal accuracy of +/- 20 feet. If more precise elevation and boring coordinates are desired, we recommend the borings be surveyed.

Subsurface Exploration Procedures: We advanced the borings with a truck-mounted rotary drill rig using air rotary drilling method. Five samples were obtained in the upper 10 feet of each boring and at intervals of 5 feet thereafter. In the split-barrel sampling procedure, a standard 2-inch outer diameter split-barrel sampling spoon was driven into the ground by a 140-pound automatic hammer falling a distance of 30 inches. The number of blows required to advance the sampling spoon the last 12 inches of a normal 18-inch penetration is recorded as the Standard Penetration Test (SPT) resistance value. The SPT resistance values, also referred to as N-values, are indicated on the boring logs at the test depths. For safety purposes, all borings were backfilled with auger cuttings after their completion.

We also observed the boreholes while drilling and at the completion of drilling for the presence of groundwater. Groundwater was not observed at these times in the boreholes.

The sampling depths, penetration distances, and other sampling information was recorded on the field boring logs. The samples were placed in appropriate containers and taken to our soil laboratory for testing and classification by a Geotechnical Engineer. Our exploration team prepared field boring logs as part of the drilling operations. These field logs included visual classifications of the materials observed during drilling and our interpretation of the subsurface conditions between samples. Final boring logs were prepared from the field logs. The final boring logs represent the Geotechnical Engineer's interpretation of the field logs and include modifications based on observations and tests of the samples in our laboratory.

Laboratory Testing

The project engineer reviewed the field data and assigned laboratory tests. The laboratory testing program included the following types of tests:

- Moisture Content
- Dry Unit Weight
- Atterberg Limits

The laboratory testing program often included examination of soil samples by an engineer. Based on the results of our field and laboratory programs, we described and classified the soil samples in accordance with the Unified Soil Classification System.

Photography Log

	
Boring B-1	Boring B-2
	
Site Picture 1 (Picture taken facing Northeast of the site)	Site Picture 2 (Picture taken facing East of the site)

Site Location and Exploration Plans

Contents:

Site Location Plan
Exploration Plan

Note: All attachments are one page unless noted above.

SITE LOCATION

Midland North CCS ■ Midland County, TX
July 14, 2023 ■ Terracon Project No. A4235100

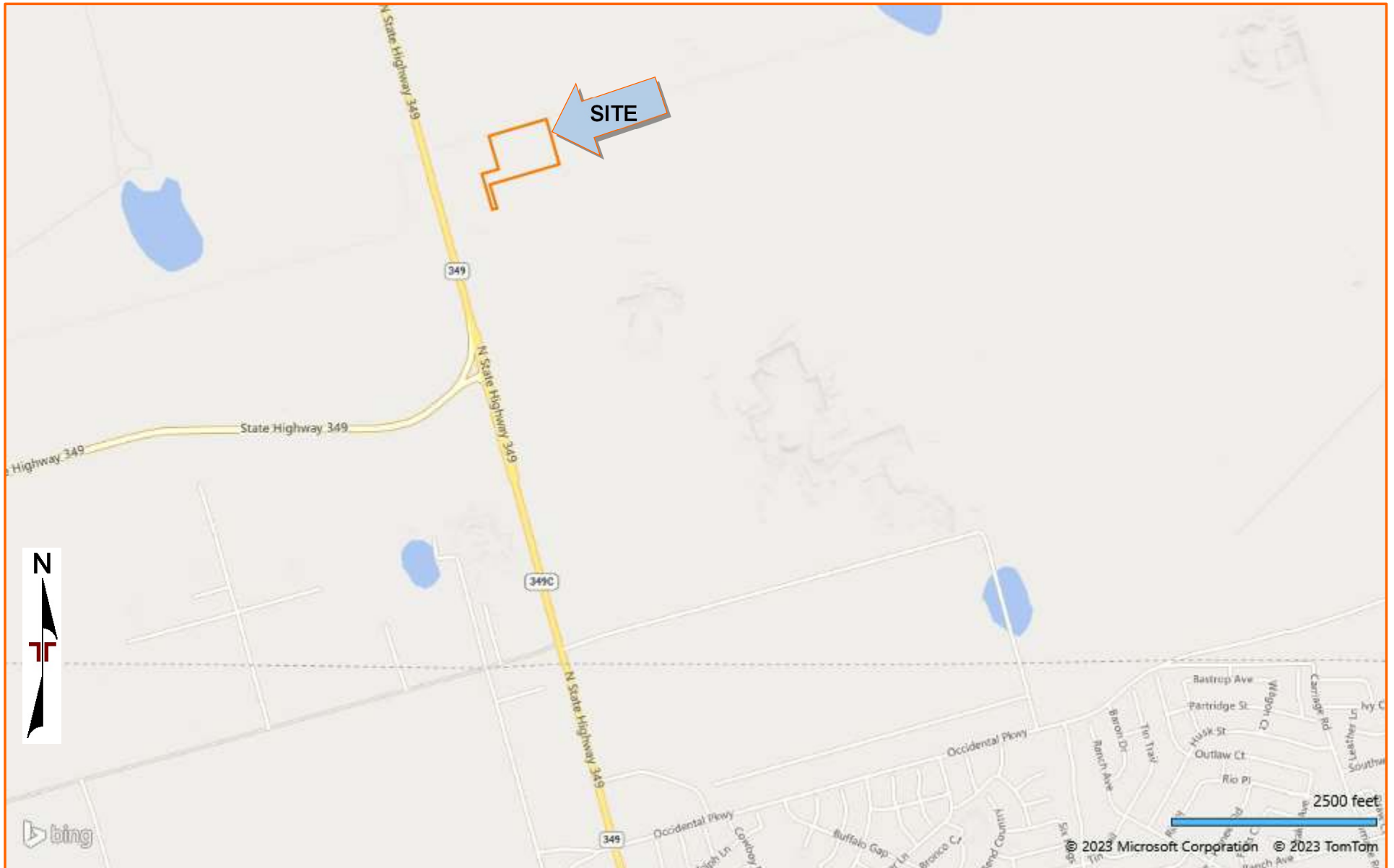


DIAGRAM IS FOR GENERAL LOCATION ONLY, AND IS NOT
INTENDED FOR CONSTRUCTION PURPOSES

PACKET

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AERIAL PHOTOGRAPHY PROVIDED BY
MICROSOFT BING MAPS
September 12, 2023

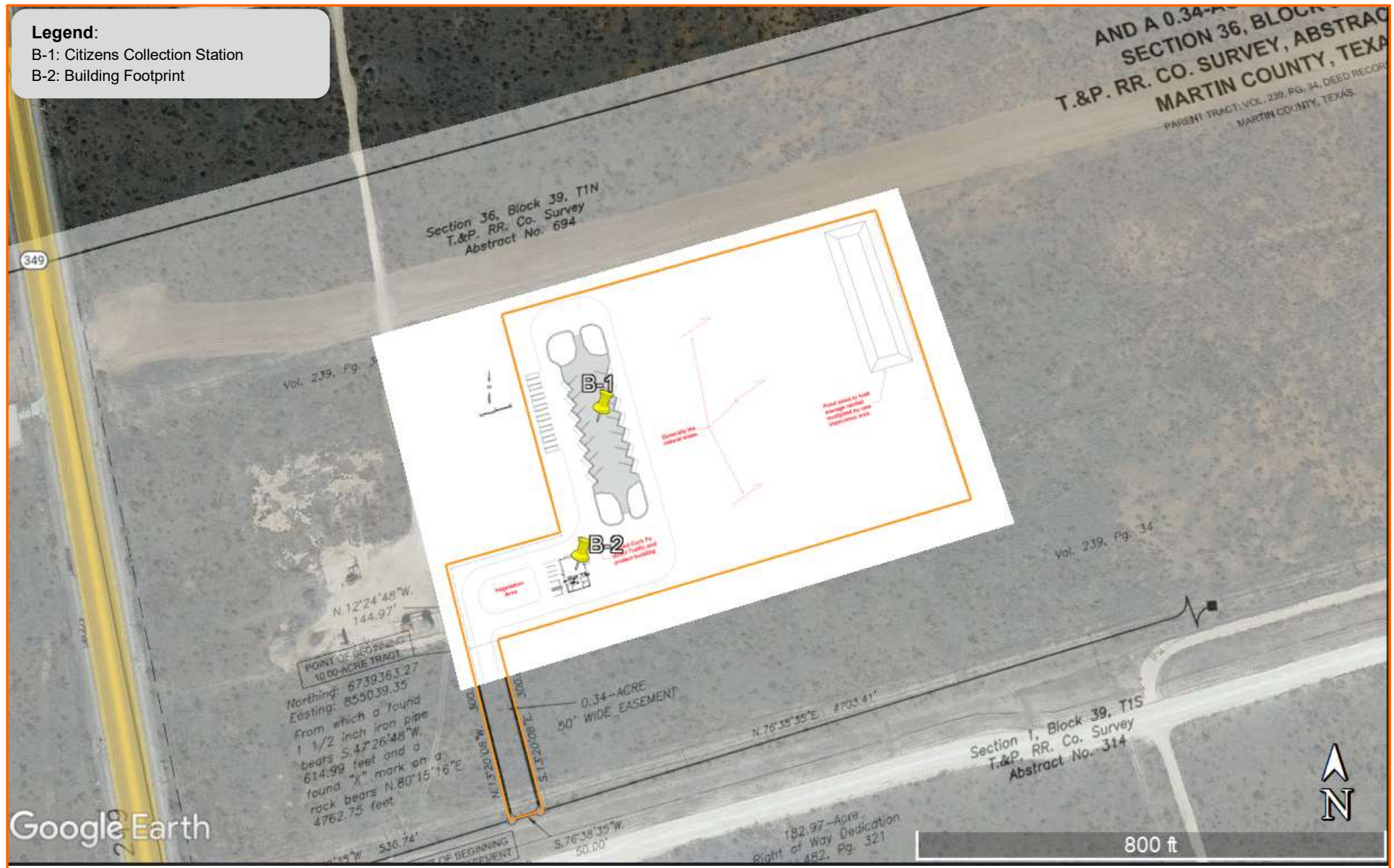
EXPLORATION PLAN

Midland North CCS ■ Midland County, TX
July 14, 2023 ■ Terracon Project No. A4235100



DIAGRAM IS FOR GENERAL INFORMATION ONLY, AND IS NOT
INTENDED FOR CONSTRUCTION PURPOSES

Midland North CCS ■ Midland County, TX
July 14, 2023 ■ Terracon Project No. A4235100



PACKET
DIAGRAM IS FOR GENERAL LOCATION ONLY, AND IS
NOT INTENDED FOR CONSTRUCTION PURPOSES

Exploration and Laboratory Results

Contents:

Boring Logs (2 pages)

Atterberg Limits

Grain Size Distribution

Note: All attachments are one page unless noted above.

Boring Log No. B-1

Model Layer	Graphic Log	Location: See Exploration Plan Latitude: 32.1038° Longitude: -102.0956° Depth (Ft.)Elevation: 2851 (Ft.) +/-	Depth (Ft.)	Water Level Observations	Sample Type	Field Test Results	Water Content (%)	Atterberg Limits	Percent Fines
								LL-PL-PI	
1		CLAYEY GRAVEL WITH SAND (GC) , dark brown, very dense 2.02849			X	6-36-50/2"	11.0	33-15-18	19
2		SILTY CLAYEY SAND WITH GRAVEL, locally called caliche (SC-SM) , dark brown to tannish white, very dense 24.02827			X	50/5"			
					X	50/3"			
			5		X	29-50/2"			
					X	50/2"	1.2	25-18-7	
			10						
					X	50/4"			
			15						
					X	50/2"			
			20						
					X	50/3"			
		Boring Terminated at 24 Feet							

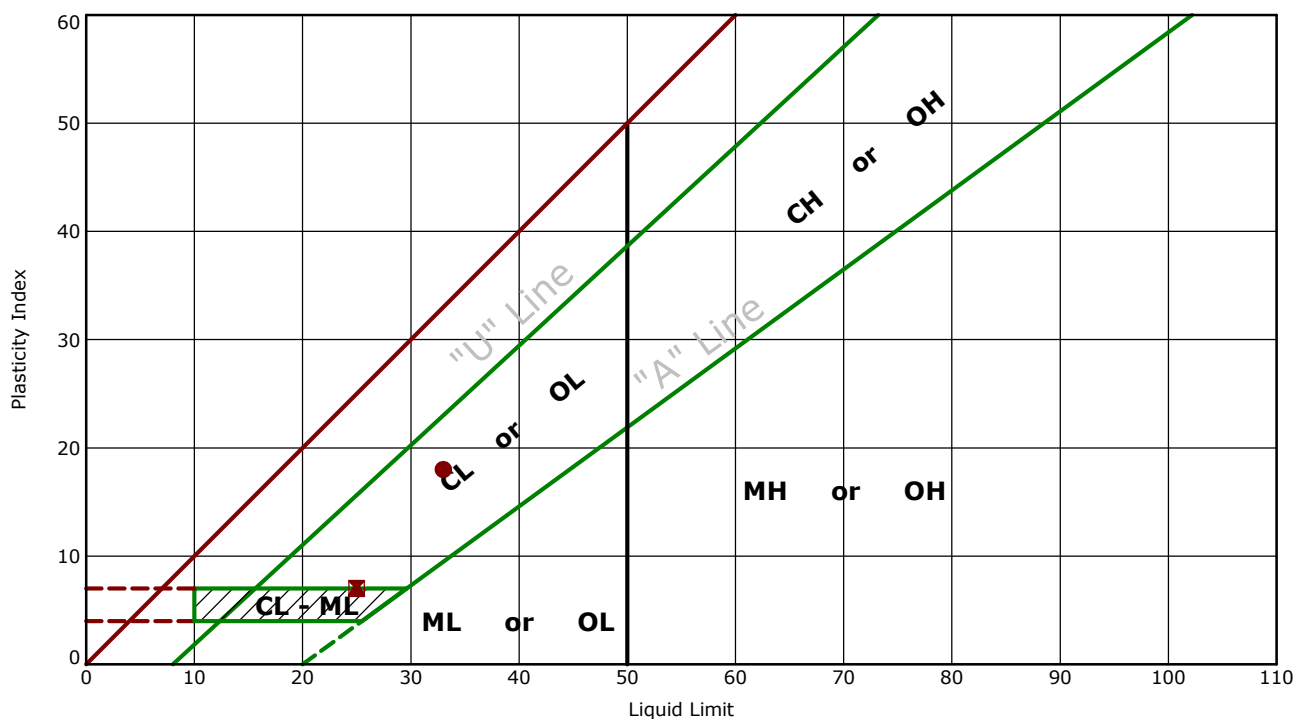
Notes See Exploration and Testing Procedures for a description of field and laboratory procedures used and additional data (If any). See Supporting Information for explanation of symbols and abbreviations. Elevation Reference: Elevation information obtained from Google Earth	Water Level Observations No groundwater encountered while drilling Dry at the completion of drilling	Drill Rig CME-75 Hammer Type Automatic Driller Antonio Logged by Eddie S.
	Advancement Method Air rotary Abandonment Method Boring backfilled with auger cuttings upon completion.	Boring Started 06-09-2023 Boring Completed 06-09-2023

Boring Log No. B-2

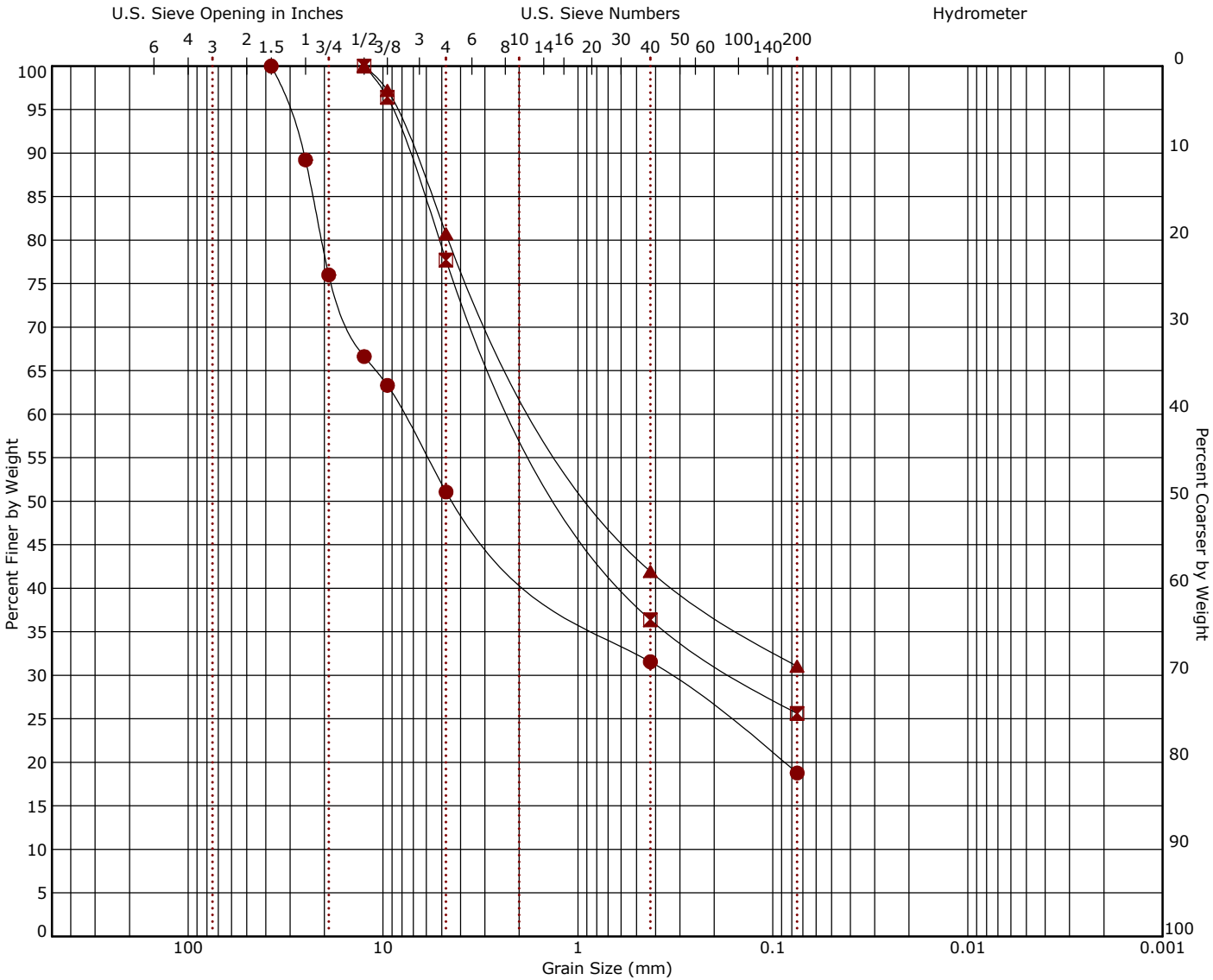
Model Layer	Graphic Log	Location: See Exploration Plan Latitude: 32.1031° Longitude: -102.0957° Depth (Ft.) Elevation: 2850 (Ft.) +/-	Depth (Ft.)	Water Level Observations	Sample Type	Field Test Results	Water Content (%)	Atterberg Limits	Percent Fines
								LL-PL-PI	
1		CLAYEY GRAVEL WITH SAND (GC) , dark brown, very dense 2.02848			X	13-28-50/3"			
2		SILTY CLAYEY SAND WITH GRAVEL, locally called caliche (SC-SM) , dark brown to tannish white, very dense <							

Notes See Exploration and Testing Procedures for a description of field and laboratory procedures used and additional data (If any). See Supporting Information for explanation of symbols and abbreviations. Elevation Reference: Elevation information obtained from Google Earth	Water Level Observations No groundwater encountered while drilling Dry at the completion of drilling	Drill Rig CME-75 Hammer Type Automatic Driller Antonio Logged by Eddie S.
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ASTM D4318

[illegible]

Grain Size Distribution
ASTM D422 / ASTM C136



Supporting Information

Contents:

General Notes

Unified Soil Classification System

Note: All attachments are one page unless noted above.

General Notes

Sampling	Water Level	Field Tests
 Standard Penetration Test	 Water Initially Encountered  Water Level After a Specified Period of Time  Water Level After a Specified Period of Time  Cave In Encountered Water levels indicated on the soil boring logs are the levels measured in the borehole at the times indicated. Groundwater level variations will occur over time. In low permeability soils, accurate determination of groundwater levels is not possible with short term water level observations.	N Standard Penetration Test Resistance (Blows/Ft.) (HP) Hand Penetrometer (T) Torvane (DCP) Dynamic Cone Penetrometer UC Unconfined Compressive Strength (PID) Photo-Ionization Detector (OVA) Organic Vapor Analyzer

Descriptive Soil Classification

Soil classification as noted on the soil boring logs is based Unified Soil Classification System. Where sufficient laboratory data exist to classify the soils consistent with ASTM D2487 "Classification of Soils for Engineering Purposes" this procedure is used. ASTM D2488 "Description and Identification of Soils (Visual-Manual Procedure)" is also used to classify the soils, particularly where insufficient laboratory data exist to classify the soils in accordance with ASTM D2487. In addition to USCS classification, coarse grained soils are classified on the basis of their in-place relative density, and fine-grained soils are classified on the basis of their consistency. See "Strength Terms" table below for details. The ASTM standards noted above are for reference to methodology in general. In some cases, variations to methods are applied as a result of local practice or professional judgment.

Location And Elevation Notes

Exploration point locations as shown on the Exploration Plan and as noted on the soil boring logs in the form of Latitude and Longitude are approximate. See Exploration and Testing Procedures in the report for the methods used to locate the exploration points for this project. Surface elevation data annotated with +/- indicates that no actual topographical survey was conducted to confirm the surface elevation. Instead, the surface elevation was approximately determined from topographic maps of the area.

Strength Terms

Relative Density of Coarse-Grained Soils (More than 50% retained on No. 200 sieve.) Density determined by Standard Penetration Resistance		Consistency of Fine-Grained Soils (50% or more passing the No. 200 sieve.) Consistency determined by laboratory shear strength testing, field visual-manual procedures or standard penetration resistance		
Relative Density	Standard Penetration or N-Value (Blows/Ft.)	Consistency	Unconfined Compressive Strength Qu (tsf)	Standard Penetration or N-Value (Blows/Ft.)
Very Loose	0 - 3	Very Soft	less than 0.25	0 - 1
Loose	4 - 9	Soft	0.25 to 0.50	2 - 4
Medium Dense	10 - 29	Medium Stiff	0.50 to 1.00	4 - 8
Dense	30 - 50	Stiff	1.00 to 2.00	8 - 15
Very Dense	> 50	Very Stiff	2.00 to 4.00	15 - 30
		Hard	> 4.00	> 30

Relevance of Exploration and Laboratory Test Results

Exploration/field results and/or laboratory test data contained within this document are intended for application to the project as described in this document. Use of such exploration/field results and/or laboratory test data should not be used independently of this document.

Unified Soil Classification System

Criteria for Assigning Group Symbols and Group Names Using Laboratory Tests ^A				Soil Classification	
				Group Symbol	Group Name ^B
Coarse-Grained Soils: More than 50% retained on No. 200 sieve	Gravels: More than 50% of coarse fraction retained on No. 4 sieve	Clean Gravels: Less than 5% fines ^C	$Cu \geq 4$ and $1 \leq Cc \leq 3$ ^E	GW	Well-graded gravel ^F
			$Cu < 4$ and/or $[Cc < 1 \text{ or } Cc > 3.0]$ ^E	GP	Poorly graded gravel ^F
		Gravels with Fines: More than 12% fines ^C	Fines classify as ML or MH	GM	Silty gravel ^{F, G, H}
			Fines classify as CL or CH	GC	Clayey gravel ^{F, G, H}
	Sands: 50% or more of coarse fraction passes No. 4 sieve	Clean Sands: Less than 5% fines ^D	$Cu \geq 6$ and $1 \leq Cc \leq 3$ ^E	SW	Well-graded sand ^I
			$Cu < 6$ and/or $[Cc < 1 \text{ or } Cc > 3.0]$ ^E	SP	Poorly graded sand ^I
		Sands with Fines: More than 12% fines ^D	Fines classify as ML or MH	SM	Silty sand ^{G, H, I}
			Fines classify as CL or CH	SC	Clayey sand ^{G, H, I}
Fine-Grained Soils: 50% or more passes the No. 200 sieve	Silts and Clays: Liquid limit less than 50	Inorganic:	$PI > 7$ and plots above "A" line ^J	CL	Lean clay ^{K, L, M}
			$PI < 4$ or plots below "A" line ^J	ML	Silt ^{K, L, M}
		Organic:	$\frac{LL_{oven\ dried}}{LL_{not\ dried}} < 0.75$	OL	Organic clay ^{K, L, M, N} Organic silt ^{K, L, M, O}
	Silts and Clays: Liquid limit 50 or more	Inorganic:	PI plots on or above "A" line	CH	Fat clay ^{K, L, M}
			PI plots below "A" line	MH	Elastic silt ^{K, L, M}
		Organic:	$\frac{LL_{oven\ dried}}{LL_{not\ dried}} < 0.75$	OH	Organic clay ^{K, L, M, P} Organic silt ^{K, L, M, Q}
Highly organic soils:	Primarily organic matter, dark in color, and organic odor			PT	Peat

^A Based on the material passing the 3-inch (75-mm) sieve.

^B If field sample contained cobbles or boulders, or both, add "with cobbles or boulders, or both" to group name.

^C Gravels with 5 to 12% fines require dual symbols: GW-GM well-graded gravel with silt, GW-GC well-graded gravel with clay, GP-GM poorly graded gravel with silt, GP-GC poorly graded gravel with clay.

^D Sands with 5 to 12% fines require dual symbols: SW-SM well-graded sand with silt, SW-SC well-graded sand with clay, SP-SM poorly graded sand with silt, SP-SC poorly graded sand with clay.

$$E \quad Cu = D_{60}/D_{10} \quad Cc = \frac{(D_{30})^2}{D_{10} \times D_{60}}$$

^F If soil contains $\geq 15\%$ sand, add "with sand" to group name.

^G If fines classify as CL-ML, use dual symbol GC-GM, or SC-SM.

^H If fines are organic, add "with organic fines" to group name.

^I If soil contains $\geq 15\%$ gravel, add "with gravel" to group name.

^J If Atterberg limits plot in shaded area, soil is a CL-ML, silty clay.

^K If soil contains 15 to 29% plus No. 200, add "with sand" or "with gravel," whichever is predominant.

^L If soil contains $\geq 30\%$ plus No. 200 predominantly sand, add "sandy" to group name.

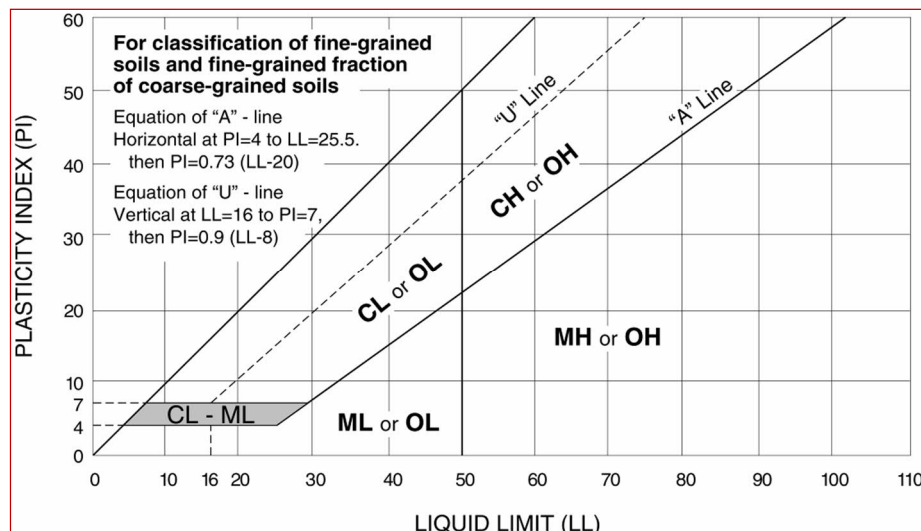
^M If soil contains $\geq 30\%$ plus No. 200, predominantly gravel, add "gravelly" to group name.

^N $PI \geq 4$ and plots on or above "A" line.

^O $PI < 4$ or plots below "A" line.

^P PI plots on or above "A" line.

^Q PI plots below "A" line.



ADDENDUM NO: 005

TO: ALL PLANHOLDERS
FROM: PARKHILL
PROJECT NAME: CITY OF MIDLAND NORTH AND
WEST CITIZEN'S COLLECTION
CENTERS
PROJECT NO.: 01.6119.21
DATE: August 14, 2023



NOTE: Please make sure you are referencing the Project Manual and Drawings with issue date of July 14, 2023 and not the preliminary set dated June 2023.

Attention of all Prospective Proposers/Plan Holders is directed to the following modifications to the referenced Drawings and Project Manual. This Addendum becomes a part of the Contract Documents and modifies the original Contract Documents dated July 14, 2023 as noted below:

This Addendum consists of 3 page(s), the Section 01 22 00 Measurement and Payment, the attached drawing(s) no(s). C-101, C-106, C-112, and E-501.

I. CHANGES TO PRIOR ADDENDA:

1. NONE

II. CHANGES TO PROJECT MANUAL:

1. SECTION 01 22 00 – MEASUREMENT AND PAYMENT
 - a. ADD this Section in its entirety.

III. CHANGES TO DRAWINGS:

1. SHEET C-101 – WEST CCS SITE LAYOUT PLAN
 - a. ADD this Sheet in its entirety.
2. SHEET C-106 – NORTH CCS SITE LAYOUT PLAN
 - a. ADD this Sheet in its entirety.
3. SHEET C-112 – NORTH CCS LANDSCAPE PLAN
 - a. ADD this Sheet in its entirety.
4. SHEET E-501 – ELECTRICAL RISER DIAGRAM AND DETAILS
 - a. ADD this Sheet in its entirety.

IV. QUESTIONS AND CLARIFICATIONS:**Concrete**

1. 20 mil poly is specified and called for in the plans. It is a special order item that would require us to purchase 12 roll pallet + freight (currently about 300); when we are only needing 4 rolls. Would the engineer entertain 15 mil poly because of local supply and cost? Added cost is more than \$3,200

RESPONSE: Substitution of 15 mil barrier is not acceptable for this project.

2. S-502; C1 shows 4" PVC, C-101 & C-106 note 15 call for 6" x 2" drainage cut outs per Detail B4/S-502; but there is no detail. What does the owner/architect/engineer want to do?

RESPONSE: Refer to revised sheet C-101 and C-106 for drainage cut out.

3. Is there any details for the light pole bases?

RESPONSE: Refer to revised Sheet E-501 as part of this addendum.

Septic Tanks

4. What is the amount of water discharge (gallons per day) of the RO system identified on Plumbing Plan, P-111, Note 1?

RESPONSE: The RO system is expected to discharge 1 gallon of water per day.

Landscaping

5. Plant Schedule on North CCS Landscape Plan C-112 lists 9 Chinese Pistache, however plan shows 17 trees. Please clarify the quantity.

RESPONSE: Refer to C-112 as part of this addendum.

6. There's no detail or section for the border going around the areas where the trees and $\frac{3}{4}$ " Rock Mulch will be contained. Plan C-112. Please confirm if steel lawn edging is acceptable or what to consider to contain the Rock Mulch.

RESPONSE: Refer to C-112 as part of this addendum.

Cold-Formed Metal Framing

7. In the loading bay area, there's no detail showing any framing to connect the treated plywood to the perimeter walls. Please confirm if we need to figure 3-5/8 framing behind it or what to consider.

RESPONSE: Attached the 3/4" plywood to 14 ga x2x2 base angle attached with 1"X-U Hilti pins at 24" center at the slab aligned with the girts above. Secure the plywood sheet to the 14 ga x2x2 clip angle attached with 1"X-U Hilti pins at 24" center, the 5-foot girt, and the 7-foot girt.

Electrical

8. Can you provide the information on the trash Compactor & Guard shack. Need the Voltage & amperage for the trash compactor and location. We need to know where the Guard shack will be located and what electrical & data is required if any and location.

RESPONSE: Refer to revised Section 01 22 00 Measurement and Payment.

END OF ADDENDUM 005



ADDENDUM NO: 004

TO: ALL PLANHOLDERS
FROM: PARKHILL
PROJECT NAME: CITY OF MIDLAND NORTH AND
WEST CITIZEN'S COLLECTION
CENTERS
PROJECT NO.: 01.6119.21
DATE: August 8, 2023



NOTE: Please make sure you are referencing the Project Manual and Drawings with issue date of July 14, 2023 and not the preliminary set dated June 2023.

Attention of all Prospective Proposers/Plan Holders is directed to the following modifications to the referenced Drawings and Project Manual. This Addendum becomes a part of the Contract Documents and modifies the original Contract Documents dated July 14, 2023 as noted below:

This Addendum consists of 1 page(s), Section 00 42 00 Proposal Form, and Section 01 22 00 Measurement of Payment.

Questions must be received no later than 12:00 PM CDT on Friday, August 11, 2023.

I. CHANGES TO PRIOR ADDENDA:

1. NONE

II. CHANGES TO ADVERTISEMENT

1. PROPOSAL DATE AND TIME CHANGE

- a. **Proposal Date and Time changed to the following: August 16, 2023 at 2:00 PM, local time.**

III. CHANGES TO PROJECT MANUAL:

1. SECTION 00 42 00 – PROPOSAL FORM
 - a. REPLACE this Section in its entirety as attached to this Addendum.
2. SECTION 01 22 00 – MEASUREMENT AND PAYMENT
 - a. REPLACE this Section in its entirety as attached to this Addendum.

IV. CHANGES TO DRAWINGS:

1. NONE

END OF ADDENDUM 004

A handwritten signature in blue ink, appearing to be 'Spencer J. Harvey', written over the 'END OF ADDENDUM 004' text.

ADDENDUM NO: 003

TO: ALL PLANHOLDERS
FROM: PARKHILL
PROJECT NAME: CITY OF MIDLAND NORTH AND
WEST CITIZEN'S COLLECTION
CENTERS
PROJECT NO.: 01.6119.21
DATE: August 7, 2023



NOTE: Please make sure you are referencing the Project Manual and Drawings with issue date of July 14, 2023 and not the preliminary set dated June 2023.

Attention of all Prospective Proposers/Plan Holders is directed to the following modifications to the referenced Drawings and Project Manual. This Addendum becomes a part of the Contract Documents and modifies the original Contract Documents dated July 14, 2023 as noted below:

This Addendum consists of 4 page(s), the attached drawing(s) no(s). C-112, and Pre-Proposal Agenda.

I. CHANGES TO PRIOR ADDENDA:

1. NONE

II. CHANGES TO PROJECT MANUAL:

1. NONE

III. CHANGES TO DRAWINGS:

1. SHEET C-112 – NORTH CCS LANDSCAPE PLAN
 - a. ADDED this Sheet in its entirety.

IV. QUESTIONS AND CLARIFICATIONS:

North Citizens' Collection Station Project- questions:

1. What modifications to the entrance road?

RESPONSE: Connection to HWY 349.

2. Where is the electrical?

RESPONSE: Working with Oncor to determine. Take utilities out of building 5 feet for tie in.

3. Water source?

RESPONSE: City water.

4. Septic source

RESPONSE: Septic systems are included in the construction drawings.

5. Inspections? ETJ permits are they required? Who is paying for them?

RESPONSE: Confirm with City of Midland Permitting office.

6. Storm pond dirt okay to use?

RESPONSE Onsite soil maybe used for structural fill. Processing.

West Citizens' Collection Station Project- questions:

7. Where is the electrical?

RESPONSE: On site.

8. Water source?

RESPONSE: Water well by current white building.

9. Septic source

RESPONSE: Septic systems are included in the construction drawings.

10. City based approved material okay for this project? Road base items?

RESPONSE: Road base items are detailed on Sheet C-501.

11. Storm pond dirt okay to use?

RESPONSE: Refer to Geotech Reports include in Project Manual in reference to the suitability of onsite material for use as fill material.

12. Transportation material currently house on site, where will that go? Moved to?

RESPONSE: Material may be stockpiled onsite during construction. Excess material not determined to be waste may be stockpiled onsite.

13. What is the function of the building?

RESPONSE: Operation/Oversight of the entire facility.

General questions:

14. Completion dates?

RESPONSE: Looking at 9 months to one (1) year. Both sites need to be completed simultaneously.

15. Will chemicals be brought in?

RESPONSE: No, City is not permitted for chemicals.

16. Mezzanine in the plans?

RESPONSE: Yes, mezzanine is for storage.

17. County requiring permits?

RESPONSE: Confirm with Midland County Public Works.

18. Item 38 of the North Site BID Form corresponds to Landscaping and Irrigation, however no plans are included.

RESPONSE: Sheet C-112, included with this addendum, displays the landscaping plan.

19. Curbs are shown within the Plans but there's no bid item for them. Please clarify.

RESPONSE: Curb construction work is performed under Proposal item 7 and Proposal item 26 for the respective site.

20. Onsite material will not meet specs, is there going to be a line item added for imported materials? If we need to consider to screen the onsite materials, is there going to be a line item added for screening?

RESPONSE: Refer to Geotech reports included in Project Manual in reference to the suitability of onsite material for use as fill material.

21. Is there any GEO TECH Report available for these locations? ; If not, are rock clauses to be excluded?

RESPONSE: Geotech reports were included for both sites in Project Manual.

22. Project Manual (pages 2-7) shows a Note specifying not to use the manual for regulatory approval, construction, bidding, or permit purposes. Please confirm if there will be a revision of the specifications or how to proceed.

RESPONSE: Sealed Project Manual was previously issued for construction use and obtaining AHJ permits as needed.

23. Please confirm the location of new utilities. (Water & electrical), or should we consider 5' stub-outs from the buildings.

RESPONSE: Yes, extend utilities outside buildings 5 feet for connections.

24. Please confirm if the electrical subcontractor will be responsible for removing the overhead lines and poles marked with Note 5 or Power Company will be taking care of them. Plan C-001.

RESPONSE: Contractor will be responsible for removing the overhead lines and poles marked with Note 5.

25. Is there a Door Hardware Schedule available? Not included within the Plans or the Project Manual.

RESPONSE: Please refer to sealed Project Manual previously released.

26. There are (2) corner guards but no size. Please inform the wing size and the height.

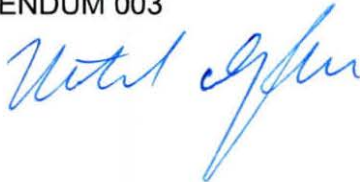
RESPONSE: Provide "CO-8" stainless steel corner guards from Construction Specialties or equal. Leg size is 3-1/2 inches, height is 48 inches installed above specified base utilizing adhesive installation, following manufacturer's written installation instructions.

27. Please confirm if exposed structure ceiling or structural steel called to paint on this project.

RESPONSE: Workbay and Mezzanine have no ceiling and are exposed to structure. Exposed steel to be painted as specified in 09 91 23, color to be selected by Architect/Engineer from manufacturer's full range. Metals to be painted with basis of design product (or equal):

- Semi-Gloss Finish High Performance:
 - 1ST Coat: S-W Pro Industrial Pro-Cryl Universal Primer, B66-1310 Series (5.0 mils wet, 2.0 mils dry).
 - 2ND Coat: S-W Pro Industrial Acrylic Semi-Gloss, B66-650 Series.
 - 3RD Coat: S-W Pro Industrial Acrylic Semi-Gloss, B66-650 Series (2.0-4.0 mils dry per coat).

END OF ADDENDUM 003



ADDENDUM NO: 002

TO: ALL PLANHOLDERS
FROM: PARKHILL
PROJECT NAME: CITY OF MIDLAND NORTH AND
WEST CITIZEN'S COLLECTION
CENTERS
PROJECT NO.: 01.6119.21
DATE: JULY 31, 2023



NOTE: Please make sure you are referencing the Project Manual and Drawings with issue date of July 14, 2023 and not the preliminary set dated June 2023.

Attention of all Prospective Proposers/Plan Holders is directed to the following modifications to the referenced Drawings and Project Manual. This Addendum becomes a part of the Contract Documents and modifies the original Contract Documents dated July 14, 2023 as noted below:

This Addendum consists of 1 page and the attached drawing no. S-001.

I. CHANGES TO PRIOR ADDENDA:

1. NONE

II. CHANGES TO PROJECT MANUAL:

1. NONE

III. CHANGES TO DRAWINGS:

1. S-001 – GENERAL NOTES
 - a. Foundations note E, reference corrected to West CCS building.
 - b. Note F added to reference Geotechnical report for North CCS building.
 - c. Location on sheet of Concrete notes, Site Planning and Fill Notes and Pre-Engineered Building notes adjusted.

END OF ADDENDUM 002

A handwritten signature in blue ink, appearing to read "Noted JPH", is written over the "END OF ADDENDUM 002" text.

ADDENDUM NO: 001

TO:	ALL PLANHOLDERS
FROM:	PARKHILL
PROJECT NAME:	CITY OF MIDLAND NORTH AND WEST CITIZEN'S COLLECTION CENTERS
PROJECT NO.:	01.6119.21
DATE:	JULY 18, 2023



07/18/2023

Attention of all Prospective Proposers/Plan Holders is directed to the following modifications to the referenced Drawings and Project Manual. This Addendum becomes a part of the Contract Documents and modifies the original Contract Documents dated May 11, 2022 as noted below:

This Addendum consists of 2 pages.

I. CHANGES TO PROJECT MANUAL:

1. SECTION 01 11 20 – REQUEST FOR PROPSALS

a. REVISE Paragraph 1.9 (PRE-PROPOSAL CONFERENCE) to read:

- "A. A pre-proposal conference will be held on **Tuesday, July 25, 2023** at the Project site at **2:30 p.m. local time**. Attendance by Proposers is not mandatory.
- B. **The North site does not have an address. It can be located with these coordinates: 32.105819, 102.098981. That is approximately 2/3 mile north of the Hwy 349 N and Craddock Hwy (reliever route) intersection, past the new water tower:**



- C. **The West site address is 6400 W Highway 80, Midland, Texas."**

II. CHANGES TO DRAWINGS:

NONE

END OF ADDENDUM 001

A handwritten signature in blue ink, appearing to read "Stahl" followed by a stylized flourish.

City of Midland
West and North Citizens' Collection Station

DOCUMENT 00 42 00 - PROPOSAL FORM

Date: August 16, 2023

City of Midland
300 North Loraine Street
Midland, Texas 79701

City Secretary:

The undersigned, having carefully examined the specifications, drawings, and related documents entitled:

**WEST AND NORTH CITIZENS' COLLECTION STATIONS
MIDLAND, TEXAS**

all as prepared by Parkhill 1700 West Wall Street, Suite 100, Midland, Texas 79701; 432.697.1447, as well as having attended a pre-proposal conference and made an on-site inspection of the premises and all other conditions affecting the cost and/or execution of the Work, proposes to furnish all materials, labor, and equipment necessary to complete the Work in accordance with said documents, of which this Proposal is a part, for the following price(s):

West Site

Item No.	Description	Unit	Estimated Quantity	Proposal Unit Price	Proposal Amount
1	Mobilization (5% Maximum)	LS	1	\$ 45,000.00	\$ 45,000.00
2	Erosion Control	LS	1	\$ 5,000.00	\$ 5,000.00
3	Excavation	CY	6,800	\$ 7.80	\$ 53,040.00
4	Embankment (fill)	CY	12,800	\$ 19.08	\$ 244,224.00
5	Furnish and install 3-inch thick Type "B" HMAC, 9" base course, 12" Subgrade	SY	800	\$ 68.28	\$ 54,624.00
6	Furnish and install 8-Inch thick Concrete pavement and reinforcement, 6" base course, 12" Subgrade	SY	2,100	\$ 134.30	\$ 282,030.00
7	Concrete Drainage Gutter	LF	400	\$ 40.24	\$ 16,096.00
8	Concrete Retaining Wall and Steel Rails	LF	920	\$ 1,200.00	\$ 1,104,000.00
9	Entrance Gate	LS	1	\$ 15,270.00	\$ 15,270.00
10	Exit Gate	LS	1	\$ 3,870.00	\$ 3,870.00
11	6' Chain Link Fence	LF	870	\$ 32.94	\$ 28,657.80
12	Pavement Markings & Striping	LS	1	\$ 3000.00	\$ 3000.00
13	Schedule 80 Waterline	LF	720	\$ 63.60	\$ 45,792.00
14	SDR 35 Sewerline	LF	100	\$ 63.60	\$ 6,360.00
15	Traffic Signage	EA	33	\$ 720.00	\$ 23,760.00
16	40'x60' Metal Building	LS	1	\$ 18,000.00	\$ 18,000.00

850,000.00 850,000.00

0161P90CKET
08/23

PROPOSAL FORM

September 12, 2023 - 1
ADDENDUM 004

City of Midland
West and North Citizens' Collection Station

West Site

Item No.	Description	Unit	Estimated Quantity	Proposal Unit Price	Proposal Amount
17	Electrical Site Work	LS	1	\$ 174,298.00	\$ 174,298.00
18	Septic Tank	LS	1	\$ 53,651.00	\$ 53,651.00
19	Water Well	LS	1	\$ 18,000	\$ 18,000.00
Total:					\$ 3024672.20

North Site

Item No.	Description	Unit	Estimated Quantity	Proposal Unit Price	Proposal Amount
20	Mobilization (5% Maximum)	LS	1	\$ 45,000.00	\$ 45,000.00
21	Erosion Control	LS	1	\$ 5,000.00	\$ 5,000.00
22	Excavation	CY	4,400	\$ 7.80	\$ 34,320.00
23	Embankment (fill)	CY	3,600	\$ 11.10	\$ 39,960.00
24	Furnish and install 3-inch thick Type "B" HMA, 9" base course, 12" Subgrade	SY	800	\$ 68.28	\$ 54,624.00
25	Furnish and install 8-Inch thick Concrete pavement and reinforcement, 6" base course, 12" Subgrade	SY	2,400	\$ 134.20	\$ 322,080.00
26	Concrete Drainage Gutter	LF	400	\$ 40.24	\$ 16,096.00
27	Concrete Retaining Wall and Steel Rails	LF	920	\$ 1,200.00	\$ 1,104,000.00
28	Entrance Gate	LS	1	\$ 15,270.00	\$ 15,270.00
29	Exit Gate	LS	1	\$ 3,870.00	\$ 3,870.00
30	6' Chain Link Fence	LF	1,700	\$ 32.52	\$ 55,284.00
31	Pavement Markings & Striping	LS	1	\$ 3,000.00	\$ 3,000.00
32	Schedule 80 Waterline	LF	1,100	\$ 63.60	\$ 69,960.00
33	SDR 35 Sewerline	LF	110	\$ 63.60	\$ 6,996.00
34	Traffic Signage	EA	33	\$ 720.00	\$ 23,760.00
35	40'x60' Metal Building	LS	1	\$ 850,000.00	\$ 850,000.00
36	Electrical Site Work	LS	1	\$ 163,450.00	\$ 163,450.00
37	Septic Tank	LS	1	\$ 96,608.40	\$ 96,608.40
38	Landscape and Irrigation	LS	1	\$ 53,460.00	\$ 53,460.00
39	Entrance Road	SY SF	58,000	\$ 3.54 7.46	\$ 205,320.00 432,680.00
Total:					\$ 3,317,434.00

(Note: All amounts shall be shown in both Proposal unit price and Proposal amount. In case of discrepancy between the unit price and the amount, unit price multiplied by quantity will govern. For alternates, check whether it is an add, deduct, or no change.)

City of Midland
West and North Citizens' Collection Station

The undersigned acknowledges receipt of 5 addenda to the Drawings and Project Manual as follows:

No. 1	Date 07/18/2023	No. 3	Date 08/07/2023	No. 5	Date 08/14/2023
No. 2	Date 07/31/2023	No. 4	Date 08/08/2023	No.	Date

(The Proposer is to fill in I.D. Number and date of each thereby acknowledging receipt of Addenda).
If awarded the contract, the undersigned agrees to commence work under this contract on or before
a date to be specified in Written Notice to Proceed, but not later than October 02, 2023.

Proposer agrees to pay the Owner \$250.00 per day, as liquidated damages, for each day the substantial
completion of this Project extends beyond the stipulated substantial completion date.

If notified of the acceptance of this bid within 30 days of the time set for the opening of proposals, Proposer
agrees within 10 days of notification, to execute a contract in the form of the on the Owner provided form for
the above Work, for the above stated compensation.

PROPOSAL SECURITY, as defined in the Request For Proposals and Instructions to Proposers, which the
Undersigned agrees to disposition of, is attached to this Proposal.

Upon acceptance of this Proposal by Owner, Contractor shall furnish, at the time of the signing of the
contract, a PERFORMANCE BOND AND LABOR/MATERIAL PAYMENT BOND, in the amount of
100 percent of the Contract Price. Surety shall meet requirements specified in the Owner/Contractor
Agreement.

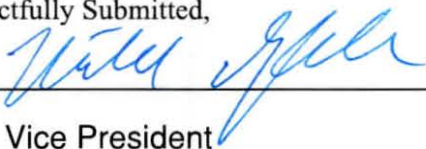
It is understood that the Owner reserves the right to accept or reject any and all Proposals and to waive all
formalities in accordance with State law.

City of Midland
West and North Citizens' Collection Station

ATTACHMENTS

In accordance with Instructions to Proposers, complete the attached forms and submit with the Proposal Form.

Respectfully Submitted,

By: 

Michael Iaquaniello - Onyx General Contractors, LLC.

Title: Vice President

Business Address with Zip Code

(SEAL: If Proposal is
by Corporation)

Onyx General Contractors, LLC

1010 S. FM 1788

Midland, Texas 79706

Telephone Number with Area Code 432-561-8900

Fill in the applicable information:

A Corporation, chartered in the State of Texas.

Authorized to do business in the State of Texas.

A Partnership, composed of _____, and
_____ and _____.

An Individual operating under the name of _____.

Corporate Seal:

END PROPOSAL FORM

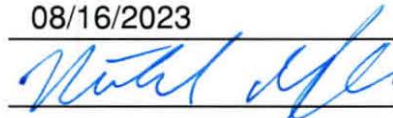
DOCUMENT 00 43 00 - PROCUREMENT FORM SUPPLEMENTS

To: City of Midland

Project: West and North Citizens' Collection Stations

Date: 08/16/2023

Submitted by:
(full name)



Michael Iaquaniello - Onyx General Contractors, LLC.

(full address)

1010 S. FM 1788

Midland, Texas 79706

In accordance with Instructions to Proposers and Proposal Form, we include the following Appendices listed below. The information provided shall be considered an integral part of the Proposal Form. The following Appendices are attached to this document:

Appendix A - List of Subcontractors: Include names of all Subcontractors and portions of the Work each Subcontractor will perform.

Appendix B - Resident Bidder Certification.

PROPOSAL FORM SUPPLEMENTS SIGNATURES

The Corporate Seal of

.....
(Proposer - print the full name of your firm)

was hereunto affixed in the presence of:

.....
(Authorized signing officer Title)

(Seal)

.....
(Authorized signing officer Title)

(Seal)

APPENDIX A - LIST OF SUBCONTRACTORS AND MAJOR MATERIAL SUPPLIERS

Herewith is the list of subcontractors and major material suppliers referenced in the proposal submitted by:

Proposer) Onyx General Contractors, LLC.

To (Owner) City of Midland

Dated 08/16/2023 and which is an integral part of the Proposal Form.

The following work will be performed (or provided) by subcontractors and coordinated by us:

WORK SUBJECT/MATERIAL SUPPLIER	NAME

APPENDIX B - RESIDENT BIDDER CERTIFICATION

RESIDENT BIDDER CERTIFICATION

In order for the proposal to be considered, the following information must be provided. **Failure to complete may result in rejection of the proposal:**

As defined by Texas Government Code Section 2252.01 et seq., a "nonresident bidder" means a bidder whose principal place of business is not in Texas but excludes a contractor whose ultimate parent company or majority owner has its principal place of business in Texas.

I certify that my company is a "resident bidder":

Signature:  Date: 08/16/2023

If you qualify as a "nonresident bidder," you must furnish the following information:
What is your resident state? (The state your principal place of business is located.)

City: _____ State: _____ Zip: _____

Company Name: _____ Address: _____

(A) Does your "residence state" require bidders whose principal place of business is in Texas to underbid bidders whose residence state is in the same as yours by a prescribed amount or percentage to receive a comparable contract? "Residence state" means the state in which the principal place of business is located. YES _____ NO _____

(B) What is the amount or percentage? _____ %

I certify that the above information is correct.

Typed Name/Position

Company Name

END OF DOCUMENT

IMPORTANT NOTICE

Conflict Of Interest Reporting Requirements

Compliance with LOCAL GOVERNMENT CODE TITLE 5. MATTERS AFFECTING PUBLIC OFFICERS AND EMPLOYEES SUBTITLE C. MATTERS AFFECTING PUBLIC OFFICERS AND EMPLOYEES OF MORE THAN ONE TYPE OF LOCAL GOVERNMENT CHAPTER 176. DISCLOSURE OF CERTAIN RELATIONSHIPS WITH LOCAL GOVERNMENT OFFICERS; PROVIDING PUBLIC ACCESS TO CERTAIN INFORMATION.

Form CIQ: This questionnaire reflects changes made to the law by H.B. 23, 84th Leg., Regular Session. This questionnaire shall be filed in accordance with Chapter 176, Local Government Code, by a vendor who has a business relationship as defined by Section 176.001(1-a) with a local governmental entity and the vendor meets requirements under Section 176.006(a). By law this questionnaire must be filed with the records administrator of the local governmental entity not later than the 7th business day after the date the vendor becomes aware of facts that require the statement to be filed. See Section 176.006(a-1), Local Government Code. A vendor commits an offense if the vendor knowingly violates Section 176.006, Local Government Code. An offense under this section is a misdemeanor.

Bidders are responsible for filing Conflict of Interest form "CIQ" in accordance with the above referenced statute. Failure to do so is a class C Misdemeanor. Contracts or Purchase Orders awarded to a vendor that has violated this law is subject to termination at such time that the violation is discovered with no recourse to the City of Midland. The bidder will be subsequently removed from the bidders list for a minimum of one year.

When there is no known conflict of interest as defined by the statute, it is not necessary to file/submit the Form CIQ. The form must be submitted if a conflict is subsequently discovered.

By submitting a response to this request, vendor represents that it complies with the requirements of Chapter 176 of the Texas Local Government Code.

For a current list of the local government officers go to: <http://www.midlandtexas.gov/>

Upon completion of the form, sign and submit with bid or mail to:

City of Midland
Attn: City Secretary
PO Box 1152
Midland, Texas 79702

CONFLICT OF INTEREST QUESTIONNAIRE

FORM CIQ

For vendor doing business with local governmental entity

This questionnaire reflects changes made to the law by H.B. 23, 84th Leg., Regular Session.

This questionnaire is being filed in accordance with Chapter 176, Local Government Code, by a vendor who has a business relationship as defined by Section 176.001(1-a) with a local governmental entity and the vendor meets requirements under Section 176.006(a).

By law this questionnaire must be filed with the records administrator of the local governmental entity not later than the 7th business day after the date the vendor becomes aware of facts that require the statement to be filed. See Section 176.006(a-1), Local Government Code.

A vendor commits an offense if the vendor knowingly violates Section 176.006, Local Government Code. An offense under this section is a misdemeanor.

OFFICE USE ONLY

Date Received

1 Name of vendor who has a business relationship with local governmental entity.

2 Check this box if you are filing an update to a previously filed questionnaire. (The law requires that you file an updated completed questionnaire with the appropriate filing authority not later than the 7th business day after the date on which you became aware that the originally filed questionnaire was incomplete or inaccurate.)

3 Name of local government officer about whom the information is being disclosed.

Name of Officer

4 Describe each employment or other business relationship with the local government officer, or a family member of the officer, as described by Section 176.003(a)(2)(A). Also describe any family relationship with the local government officer. Complete subparts A and B for each employment or business relationship described. Attach additional pages to this Form CIQ as necessary.

A. Is the local government officer or a family member of the officer receiving or likely to receive taxable income, other than investment income, from the vendor?

☐

Yes

☐

No

B. Is the vendor receiving or likely to receive taxable income, other than investment income, from or at the direction of the local government officer or a family member of the officer AND the taxable income is not received from the local governmental entity?

☐

Yes

☐

No

5 Describe each employment or business relationship that the vendor named in Section 1 maintains with a corporation or other business entity with respect to which the local government officer serves as an officer or director, or holds an ownership interest of one percent or more.

6 ☐ Check this box if the vendor has given the local government officer or a family member of the officer one or more gifts as described in Section 176.003(a)(2)(B), excluding gifts described in Section 176.003(a-1).

7

~~PACKET~~ ~~7-127~~
Signature of vendor doing business with the governmental entity

~~September 12, 2023~~
Date

CONFLICT OF INTEREST QUESTIONNAIRE

For vendor doing business with local governmental entity

A complete copy of Chapter 176 of the Local Government Code may be found at <http://www.statutes.legis.state.tx.us/Docs/LG/htm/LG.176.htm>. For easy reference, below are some of the sections cited on this form.

Local Government Code § 176.001(1-a): "Business relationship" means a connection between two or more parties based on commercial activity of one of the parties. The term does not include a connection based on:

- (A) a transaction that is subject to rate or fee regulation by a federal, state, or local governmental entity or an agency of a federal, state, or local governmental entity;
- (B) a transaction conducted at a price and subject to terms available to the public; or
- (C) a purchase or lease of goods or services from a person that is chartered by a state or federal agency and that is subject to regular examination by, and reporting to, that agency.

Local Government Code § 176.003(a)(2)(A) and (B):

- (a) A local government officer shall file a conflicts disclosure statement with respect to a vendor if:

- (2) the vendor:

(A) has an employment or other business relationship with the local government officer or a family member of the officer that results in the officer or family member receiving taxable income, other than investment income, that exceeds \$2,500 during the 12-month period preceding the date that the officer becomes aware that

(i) a contract between the local governmental entity and vendor has been executed; or

(ii) the local governmental entity is considering entering into a contract with the vendor;

(B) has given to the local government officer or a family member of the officer one or more gifts that have an aggregate value of more than \$100 in the 12-month period preceding the date the officer becomes aware that:

- (i) a contract between the local governmental entity and vendor has been executed; or
- (ii) the local governmental entity is considering entering into a contract with the vendor.

Local Government Code § 176.006(a) and (a-1)

- (a) A vendor shall file a completed conflict of interest questionnaire if the vendor has a business relationship with a local governmental entity and:

- (1) has an employment or other business relationship with a local government officer of that local governmental entity, or a family member of the officer, described by Section 176.003(a)(2)(A);
- (2) has given a local government officer of that local governmental entity, or a family member of the officer, one or more gifts with the aggregate value specified by Section 176.003(a)(2)(B), excluding any gift described by Section 176.003(a-1); or
- (3) has a family relationship with a local government officer of that local governmental entity.

(a-1) The completed conflict of interest questionnaire must be filed with the appropriate records administrator not later than the seventh business day after the later of:

- (1) the date that the vendor:

(A) begins discussions or negotiations to enter into a contract with the local governmental entity; or

(B) submits to the local governmental entity an application, response to a request for proposals or bids, correspondence, or another writing related to a potential contract with the local governmental entity; or

- (2) the date the vendor becomes aware:

(A) of an employment or other business relationship with a local government officer, or a family member of the officer, described by Subsection (a);

(B) that the vendor has given one or more gifts described by Subsection (a); or

(C) of a family relationship with a local government officer.

**Consideration of Location of Bidder's Principal Place of Business
For Bids of \$50,000 up to \$100,000 for Services and \$500,000 for Commodities
Affidavit of Eligibility**

Pursuant to Texas Local Government Code 271.9051, in purchasing real property, personal property that is not affixed to real property, or services, if the City receives one or more bids from a bidder whose principal place of business is in the City of Midland and whose bid is within five percent (5%) of the lowest bid price received by the City from a bidder who is not a resident of the City of Midland, the City may enter into a contract with:

- (1) the lowest bidder; or
- (2) the bidder whose principal place of business is in the City of Midland if the City Council determines, in writing, that the local bidder offers the City the best combination of contract price and additional economic development opportunities for the City of Midland created by the contract award, including the employment of residents of the City of Midland and increased tax revenues to the City of Midland.

In order to receive consideration, bidders must submit this affidavit to:

Erika Martinez
Purchasing Manager
City of Midland
300 N. Loraine St.,
PO BOX 1152
Midland, TX 79702-1152

Complete all areas below. Incomplete affidavits may be rejected.

Local Business Name: ONYX GENERAL CONTRACTORS, LLC

Local Address (must be within the City limits): 1010 S. FM 1788 Midland, Texas 79706

1. Is the above address the principal place of business for the business named above? ☒ Yes ☐ No
2. How many residents of the City of Midland are employed at the above business location? 60+
3. Year your business was established in the City of Midland: 2000
4. If you collect sales tax for ANY class of customer, provide the following Reseller information:

Reseller Permit Number: _____

Company Name and Address (as it appears on permit):

ONYX GENERAL CONTRACTORS, LLC

PO Box 60547

Midland, Texas 79711

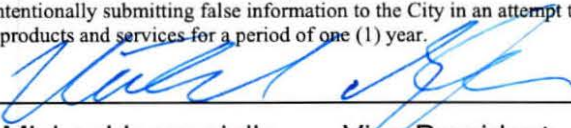
5. Does your business have more than one office in the State of Texas? ☐ Yes ☒ No
If Yes, identify the office location considered as the point-of sale for the purpose of sales tax calculation:

6. Was the local business required to pay business and/or real property tax for the most recent tax year?

☒ Yes ☐ No

If Yes, did the local business pay any of this tax to the City of Midland? ☒ Yes ☐ No

Under penalty of perjury, the undersigned states that the foregoing statements are true and correct. It is further acknowledged that any person, firm, corporation or entity intentionally submitting false information to the City in an attempt to qualify for eligibility shall be prohibited from bidding on City of Midland products and services for a period of one (1) year.

Authorized Signature:  Date: 08/16/2023

Printed Name and Title: Michael Iaquaniello - Vice President



Onyx Contractors

P.O. Box 60547

Midland, Texas 79711

Phone: 432-561-8900

Fax: 432-561-8644

www.onyxcontractors.com

City of Midland – West and North Citizens Collection Stations

Onyx General Contractors

Project's Key Personnel.

Project Manager: Andrew Terry – Please see attached resume.

Superintendent: Gilbert Priego – Please see attached resume.

Safety Manager: Ibis Ley – Please see attached resume.

Quality Manager: John Darnell – Please see attached resume.

Past and Current Experience.

-Please see attached list of completed and current projects.

Bid Bond

-Please see attached bond.

Additional Information

-Please see attached Certificate of Insurance.

***ANY ADDITIONAL INFORMATION CAN BE PROVIDED IF REQUIRED.**

Andrew Terry, P.E.

5301 San Antonio Ave., Midland, Texas 79707, 325-450-1896 andrewterry11@gmail.com

EDUCATION

Texas Tech University, Lubbock, Texas

Dec. 2014

- Master of Science in Civil Engineering
- Structural Specialization

Angelo State University, San Angelo, Texas

May 2012

- Bachelor of Science – Applied Physics
- Minor - Mathematics

PROFESSIONAL ENGINEER

- Licensed professional engineer in the State of Texas

WORK EXPERIENCE

Onyx Contractors – Project Manager/Engineer (Midland, TX)

June 2018 - Present

- Manage projects from start to finish including but not limited to: subcontracts, change orders, submittals, RFI's, etc
- Conversion of accepted proposals into properly completed jobs, according to specifications, within budget, and on time.
- Assist with cost estimating and quantity take-off

HMT Engineering & Surveying – E.I.T (New Braunfels, TX)

August 2017 – May 2018

- Land development engineering: residential subdivisions & commercial developments
- Detention/retention pond design, water quality design, drainage channel design, culvert design, drainage studies, municipal water/sewer design plans and cost estimating, road/paving design plans and cost estimating, bid documents and specifications

West Texas Engineering – E.I.T. (Lubbock, TX)

October 2014 – July 2017

- Land development engineering: commercial, multi-family residential
- Site plans, grading plans, site utility design, detention/retention pond design, municipal water/sewer plans and cost estimating, paving plans and cost estimating, drainage studies, traffic reports and control plans, storm water pollution prevention, FEMA floodplain determination, site investigation reports, permitting, construction inspection reports

Green Sand and Gravel (San Angelo, TX)

Sept. 2011 – Aug. 2014

- Educating customers on what aggregate types work best for various projects
- Job scheduling and cost estimating
- Volume calculations (e.g. house pads, roads, fill material)

SKILLS

- Experience with programs such as AutoCAD Civil 3D, HEC-RAS, Planswift, and Microsoft Office
- Sufficient mathematical skills (e.g. Calculus, Differential Equations, Linear Algebra)
- Knowledge of engineering theories, principles, and specifications
- Project management – construction scheduling, good communication skills, estimating
- Knowledge of construction practices



GILBERT PRIEGO

702 Devonian Dr

Midland, TX 79703

432-694-5065

EXPERIENCE

January 2014 – Present

Civil Superintendent

Onyx Contractors

- Manage and coordinate subcontractors and employees

Jobs completed include, but are not limited to the following:

- City of Midland Landfill Pit 4, Phase 1B
- City of Midland Medians for Quiet Zone
- City of Midland Cart Paths – Hogan Park
- City of Midland Landfill Pit 2
- City of Midland Citizens collection Center – Fast Track Project
- Construction of Ward Street Bridge
- New facility for CasedHole Solutions
- Warren Cat of Odessa New Engine shop

1997-2008

Laredo Paving Inc., Big Spring, TX

Managed and gave oversight to a crew of 20 employees, dealing effectively with individuals from various cultures and ethnic backgrounds.

Designed, developed, implemented and organized safety and orientated meetings for the last 11 years in the areas of company policies, procedures, techniques, equipment and supplies related to construction and safety operation.

Supervised operational effectiveness by structuring clean and safe environments that met with OSHA and MSHA standards.

Gave instruction on how to keep work areas, yards and storage facilities within the highest safety specifications for the good of all employees and departments.

Coordinated weekly, quarterly and annual sectional meetings and gatherings for the evaluation, programming, scheduling and conflict resolution of any safety task that included and was not limited to substance abuse and risk management.

Taking action in any situation that required discipline or correction that was required for keeping employees and company safe.

Continually instructed employees on the procedures for handling and resolving all work practices, to insure that everything was done according to company specifications.

Gave direct input to the development, construction, execution, and cost effectiveness of company projects with a focus on completion of jobs that had no safety deficiencies or accidents.

Taking into consideration proactive factors such as budget, timing and personal to complete all jobs within a timely matter.

EDUCATION

Bowie High School, El Paso, Texas

Class of 1985

Received instruction and new regulation updates from safety conferences in different cities of the United States, such as the following:

- MSHA Conference in Oklahoma City, Oklahoma
- Joseph A. Holmes Conference in San Antonio, Texas
- MSHA Conference in Carlsbad, New Mexico
- 2007 South Central Joint Mine Health and Safety Conference in Fort Worth, Texas

REFERENCES

Randy Haines – MSHA Inspector – Carlsbad, NM	505-887-6074
Joe D. Nicholas – MSHA Inspector – Carlsbad, NM	505-887-6074
Ramon Diaz – Engineering Safety Consultants – San Antonio, TX	806-548-3310
Michael Gutierrez – Key Energy Services, Midland, TX	432-296-0694



JOHN DARNELL

63 Lafayette Place

Midland, TX 79705

432-638-5618

john@onyxcontractors.com

EXPERIENCE

**October 2004 – Present Operations Manager Onyx Contractors,
Midland, TX**

- Estimate and put bids together for all General Contracting work up to \$5,000,000
- Work with clients for design builds
- Coordinate and run meetings between architects and project owner
- Set schedules from beginning to end for all projects
- Coordinate all subcontracts for work being done on projects

Jobs include but are not limited to the following

- Supervision of concrete on City of Midland 2007 Drainage Project
- City of Midland Lamesa Street SBG Project
- City of Midland Fuel Station
- 3000 SF Office Building
- Community National Bank located in Stanton, TX for Ryan Lovell, VP

Jan 2002 - Oct 2004 Owner and President Mold Removal of Texas (MRT)

- Estimating projects
- Ordering materials and equipment
- Payroll
- Invoicing
- QC on the projects

March 2000 – December 2001 OSP Inspector Flur Fiber

- Oversee of general contractors
- Daily reports
- Environmental inspection and reports

July 1985 – February 2000 Project Superintend

Big D Equipment Co.

1994-2000 Project Superintend

- Installing materials to plans
- Making red lines changes to the drawings
- Field testing
- Reading the lab testing
- Increasing the production rate

1990-1994 Manager Bryan, Texas

- Sale of project
- Invoicing
- Payroll
- Order materials and inventory
- Accounts payable
- Safety meetings

1987-1990 Manager Elk City, OK

- Sale of project
- Invoicing
- Payroll
- Order materials and inventory
- Accounts payable
- Safety meetings

1985-1987 Supervisor

- Completion of projects on time
- Tracking of materials
- Guiding of man power
- Quintiles for billing

EDUCATION

Robert E. Lee High School

Class of 1984

REFERENCES

Gary L Saunders Transportation Manager City of Midland 432-685-7280

Brent Sharp DCP West Texas Manager 432-556-5774

Jim Rose 432-686-0086

Taking action in any situation that required discipline or correction that was required for keeping employees and company safe.

Continually instructed employees on the procedures for handling and resolving all work practices, to insure that everything was done according to company specifications.

Gave direct input to the development, construction, execution, and cost effectiveness of company projects with a focus on completion of jobs that had no safety deficiencies or accidents.

Taking into consideration proactive factors such as budget, timing and personal to complete all jobs within a timely matter.

EDUCATION

Bowie High School, El Paso, Texas

Class of 1985

Received instruction and new regulation updates from safety conferences in different cities of the United States, such as the following:

- MSHA Conference in Oklahoma City, Oklahoma
- Joseph A. Holmes Conference in San Antonio, Texas
- MSHA Conference in Carlsbad, New Mexico
- 2007 South Central Joint Mine Health and Safety Conference in Fort Worth, Texas

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Ramon Diaz – Engineering Safety Consultants – San Antonio, TX	806-548-3310
Michael Gutierrez – Key Energy Services, Midland, TX	432-296-0694



Ibis Ley

3204 Pleasant

Odessa, TX 79764

(432) 978-9336

ibisley75@gmail.com

SKILL SUMMARY

- Committed to achieving outstanding results by paying attention to detail, adhering to all safety standards, safety training, compliance with laws, regulations, company policies and meeting deadlines.
- Outstanding work ethics with superior ability to plan, organize motivate for precise and timely execution of tasks.
- Ability to train crew members to work safely and meet work requirements.
- Knowledgeable in Microsoft Word, Excel, PPT, and other programs and.
- Ability to effectively work well and alongside all peers, as well as client counterparts.
- Experience in supervising major construction projects, plant, and electrical shutdowns.
- Fluent Spanish/English (read and write)

EXPERIENCE

2020 - 2021 - Liberty Safety Training – Odessa, TX - [\(HSE Training Manager/Consultant\)](#)

- Responsible for delivering top quality training programs to internal and external clients as well s being a resource for education with regards to general safety matters, evaluating programs, and case management/incident investigation.
- Conducting major construction audits and Safety meetings.
- Consulting and overseeing subcontractors on new construction projects, plant shutdowns and confines space pipeline tie-ins.

2018 – 2020 – PTW Energy Services – Midland - [\(Safety Lead Advisor\)](#)

- Support the HSE Manager and team with planning, coordinating, and implementing of effective HSE policies, guidelines, and procedures to ensure that the department objectives are met.
- Provide support to Project and Operation team in all aspects of safety, occupational health, safety, and environmental issues.
- Conduct Audits during new construction, maintenance, and on-going projects.
- Conduct major monthly meetings.
- Train all employees according to rules and regulations (Electrical Safety, NPFA 70E, Lock Out Tag Out, Confined Space, Excavation, PEC Safeland)

2017 - 2018 – ParPal Construction – Midland, TX - [\(Safety Manager\)](#)

- Responsible for reducing hazards and ensuring a safe working environment in a variety of industries.
- Conduct audits of work practices and processes for potential safety hazards and reports findings and recommendations to management.
- Develop and implement plans and objectives for the department in an effective and innovative fashion.
- Oversee and coordinate daily operations.
- Maintain compliance with external regulations and internal policies.
- Assess and report progress in meeting department objectives.
- See to department staffing needs (interviewing, hiring, new hire and ongoing training, annual evaluations, etc.)
- Participate in budget development and monitoring of expenses.
- Oversee events and conferences as needed.

2015– 2017 Liberty Safety Training – Odessa, TX - (Safety Training Manager)

- Powered Industrial Equipment Trainer (Forklifts, Aerial Lifts)
- Earth Moving Equipment Trainer
(Compact Excavator, Mini Excavator, Backhoe Loader, Front End Loader, Skid Steer)
- PEC SAFELAND Instructor (Basic Orientation, H2S Clear, Basic Pipeline, MSTQ, Gold Shovel, OSHA 10/30)
- Confined Space, Excavation, Rigger & Hand Signal Person, Trencher, Fire Watch, CPR

2015 (Jan – August) Crossfire LLC - Midland, TX – (Area Manager)

- Energy Transfer – Sweetie Peck - Odessa, TX (24" & 8" HDPE Line – Completed)
- Chevron – CMC Pipeline - Midland, TX (9 miles of 18" Steel - Completed)
- OXY Permian Basin Area – Midland, TX (Roustabout Services - Ongoing)
- Kinder Morgan – Nuevo Plant - Orla, TX (6" & 4" HDPE Line – Completed)
 - Overseeing and directing construction projects from conception to completion.
 - Reviewing the project in-depth to schedule deliverables and estimate costs.
 - Overseeing all onsite and offsite constructions to monitor compliance with building and safety regulations.

2013 – 2015 Saulsbury Industries - Odessa, TX – (HSE Manager)

- DCP - Zia II Plant, Hobbs, NM (200 Million Cryo Gas Plant)
- Regency - MI Vida, Barstow, TX (200 Million Cryo Gas Plant)
- EL Paso Electric - Power Plant / El Paso, TX (Power Plant – Completed)
- CLECO - Power Plant, Mansfield, LA (Power Plant Shut Down)
- Regency - Dubberly, LA (Slug Catcher – Completed)
- LINN Energy - Compressor Station, Ulysses, KS (Compressor Stations)
- Atlas Teak II - Tuleta, TX (200 Million Cryo Gas Plant)
 - Manage multiple projects and supervise a Crew of Site Safety Specialists (4).
 - Develop policies, procedures, safety alerts, safe work practices and translations.
 - Provide appropriate safety and health, accident prevention, and investigation training to supervisors and more than 350 + company employees.
 - Conduct quarterly audit inspections to assure safe and healthful conditions for workers.
 - Manage incident investigation (Tap Root) and develop measures to prevent recurrences.
 - Write, approve, and oversee JSA's (Critical Lifts, Critical Hydro tests, Tie ins –Electrical, Mechanical, Hot taps).
 - Create Emergency Evacuation Plans, SPCC Plans, and Site Safety Plans.
 - Report and investigate all incident reports (Initial reports, final reports & Root Cause Analyses) in a timely manner, complete and accurate manner.

✚ **No recordables at these facilities.**

2012 – 2013 Saulsbury Industries - Odessa, TX – (HSE Supervisor)

- SI Shop Fabrication Area - Odessa, TX (Construction)
- Centurion Pipeline - Childress, TX (I&E)
- Marathon Oil - Kennedy, TX (I&E – Construction)
 - Manage multiple projects and supervise site safety personnel.
 - Provide appropriate safety and health, accident prevention, and investigation training to supervisors and more than 200+ company employees.
 - Assist management in the annual inspection of workplaces to assure safe and healthful conditions for workers.
 - Assist management and supervisors in investigating accidents and developing measures to prevent recurrences.
 - Support Safety Management Team by recording all accident reports in a timely, complete, and accurate manner.
- BOSTCO/Kinder Morgan, La Porte, TX (I&E)
- Tessengerlo Kerly (TK) - Carlin, NV (Construction)
- Salt River Project - St. John's, AZ (I&E)

✚ **No recordables at these facilities**

2009 – 2012 Saulsbury Industries - Odessa, TX – (HSE Lead)

- TEAK Midstream Project - Tutela, TX (I&E)
- Sandridge Plant - Wellman, TX (I&E)
- South Cross Energy - Woodsboro, TX (I&E)
- OXY – Bennett Ranch - Denver City, TX (I&E)
- OXY – Salt Creek Expansion, Post, TX (Construction)
 - Coordinate and conduct safety meetings for 200+ company employees and sub-contractors.
 - Perform site inspections to ensure compliance with company's safety, health, and environmental system as well as Health Act and Workplace Safety and Environmental Public Health Regulations.
 - Conduct investigations in the event of an accident, near miss, dangerous occurrence.
 - Assist team members identify risk and conduct risk assessments.
 - Maintain HSE records and incident reporting compliance.
 - Conduct daily site safety audits/inspections.
- Kinder Morgan Cryo Gas Plant, Snyder, TX (I&E)
- Kinder Morgan Sacroc 178 CO2 - Snyder, TX (I&E)
- DCP Roberts Ranch - Midland, TX (I&E)
- Southern Union Gas - Pecos, TX (I&E)

🚧 **No recordables at these facilities**

May 2009– December 2009 Ref-Chem - Odessa, TX – (Pipefitter/Foreman)**Rex-Tac Polymer Project**

- Ensure pipefitters performed precise new connections.
- Accountable for the performance of Pipefitters.
- Installation of New Chemical Tanks.
- Repair gas process exchangers, maintenance valves and tanks per safety, company, and OSHA guidelines.
- Responsible for the repairs of gas process exchangers, maintenance valves and tanks per OSHA and company standards.

2000 – 2009 Jacobs Field Services NA, Inc. - Odessa, TX – (Pipefitter/Boilermaker Foreman)**Flint Hills Polymers PSM project working in all plant units and systems.**

- Ensure pipefitters, boilermakers, and riggers maintained all pipelines.
- Performed precise new connections, line pressure maintenance, and leak repairs.
- PM's on compressors, hydraulic and pneumatic controls, pumps, piping, chemical feeders, injection systems and minor electrical repairs to provide client with timely response and ensure assigned work problems are resolved in a timely matter to prevent interruption to client production schedule.
- Manage material and labor planning.

1997 – 2000 Ref-Chem, Odessa, TX – (Pipefitter/Boilermaker Master Mechanic)

- Maintenance and repairs of polymer facility pipelines, valves, etc. per safety, company, and OSHA requirements.
- PM's on compressors, hydraulic and pneumatic controls, pumps, piping, chemical feeders, injection systems and minor electrical repairs to provide client with timely response and ensure assigned work problems are resolved in a timely matter to prevent interruption to client production schedule.
- Performed precise new connections, line pressure maintenance, and leak repairs.

EDUCATION

Bachelors Degree OSHM (Occupational Safety & Health Management)	Odessa College	December 2022
Associates Degree OSHT (Occupational Safety Health Technology)	Odessa College	December 2010
OSHT Certificate	Odessa College	December 2010
Construction CSHO (Certified Safety & Health Official)	Texas A&M (TEEX)	May 2014
General Industry CSHO (Certified Safety & Health Official)	Texas A&M (TEEX)	September 2014
OSHA 510	Texas A&M (TEEX)	September 2012
OSHA 511	Texas A&M (TEEX)	September 2010
OSHA 503	Texas A&M (TEEX)	October 2018
OSHA 501	Texas A&M (TEEX)	September 2014

CERTIFICATIONS AND SPECIAL QUALIFICATIONS

-
- | | |
|--|---|
| <ul style="list-style-type: none"> • CDL (Class A) Driver
(Endorsements: Tankers, Hazmat, Doubles & Triples) • PEC SAFELAND INSTRUCTOR
BASIC Orientation, H2S Clear, Basic Pipeline, Gold Shovel, MSTQ, OSHA 10/30 • OSHA 10/30 Instructor • CPR/First Aid/AED/BBP Instructor • Earth Moving Equipment Instructor:
Excavators, Backhoes, Front-End Loaders, Skid-Steer, Blade, Dozer, Roller Compactor | <ul style="list-style-type: none"> • Mobile Elevating Work Platforms
Forklifts, Manlifts, Scissor Lifts • Confined Space Instructor • Excavation Instructor • Trencher Instructor • Hand Signal-Rigger Instructor (Crane Institute of America) • Bilingual (Read/Write) • TWIC Card • Class A CDL – (Hazmat-Tankers Endorsements) • Pursuing Bachelors Safety Degree (Odessa College) |
|--|---|

REFERENCES

Scott St. Louis
Electrical Operations Manager
Onyx Contractors (Midland, TX)
ssstlouis@onyxcontractors.com
432-230-1833

Antonio Leyva
Construction Manager
Saulsbury Industries (Odessa, TX)
432-269-5553

Rudy Folds
HSE Inspector/Consultant
Cleveland Integrity Services
325-260-3935

Eddie Gonzales
Corporate HSE Director
JMTJ Construction
eddie@jmtjconstruction.com
(806) 341-8112

Hector Sanchez
HSE Director
Mitchel Energy (Lorena, TX)
hsanchez@mitchellenergy.net
432-238-6465

Alan Armnesto
Texas Area Manager
Specialized Automation Services, LLC
(Midland, TX)
432-638-4163

LIST OF PROJECTS

PROJECT	PROJECT DESCRIPTION	OWNER, AGENCY/ENGINEER	YEAR BUILT	CONTRACT PRICE	CONTACT PERSON	PHONE
City of Amarillo Landfill	Excavate Landfill Cell 4 Area 4	City of Amarillo, Texas/City Engineering Department	2000	\$535,000.00	Murray Hudson	806-378-9336
WesTex Disposal	Excavate Disposal Ponds	WesTex Disposal/In-House	2000	\$41,500.00	Ceil Preas	915-687-6206
Evaporation Pond	Excavate Pond	Central & South West Services, Inc./In-House	2000	\$70,788.00	Chris Bissett	915-674-7235
City of Plainview Landfill	Excavate Landfill Sector 1D	City of Plainview, Texas/Parkhill, Smith & Cooper	2001	\$718,375.00	Holly Holder	806-473-2200
City of Brownwood Landfill	Cell 9 Construction Landfill	City of Brownwood, Texas/Hibbs & Todd, Inc.	2001	\$681,783.00	Luci English	915-698-4330
Excel Corporation	Construction of Wastewater Treatment Lagoon #4	Excel Corporation/EA Engineering, Science Technology	2001	\$137,783.00	Chuck Place	972-484-1420
City of Kingsville Landfill	Construction of MSW Landfill Sector 2 Type 1 & Sector 1 Type 4	City of Kingsville, Texas/RJR Engineering	2001	\$1,752,994.00	J. Roy Murray	281-397-6747
City of Brownsville	Construction of MSW Landfill Disposal Area Cell 2 - Area 6	City of Brownsville, Texas/RJR Engineering	2002	\$732,442.00	J. Roy Murray	281-397-6747
City of Lubbock Landfill	Lubbock Landfill - Veil VI Expansion	City of Lubbock, Texas/Parkhill, Smith & Cooper	2002	\$336,770.00	Holly Holder	806-473-2200
City of Lubbock Landfill	Citizen Collection/Transfer Station at Caliche Canyon Landfill	City of Lubbock, Texas/Parkhill, Smith & Cooper	2002	\$235,073.00	Holly Holder	806-473-2200
City of Midland	William - Sam Memorial Skate Park	City of Midland, Texas/Parkhill, Smith & Cooper	2002	\$389,000.00	Gary Harris	915-520-2110
Garrett Brown Park	Concrete Sidewalks and Walking Trail	City of Midland, Texas/In-House	2003	\$15,345.00	Glen Buler	432-685-7365
WesTex Disposal	Excavate Disposal Ponds	WesTex Disposal/In-House	2004	\$55,000.00	Carl	432-425-7371
Midland College Parking Lot	Sidewalks and Parking Lot Concrete Work	Midland College	2005	\$43,476.00	Ken Riley	432-685-4569
MLK Community Center	Additions and Renovations Concrete Work	City of Midland, Texas/Mid-Tex	2005	\$85,545.00	Alan White	432-697-2282
Odessa High School	Additions and Renovations Concrete Work	Ector County School District/J.C. Roberts	2005	\$53,000.00	Jeff Roberts	432-580-6161
Greenwood High School	Additions and Renovations Concrete Work	Greenwood School District/Mid-Tex of Midland	2005	\$116,000.00	Bill Baker	432-697-2282
Greenwood High School	Softball and Baseball Park	Greenwood School District/Mid-Tex of Midland	2005	\$136,000.00	Les Williams	432-638-4088
Odessa Country Club	Excavate Golf Course	Odessa Country Club/Mid American Golf	2005	\$98,000.00	Tim O'Brien	816-524-0010
City of Andrews	Andrews Parks Department Sidewalks	City of Andrews, Texas/Parks & Wildlife Department	2005	\$45,000.00	Mitch Grant	432-523-4820
Champion Tech	90'X80' Concrete Slab	Champion Tech/In-House	2006	\$35,526.00	Terry McCrury	432-363-9105
Midland Classical Academy	Concrete Slabs-Classroom, Sidewalk & Ramp	Midland Classical Academy/Campbell Construction	2006	\$300,000.00	Thomas Dragisic	432-682-1552
ChemCentral	Subgrade Preparation, Concrete Paving & Tank Rings	ChemCentral/Planning & Construction	2006	\$425,000.00	Steve Ratliff	505-636-2334
Texas Dept of Transportation	TCEQ Truck Wash Compliance Wash Pad Installation	Texas Dept. of Transportation/In-House	2006	\$163,150.00	Christi Foote	432-332-0501
Washington Group Intl., Inc.	National Enrichment Facility	Washington Group Intl, Inc./In-House	2006	\$4,827,860.00	Jim Blackford	505-391-5156
City of Midland Landfill	Landfill - Pit 4, Phase 1B	City of Midland/Utilities Department	2007	\$355,995.56	Kay Snyder	432-685-7260
City of Midland	Medians for Quiet Zone	City of Midland	2007	\$148,664.00	David Byrd	432-685-7234
City of Midland	Cart Paths-Hogan Park	City of Midland	2007	\$166,003.53	David Byrd	432-685-7360
Carver School MISD	Sidewalks Concrete Work	City of Midland/PSC	2008	\$46,997.00		432-684-9377
Fire Station # 3	Sidewalks and Parking Lot Concrete Work	City of Midland	2008	\$42,500.00		432-684-9377
Dr. Carrasco Office Building	Slab, Sidewalks, and Crubs	Dr. Carrasco/JSA	2008	\$78,938.00	Cruz Castillo	432-684-9377
Odessa College	Slab and Sidewalks	Odessa College/JSA	2008	\$26,756.00	Cruz Castillo	432-684-9377
Community National Bank	New Bank Building, Stanton, Texas	CNB	2008	\$242,833.00	Ryan Lovell	432-685-8436
Safe Rack	Truck Loading Rack/Slab Concrete Work	Champion Chemical	2008	\$14,500.00	Joe Cumbus	432-363-9105
Resident Inn Hotel	Slab, Parking Lot, and Crubs	Resident Inn/EBCO	2008	\$498,665.00	Charley Benson	254-697-8516
David Parking Lot	Parking Lot Concrete Work	David Arrington	2008	\$201,900.00	Ronney Lloyd	432-967-0248
D F Ranch	Concrete Bridge, and Crub Concrete Work	Chesapeake Operating	2008	\$441,630.00	Mike Taylor	
Blue Bell Ice Cream Building	Slab, Loading Dock, Parking Lot, and H/C Ramps Concrete Work	Blue Bell Ice Cream/Barbed Cross	2008	\$208,750.00	John Dunn	432-684-9377
PR Ventures	New Office Building/Construction and Concrete Work	Pat Vincent	2008	\$226,150.00	Pat Vincent	
City of Midland, Texas	Landfill - Pit 2	City of Midland/Utilities Department	2009	\$3,727,000.00	Stuart Purvis	432-685-7262
City of Odessa, Texas	2007 Drainage Improvements, East Side Channel Renovations	City of Odessa, Texas	2009	\$681,775.50	Mark Moore	432-335-3227
City of Midland, Texas	New Fueling Facility Project No. 0265-09	City of Midland, Texas	2009	\$653,639.00	Mark Phillips	432-685-7235
City of Odessa, Texas	Sherwood Park Renovations	City of Odessa, Texas/ParkhillSmith&Cooper	2010	\$4,481,462.20	Steve Patton	432-335-3227
Greenwood ISD/Greenwood, TX	Paving and Drainage Improvements	Greenwood School District/ParkhillSmith&Cooper	2010	\$672,865.92	Eric West	432-697-1447
Entertainment Complex	Design Build Entertainment Facility/Indoor Volleyball Complex	Chuck Bane	2011	\$1,350,000.00	Chuck Bane	432-620-5370
Midland College	Administration Renovations Phase I & II	Midland College/Parkhill, Smith & Cooper	2011	\$1,112,000.00	Phillip Furquerson	432-697-1447
City Of Midland	Citizens Collection Center - Fast Track Project	City of Midland / Parkhill, Smith & Cooper	2011	\$587,000.00	Holly Holder	806-473-3500
Chuck Bane	Chuck Bane Fence	Chuck Bane	2012	\$151,800.00	Chuck Bane	432-620-5370
WTG Fuels	WTG Fuels Midland Yard Concrete	WTG Fuels	2012	\$146,799.00		
DCP Knott #3 and 4	Compressor Pads	DCP Midstream	2012	\$233,150.00	Pennie Ormsby	432-620-4105
DCP White Booster	Compressor Pad	DCP Midstream	2012	\$134,070.00	Pennie Ormsby	432-620-4105
Stanton Booster	Compressor Pads	DCP Midstream	2012	\$283,900.00	Pennie Ormsby	432-620-4105
Ward Street Bridge	Construction of Bridge	City of Midland	2012	\$639,230.00	David Beard	432-685-7415
CasedHole Solutions	New Facility	CasedHole Solutions	2012	\$2,500,000.00	Mike Hobbs	325-226-1145
DCP West Credo	Compressor Pad	DCP Midstream	2012	\$110,390.00	Pennie Ormsby	432-620-4105
14th Street Odessa	Construction of Sidewalks	City of Odessa	2012	\$144,098.67	Steven Davis	432-335-3227
MCH Boss Building Parking Lot	Construction of new parking lot	MCH	2012	\$180,000.00		
Hicks and Gist Sidewalks	Construction of new sidewalks	City of Midland	2012	\$232,000.00	David Beard	432-685-7415
MMH Paving Change Orders	Concrete work	Midland Memorial Hospital	2012	\$195,000.00		
Ward St. Bridge Change Order (Jal Draw Alley)		City of Midland	2012	\$132,000.00	David Beard	432-685-7415
Warren CAT Midland	Construction of New Facility	Warren CAT	2013	\$3,851,156.00	Anthony Folger	432-571-4225
DCP West Waddell	Compressor Pad	DCP Midstream	2012	\$158,620.00	Pennie Ormsby	432-620-4105
Warren Cat Odessa	Construction of New Rental Store	Warren CAT	2013	\$2,800,000.00	Anthony Folger	432-571-4225
DCP Paya Booster	Compressor Pad	DCP Midstream	2013	\$258,000.00	Pennie Ormsby	432-620-4105
DCP Turbine Shop Goldsmith	New Turbine Shop	DCP Midstream	2013	\$1,170,000.00	Pennie Ormsby	432-620-4105
DCP Parks Booster	Compressor Pad	DCP Midstream	2013	\$925,000.00	Pennie Ormsby	432-620-4105
Kalico	New Office Space	Kalico	2013	\$84,000.00	Ray Elliot	
Shell	Various Projects	Shell	2013	\$150,000.00	David Deal	281-544-4144
Cased Hole Bunker	Constructed a Bunker	CasedHole Solutions	2013	\$40,000.00	Mike Hobbs	325-226-1145
Lafette Place	Construction of New Houses	Onyx	2013/2014	\$4,500,000.00	Onyx	432-561-8900
City of Midland Compass	Various Projects	City of Midland	2013/2014	\$1,000,000.00	David Beard	
Nelson Fireplace	New Fire Place	Jim Nelson	2013	\$18,000.00	Jim Nelson	
Warren CAT Odessa	New Engine Shop	Warren CAT	2014	\$6,600,000.00	Anthony Folger	432-571-4225

PACKET

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September 12, 2023

United Production	New Fabrication Facility	United Production	2014	\$1,300,000.00	Kevin Bordon	337-365-4400
Warren CAT Parking Lot	New Truck Display and Parking Area	Warren CAT	2014	\$160,000.00	Anthony Folger	432-571-4225
ConocoPhillips	Various Projects	ConocoPhillips	2014	\$5,000,000.00	Tommy Hosier	432-556-7653
XTO	Various Projects	XTO	2014	\$1,000,000.00	Jeff Rains	432-557-3159
Shell	Various Projects	Shell	2014	\$1,500,000.00	Estaban Soliz	956-740-4798
Apache	Various Projects	Apache	2014	\$1,500,000.00	Herald Swain	575-390-4368
ECISD Data Center	Renovation of New Data Center	Ector County School District	2015	\$2,479,872.00	Kellie Wilks	432-456-8649
Warren Cat Phase One Site	New concrete paved road	Warren CAT	2015	\$716,301.00	Anthony Folger	432-571-4225
Warren Cat Phase Two Site	Site Improvements	Warren CAT	2015	\$3,190,706.00	Anthony Folger	432-571-4225
SAISD Band Hall	Renovations to Band Hall	San Angelo School District	2015	\$684,293.00	Kye Franke	325-653-2900
American Energy Big Lake	New Field Office	American Energy Partners	2015	\$1,063,335.00	Bill Yen	405-232-9554
City of Midland Landfill	New Scalehouse, Maint Building and Site Improvements Landfill	City of Midland	2015-2016	\$8,102,230.00	Morris Williams	432-685-7278
ConocoPhillips Goldsmith	New Office Building	ConocoPhillips	2015-2016	\$7,104,760.00	Joseph Evans	918-336-3512
Woodson Park	New Soccer fields, walking path, playground, basketball courts	City Of Odessa	2016	\$1,422,955.00	Kelly Cook	432-686-8001
Comanche Park	New Soccer Fields, Parking Lot, Site Improvements	City of Odessa	2016	\$1,483,048.00	Jonathan Pruessner	432-686-8001
Salinas Park	New Soccer Fields, Parking Lot, Site Improvements	City of Odessa	2016	\$1,130,782.00	PSC	432-697-1447
Odessa College	Permian Basin Fab Lab	Odessa College	2016	\$345,500.00	JSA	432-362-6565
Western Manor and Murry Fly	Shade Structures, Walking Trials, Playground Equipment	City of Odessa	2016	\$689,155.00	Mak Landscape	432-203-0003
Slator Park	New Parking Lot, Basketball Court, Dog Park, Playground	City of Odessa	2016/2017	\$1,379,000.00	Kimley Horn	346-888-3887
Conoco Midland Restroom	New ADA Restroom	ConocoPhillips	2016	\$71,500.00	Joseph Evans	918-336-3512
Buckthorn Solar Site	Solar Farm	Lendlease	2016	\$8,500,000.00	Jim Lepely	254-535-0454
City of Midland Misc Concrete	Misc Concrete Work	City of Midland	2016/2017	\$800,000.00	Regina Stephenson	432-685-7233
Buena Vista ISD Gym	Gym Renovation	Buena Vista ISD	2017	\$140,000.00	JSA	432-362-6565
UTPB Student Housing Parking	Light Poles in Parking Lot	UTPB	2017	\$40,500.00	Ynes Alderson	432-552-2795
City of Midland CBDG	City Street Improvements	City of Midland	2017	\$500,000.00	Regina Stephenson	432-685-7233
Noble Energy	Site Development Evaporation ponds	Noble Energy	2017	\$6,400,000.00	Robert Zawicks	713-715-8978
Sprayberry Farm and Plant Rehab	Rehab of Lagoons, intake structures, sluice gates and clearing	City of Midland	2018	\$1,188,529.00	HDR	210-841-2807
Sunshine Drycleaners	New Design Build Dry Cleaners	IAQ Reality	2018	\$820,000.00	Onyx	432-561-8900
Luise Wood Angel House	New woman's shelter	West Texas Crisis Center	2018	\$4,707,712.00	JSA	432-362-6565
University Right of Way Clearance	Widening 2 miles of University Street	City of Odessa	2018	\$2,166,177.00	City of Odessa	432-335-3227
Carver Street Roadway	New Detention Ponds and Bridge	City of Midland	2018	\$2,279,873.00	City of Midland	432-685-7233
Basin 349	New drainage Basins	City Of Midland	2018/2019	\$943,726.00	City of Midland	432-685-7233
Choke Facility	New Dyno building for frac pump testing	Warren CAT	2018/2019	\$2,500,000.00	Jeremy Olive	432-571-4225
Sherwood Park Community Center	Remodel of Park Community Center	City Of Odessa	2018	\$495,000.00	City of Odessa	432-335-3227
Slator Park Community Center	Remodel of Park Community Center	City Of Odessa	2018	\$320,000.00	City of Odessa	432-335-3227
Sundance West Inc	New Mud Management Facility/Oilfield Waste	Onyx Contractors	2018/2019	\$8,200,000.00	Onyx	432-561-8900
Reeves County Hospital Staff Housing	New Staff Housing	Vandergriff	2019	\$2,581,915.00	Reeves Hospital	
Midland College Softball Complex	New Team Locker room and indoor batting cage	PSC	2019	\$989,000.00	Midland College/PSC	432-697-1447
COM Cowden Park Traffic Calming Project	Misc Concrete Work	City of Midland	2019	\$84,506.00	City of Midland	432-685-7233
Sewell Auto Tech	New Training Facility	Odessa College	2018/2019	\$6,880,000.00	JSA	432-362-6565
Knighten Industries Building Extension	Metal Building Extension	Onyx Contractors	2019	\$304,000.00	Brian Knighten	
Pecos Municiple Transfer Station	New Transfer Station	City of Pecos/PSC	2020	\$1,418,000.00	City of Pecos	432-445-2421
Big Spring Landfill Scalehouse/Maintenance Bldg	Scalehouse and Maintenance Building	Big Spring /PSC	2019/2020	\$2,416,050.00	City of Big Spring	
Monahans Parkway Detention Pond "D"	New detention pond, concrete flumes, and storm sewer pipe	Monahans Economic Development Corporation / Maveric	2020	\$372,067.24	Monahans Econcomi Dev	432-943-2062
Monahans Access Roads	Public Roadways including asphalt paving, curb & gutter, utilities	Monahans Economic Development Corporation / Maveric	2020	\$974,295.01	Monahans Econcomi Dev	432-943-2062
FedEx Ground Midland-Parking Expansion	Parking Lot & Decking Area Expansion	FedEX / Diamond Z Engineering	2020	\$697,662.01	Dan Mendiola	440-842-6501
City of Midland Misc Concrete	Concrete work for the City	City of Midland	2018-20	\$3,750,000.00	City of Midland	432-685-7233
City of Fort Stockton Landfill	Infrastructure Cell I-1 and Cell IV-1	City of Fort Stockton/Hanson Professional Services Inc.	2020-21	\$1,285,723.32	Hanson Professional Services	361-814-4401
Pecos Phase 1A Waterline Extension	Waterline Extension	Town of Pecos City	2020-21	\$161,406.00	Town of Pecos City	432-445-2421
Ector County Utility District Drainage Improvements	Drainage Improvements	ECUD	2020-21	\$146,875.00		
Permian High School Field Restrooms Facility	New Restroom Facility for Permian High School	ECISD/JSA Architects	2020-21	\$390,000.00	JSA Architects	432-362-6565
Gaines County Branch Library	Rehabilitation and renovation on an existing building into a Library	Gaines County/ DRG Architects	2020-21	\$1,173,162.00	DRG Architects	210-349-7950
Midland Airport Parking Improvements	Parking Improvements	City of Midland/PSC	2020-21	\$7,646,971.00	City of Midland	432-685-7233
City of Post Tda DRP Sidewalk Improvements	Sidewalk Improvements	City of Post/Jacob & Martin	2021	\$327,911.82	City of Post	806-495-2811
Tradewinds Blvd Roundabout & Median Improvements	Roundabout & Median Improvements	City of Midland	2020-21	\$436,399.00	City of Midland	432-685-7233
Floyd Gwin Park Sports Courts	Sports Courts	City of Odessa/KDC	2021	\$7,000,000.00	City of Odessa	432-335-3227
Borets Esp Service Center(CMAR)	Building/Yard Remodel	Borets	21-22	\$6,000,000.00	Borets	
Upton County Midkiff Park Building(CMAR)	Midkiff Park Building	Upton county	2020-21	\$2,000,000.00	Dusty Kilgore	432-693-2321
Upton County Swimming Facility	Pool Facility	Upton County/ KDC	21-22	\$1,400,000.00	Dusty Kilgore	432-693-2321
Floyd Gwin Park Concession Building	Concession Building	City of Odessa	22	\$416,500.00	Steve Patton	432-3353227
Projects Under Construction						
Midland Airport Multi- Facility Rehabilitation	Multi-Facility Rehabilitation	City of Midland/PSC	21-22	\$6,266,014.00	City of Midland	432-685-7233
Upton County 4H Addition (CMAR)	Addition to 4H Facility	Upton County	22	\$2,297,572.00	Dusty Kilgore	432-693-2321
City of Midland Traffic Signal Improvements	Traffic Signal Improvements	City of Midland	22	\$815,643.00	City of Midland	432-685-7233
Floyd Gwin Park Renovations	Total Park Renovation	City of Odessa/KDC	21-22	\$4,960,000.00	Steve Patton	432-335-3227
Odessa Animal Shelter Facility	New Animal Shelter Facility for the City Of Odessa, Tx.	City of Odessa/QUORUM	21-22	\$7,358,472.00	City of Odessa	432-335-3253
Loving County Community Center	New Community Center	Loving County/Vandergriff	22	\$7,999,000.00	Loving County	
Midland Draw Widening	Draw Widening	City of Midland	22	\$1,985,689.00	City of Midland	432-685-7233
Faudree Linear Detention Basins	Detention Basins	City of Odessa	22	\$4,196,456.00	City of Odessa	432-335-3253
MAF Gate Relocation and Cargo Rd Reconstruction	Gate Relocation and Cargo Road Reconstruction	City of Midland/PSC	22	\$1,641,882.00	City of Midland	432-685-7233
Holy Cross Catholic High School Gymnasium(CMAR)	Gymnasium	Holy Cross Catholic High School	22	\$3,282,000.00	Roy Ramirez	432-553-4613
Applied Blockchain Next-Gen Datacenter	Datacenter	Applied Blockchain	22	\$26,000,000.00		
Loving County JOP, Constable, and DPS CMV Inspection Station	Station	Loving County	22	\$15,170,707.00	Loving County	
West Texas food Bank Odessa Expansion	Expansion of current food bank facility		22	\$11,123,000.00	Libby Campbell	
Odessa Country Club Indoor Tennis Center(CMAR)	Indoor Tennis Facility	Odessa Country Club	22	\$5,000,000.00	Ryan George	432-272-4500



SECTION 00 52 00 – AGREEMENT FORM

PART 1 - GENERAL

1.1 APPLICABLE DOCUMENT

- A. The Agreement for the Work will be written on the Owner provided form that follows Section 00 80 10 "Owner Documents."

PART 2 - PRODUCTS (Not Used)

PART 3 - EXECUTION (Not Used)

END OF SECTION

**DOCUMENT 00 54 10 - WEATHER TABLE
(MIDLAND, TX)**

The number of calendar days indicated on the Proposal Form is the contract time allowed to complete Project from Notice to Proceed to Substantial Completion, taking into account the normal weather occurrence as shown in the Table below. Weather occurrences exceeding those listed in the table will be taken into consideration when evaluating a request for extension in contract time.

MONTH	MEAN NUMBER DAYS PRECIPITATION (0.01" OR MORE)	NORMAL PRECIPITATION (WATER EQUIVALENT) (INCHES)	MEAN NUMBER DAYS SNOWFALL (INCLUDING ICE PELLETS/SLEET) (1.0" OR MORE)	AVERAGE NUMBER OF DAYS THAT MIN. TEMP IS < 40
JANUARY	2.8	1.28	0	25.6
FEBRUARY	2.6	1.02	0.2	16.8
MARCH	4	1.95	0	4.8
APRIL	3	1.42	0	2
MAY	4.6	2.00	0	0
JUNE	5.2	2.01	0	0
JULY	4	1.47	0	0
AUGUST	5.6	2.06	0	0
SEPTEMBER	6.6	2.38	0	0
OCTOBER	3.8	1.58	0	3.4
NOVEMBER	2	0.89	0	8.6
DECEMBER	3.6	1.16	0	19.8
<u>ANNUALLY</u>	42.5	15.68	1.9	107.4

This table is based on information from NOAA and measured at the Midland International Airport, Midland, Texas.

Means, normal, and averages are based on records covering a period of 5 years from 2016-2020.

SECTION 00 80 10 – OWNER DOCUMENTS

PART 1 - GENERAL

1.1 APPLICABLE DOCUMENT

A. Owner provided documents are as indicated below and that follows this Section.

1. Notice to Bidders.
2. Bid Bond.
3. Contract.
4. Exhibit C- Bonding Requirements.
5. Performance Bond.
6. Payment Bond.
7. Exhibit D- Building Wage Rate.
8. Exhibit D- Heavy & Highway Wage Rate.
9. Conflict of Interest Reporting Requirements.
10. Conflict of Interest Questionnaire.
11. Affidavit of Eligibility.
12. General Conditions of Bidding.
13. Standard Purchase Terms and Conditions.

PART 2 - PRODUCTS (Not Used)

PART 3 - EXECUTION (Not Used)

END OF SECTION

NOTICE TO BIDDERS

IF THIS PURCHASE REQUIRES A CONTRACT, THE ATTACHED **CONTRACT AND INSURANCE REQUIREMENTS ARE NON-NEGOTIABLE**. MODIFICATIONS BY BIDDER/COMPANY OF ANY MATERIAL TERM(S) TO THE CONTRACT DOCUMENTS WILL BE DEEMED A NON-RESPONSIVE BID. NON-RESPONSIVE BIDS WILL BE REJECTED. BIDDER/COMPANY MUST BE WILLING TO SIGN THE CONTRACT AS IS AND WITHOUT MODIFICATIONS, PROVIDE PROPERLY EXECUTED BONDS (IF APPLICABLE) AND PROVIDE INSURANCE SPECIFICALLY AS REQUIRED WITHIN THE CONTRACT DOCUMENTS **WITHIN 21 DAYS** OF THE DATE OF THE TRANSMITTAL LETTER.

IF THE SELECTED BIDDER/COMPANY CANNOT MEET THE ABOVE REQUIREMENTS, THEN **THE CITY RESERVES THE RIGHT TO AWARD THIS PURCHASE TO ANOTHER BIDDER**.

IMPORTANT NOTICE – IF THE CONTRACT DOCUMENTS REQUIRE WORKER’S COMPENSATION INSURANCE, BIDDER/COMPANY MUST CARRY WORKER’S COMPENSATION INSURANCE TO BE ELIGIBLE FOR THIS CONTRACT. IF YOU CANNOT PROVIDE WORKER’S COMPENSATION INSURANCE AS REQUIRED BY STATE OF TEXAS STATUTE, WE RESPECTFULLY REQUEST THAT YOU “NO BID” THIS WORK.

COMPLIANCE: Company agrees that it shall comply with Texas Government Code Section 2252.908, *et seq.*, as amended. Company agrees that it shall comply with Texas Local Government Code Section 176.006, *et seq.*, as amended. For further instructions on how to comply with Texas Government Code Section 2252.908 and Texas Local Government Code Section 176.006,

please go to https://www.ethics.state.tx.us/whatsnew/elf_info_form1295.htm
and https://www.ethics.state.tx.us/filinginfo/conflict_forms.htm.

ANY VENDOR WHO FAILS TO COMPLY WITH THE TERMS OF THE
AWARD **MAY BE DECLARED AN IRRESPONSIBLE VENDOR**. BIDS
SUBMITTED BY SAID VENDOR SHALL NOT BE CONSIDERED AGAIN
FOR A MINIMUM PERIOD OF SIX MONTHS AS DETERMINED BY THE
CITY MANAGER.

THE AMERICAN INSTITUTE OF ARCHITECTS



AIA Document A310

Bid Bond

KNOW ALL MEN BY THESE PRESENTS, that we
Onyx General Contractors, LLC

as Principal, hereinafter called the Principal, and

FCCI Insurance Company

6300 University Parkway, Sarasota, FL 34240

a corporation duly organized under the State of **Florida**

as Surety, hereinafter called the Surety, are held and firmly bound unto

City of Midland

as Obligee, hereinafter called the Obligee, in the sum of

*****FIVE PERCENT OF BID AMOUNT*** (5%)**

for the payment of which sum well and truly to be made, the said Principal and said Surety, bind ourselves, our heirs, executors, administrators, successors and assigns, jointly and severally, firmly by these presents.

WHEREAS, the Principal has submitted a bid for

West and North Citizens' Collection Stations

NOW, THEREFORE, if the Obligee, shall accept the bid of the Principal and the Principal shall enter into a Contract with the Obligee, in accordance with the terms of such bid, and give such bond or bonds as may be specified in the bidding of Contract Documents with good and sufficient surety for the faithful performance of such Contract and for the prompt payment of labor and material furnished in the prosecution thereof, or in the event of the failure of the Principal to enter such Contract and give such bond or bonds, if the Principal shall pay to the Obligee, the difference not to exceed the penalty hereof between the amount specified in said bid and such larger amount for with the Obligee, may in good faith contract with another party to perform the Work covered by said bid, then this obligation shall be null and void, otherwise to remain in full force and effect.

Signed and sealed this **August 9, 2023**


(Witness)

Onyx General Contractors, LLC


(Seal) Vice President
(Title)

FCCI Insurance Company


(Witness)


(Seal) Tina McLelland
Attorney-in-Fact



GENERAL POWER OF ATTORNEY

Know all men by these presents: That the FCCI Insurance Company, a Corporation organized and existing under the laws of the State of Florida (the "Corporation") does make, constitute and appoint:

Garland Martin; Robbie Martin; Josh Andrajack; Tina McLelland; Haevyn Knobloch

Each, its true and lawful Attorney-In-Fact, to make, execute, seal and deliver, for and on its behalf as surety, and as its act and deed in all bonds and undertakings provided that no bond or undertaking or contract of suretyship executed under this authority shall exceed the sum of (not to exceed \$20,000,000.00): \$20,000,000.00

This Power of Attorney is made and executed by authority of a Resolution adopted by the Board of Directors. That resolution also authorized any further action by the officers of the Company necessary to effect such transaction.

The signatures below and the seal of the Corporation may be affixed by facsimile, and any such facsimile signatures or facsimile seal shall be binding upon the Corporation when so affixed and in the future with regard to any bond, undertaking or contract of surety to which it is attached.

In witness whereof, the FCCI Insurance Company has caused these presents to be signed by its duly authorized officers and its corporate Seal to be hereunto affixed, this 23rd day of July, 2020.

Attest:

Christina D. Welch, President
FCCI Insurance Company



Christopher Shoucair,
EVP, CFO, Treasurer, Secretary
FCCI Insurance Company

State of Florida
County of Sarasota

Before me this day personally appeared Christina D. Welch, who is personally known to me and who executed the foregoing document for the purposes expressed therein.

My commission expires: 2/27/2027



PEGGY SNOW
Commission # HH 326535
Expires February 27, 2027

Notary Public

State of Florida
County of Sarasota

Before me this day personally appeared Christopher Shoucair, who is personally known to me and who executed the foregoing document for the purposes expressed therein.

My commission expires: 2/27/2027



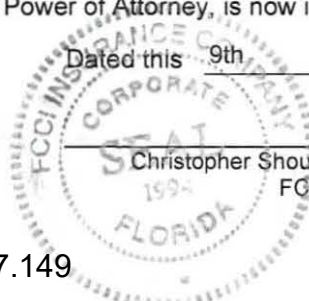
PEGGY SNOW
Commission # HH 326535
Expires February 27, 2027

Notary Public

CERTIFICATE

I, the undersigned Secretary of FCCI Insurance Company, a Florida Corporation, DO HEREBY CERTIFY that the foregoing Power of Attorney remains in full force and has not been revoked; and furthermore that the February 27, 2020 Resolution of the Board of Directors, referenced in said Power of Attorney, is now in force.

Dated this 9th day of August, 2023



Christopher Shoucair, EVP, CFO, Treasurer, Secretary
FCCI Insurance Company



CERTIFICATE OF LIABILITY INSURANCE

DATE (MM/DD/YYYY)

2/25/2022

THIS CERTIFICATE IS ISSUED AS A MATTER OF INFORMATION ONLY AND CONFERS NO RIGHTS UPON THE CERTIFICATE HOLDER. THIS CERTIFICATE DOES NOT AFFIRMATIVELY OR NEGATIVELY AMEND, EXTEND OR ALTER THE COVERAGE AFFORDED BY THE POLICIES BELOW. THIS CERTIFICATE OF INSURANCE DOES NOT CONSTITUTE A CONTRACT BETWEEN THE ISSUING INSURER(S), AUTHORIZED REPRESENTATIVE OR PRODUCER, AND THE CERTIFICATE HOLDER.

IMPORTANT: If the certificate holder is an ADDITIONAL INSURED, the policy(ies) must be endorsed. If SUBROGATION IS WAIVED, subject to the terms and conditions of the policy, certain policies may require an endorsement. A statement on this certificate does not confer rights to the certificate holder in lieu of such endorsement(s).

PRODUCER InSource Insurance Group, LLC 5108 Wayland Dr. Odessa TX 79762-5513		CONTACT NAME: Kelly Elliott PHONE (A/C, No. Ext.): (432) 362-8800 FAX (A/C, No.): (432) 362-8855 E-MAIL ADDRESS: KellyE@InSourceIns.com													
INSURED Onyx Contractors, LP (See Named Insd List) P. O. Box 60547 Midland TX 79711		INSURER(S) AFFORDING COVERAGE <table border="1"><tr><td>INSURER A: The Charter Oak Fire Insurance Company</td><td>NAIC # 25615</td></tr><tr><td>INSURER B: Travelers Indemnity Co of America</td><td></td></tr><tr><td>INSURER C: Travelers Property Casualty Insurance Co</td><td>36161</td></tr><tr><td>INSURER D: Texas Mutual Insurance Company</td><td>22945</td></tr><tr><td>INSURER E: Hanover Insurance Company - Worcester</td><td></td></tr><tr><td>INSURER F: Argonaut Insurance Co</td><td></td></tr></table>		INSURER A: The Charter Oak Fire Insurance Company	NAIC # 25615	INSURER B: Travelers Indemnity Co of America		INSURER C: Travelers Property Casualty Insurance Co	36161	INSURER D: Texas Mutual Insurance Company	22945	INSURER E: Hanover Insurance Company - Worcester		INSURER F: Argonaut Insurance Co	
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INSURER D: Texas Mutual Insurance Company	22945														
INSURER E: Hanover Insurance Company - Worcester															
INSURER F: Argonaut Insurance Co															

COVERAGES**CERTIFICATE NUMBER:** CL2222526595**REVISION NUMBER:**

THIS IS TO CERTIFY THAT THE POLICIES OF INSURANCE LISTED BELOW HAVE BEEN ISSUED TO THE INSURED NAMED ABOVE FOR THE POLICY PERIOD INDICATED. NOTWITHSTANDING ANY REQUIREMENT, TERM OR CONDITION OF ANY CONTRACT OR OTHER DOCUMENT WITH RESPECT TO WHICH THIS CERTIFICATE MAY BE ISSUED OR MAY PERTAIN, THE INSURANCE AFFORDED BY THE POLICIES DESCRIBED HEREIN IS SUBJECT TO ALL THE TERMS, EXCLUSIONS AND CONDITIONS OF SUCH POLICIES. LIMITS SHOWN MAY HAVE BEEN REDUCED BY PAID CLAIMS.

INSR LTR	TYPE OF INSURANCE	ADDL INSD	SUBR WYD	POLICY NUMBER	POLICY EFF (MM/DD/YYYY)	POLICY EXP (MM/DD/YYYY)	LIMITS
A	☒ COMMERCIAL GENERAL LIABILITY			660-85291786	3/1/2022	3/1/2023	EACH OCCURRENCE \$ 1,000,000
	☐ CLAIMS-MADE ☒ OCCUR		DAMAGE TO RENTED PREMISES (Ea occurrence) \$ 300,000				
	☒ S&A Pollution 30/90		MED EXP (Any one person) \$ 5,000				
	GENTL AGGREGATE LIMIT APPLIES PER:		PERSONAL & ADV INJURY \$ 1,000,000				
	☒ POLICY ☐ PROJECT ☐ LOC						GENERAL AGGREGATE \$ 2,000,000
	OTHER:						PRODUCTS - COMP/OP AGG \$ 2,000,000
B	AUTOMOBILE LIABILITY			810-5R534483	3/1/2022	3/1/2023	COMBINED SINGLE LIMIT (Ea accident) \$ 1,000,000
	☒ ANY AUTO		BODILY INJURY (Per person) \$				
	☐ ALL OWNED AUTOS	☐ SCHEDULED AUTOS	BODILY INJURY (Per accident) \$				
	☐ HIRED AUTOS	☐ NON-OWNED AUTOS	PROPERTY DAMAGE (Per accident) \$				
	☒ MCS-90						\$
C	☒ UMBRELLA LIAB			CUP-2T462160	3/1/2022	3/1/2023	EACH OCCURRENCE \$ 10,000,000
	☐ EXCESS LIAB	☐ CLAIMS-MADE	AGGREGATE \$ 10,000,000				
	☐ DED	☒ RETENTION \$ 10,000	\$				
D	WORKERS COMPENSATION AND EMPLOYERS' LIABILITY			0001154452 TX	3/1/2022	3/1/2023	☒ PER STATUTE ☐ OTHER
	ANY PROPRIETOR/PARTNER/EXECUTIVE OFFICER/MEMBER EXCLUDED? (Mandatory in NH)	☐ Y/N ☐ N/A	E.L. EACH ACCIDENT \$ 1,000,000				
	If yes, describe under DESCRIPTION OF OPERATIONS below		E.L. DISEASE - EA EMPLOYEE \$ 1,000,000				
			E.L. DISEASE - POLICY LIMIT \$ 1,000,000				
F				WC 928848488194 NH	3/1/2022	3/1/2023	
E	Equipment Floater			RHD A551456-07	3/1/2022	3/1/2023	Rented/Leased 1,000,000

DESCRIPTION OF OPERATIONS / LOCATIONS / VEHICLES (ACORD 101, Additional Remarks Schedule, may be attached if more space is required)

SUBJECT TO POLICY TERMS & CONDITIONS AND A WRITTEN CONTRACT:

GL, AUTO & UMBRELLA POLICIES INCLUDE A BLANKET ADDITIONAL INSURED. WC, GL, AUTO & UMBRELLA INCLUDE A BLANKET WAIVER OF SUBROGATION. WHEN REQUIRED BY WRITTEN CONTRACT PRIMARY - NON-CONTRIBUTORY COVERAGE APPLIES. POLICIES INCLUDE 30 DAY NOTICE OF CANCELLATION EXCEPT 10 DAYS FOR NON-PAYMENT OF PREMIUM. EQUIPMENT FLOATER INCLUDES BLANKET LOSS PAYEE AS YOUR INTEREST MAY APPEAR FOR RENTED/LEASED EQUIPMENT.

CERTIFICATE HOLDER**CANCELLATION**

SAMPLE CERTIFICATE

SHOULD ANY OF THE ABOVE DESCRIBED POLICIES BE CANCELLED BEFORE THE EXPIRATION DATE THEREOF, NOTICE WILL BE DELIVERED IN ACCORDANCE WITH THE POLICY PROVISIONS.

AUTHORIZED REPRESENTATIVE

David Wood/KJE

September 12, 2023

PACKET

7.150

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Additional Named Insureds

Other Named Insureds

IAQ 1260, Ltd.	Limited corporation, Additional Named Insured
IAQ 1788, Ltd	Limited corporation, Additional Named Insured
IAQ 191, LLC	Limited Liability Company, Additional Named Insured
IAQ Kermit, Ltd.	Limited corporation, Additional Named Insured
IAQ Land, Ltd	Limited corporation, Additional Named Insured
IAQ Oil and Gas, LLC	Limited Liability Company, Additional Named Insured
IAQ Pecos, LLC	Limited Liability Company, Additional Named Insured
IAQ Realty, Ltd	Limited corporation, Additional Named Insured
MCI 221 Family Limited	Limited corporation, Additional Named Insured
MCI 221 GP, LLC	General Partnership, Additional Named Insured
OC Holdings, Inc.	General Partnership, Additional Named Insured
Onyx Contractors Operations, LP	C Corporation, Additional Named Insured
Onyx General Contractors, LLC	Limited Liability Company, Additional Named Insured
Tronyx Electrical Contractors, LLC	Limited Liability Company, Additional Named Insured



THE CITY OF MIDLAND

CONTRACT

Contract No. 23004412

THIS CONTRACT, effective the 13th day of September, 2023, by and between the City of Midland, hereinafter referred to as "CITY", and Onyx General Contractors, LLC, hereinafter referred to as "COMPANY", is made for the following considerations:

1. **Cost:** Total Proposal: \$ 6,422,091.20 DOLLARS
2. **Scope of Work:** COMPANY shall perform all work described for a new sound system at Momentum Bank Ballpark. Said work being more particularly described in the following documents, which are attached hereto and incorporated herein for all purposes.

EXHIBIT A..... Specifications, Proposal or Cost Summary
EXHIBIT B..... Intentionally Omitted
EXHIBIT C..... Bonding instructions for Public Works Contract of \$50,000 and more
EXHIBIT D..... Wage Scale

3. **City:** The words "CITY's Representative" or "representative" shall mean Jeffery Ahrlett or the designee under whose supervision these contract documents, including the plans and specifications, were prepared, or who may inspect work performed under this Contract; or such other representative, supervisor, or inspector as may be authorized by CITY to act in any particular capacity under this Contract.

4. **City's Representative:** CITY's Representative may make periodic visits to the site to observe the progress and quality of the executed work and to determine, in general, if the work is proceeding in accordance with the contract documents. CITY's representative will not be required to make exhaustive or continuous on-site inspections to check the quality or quantity of the work, nor will such representative be responsible for the construction means, methods, techniques, sequences or procedures, or the safety precautions incident thereto. CITY's representative will not be responsible for COMPANY's failure to perform the work in accordance with the contract.

5. **Company:** Unless otherwise stipulated, COMPANY shall provide and pay for all materials, supplies, machinery, equipment, tools, superintendence, labor, insurance, and all water, light, power, fuel,

transportation and all other facilities necessary for the execution and completion of the work covered by the contract documents. Unless otherwise specified, all materials shall be new, and both workmanship and materials shall be of a good quality. COMPANY shall, if required, furnish satisfactory evidence as to the kind and quality of materials.

5.1. COMPANY shall, at its expense, obtain all permits and licenses necessary for the performance of this contract and pay all fees and taxes required by law, and comply with all laws, ordinances, rules and regulations governing COMPANY's performance of the contract, including all environmental laws and regulations, whether state or federal.

5.2. All work shall be done and all materials furnished in strict conformity with the contract and specifications.

6. **Minor Work Not Mentioned:** All minor detail of the work not specifically mentioned in the Specifications but obviously necessary for the proper completion of the work, such as the proper connection of new work to old, shall be considered as incidental to and a part of the work for which the prices are named in the contract. COMPANY will not be entitled to any additional compensation therefor unless specifically stated otherwise. Otherwise the term "extra work" as used in this contract shall mean and include all work that may be required by CITY to be done by COMPANY to accomplish any alteration or addition to the work as shown on the Specifications.

6.1. COMPANY shall perform all extra work under the direction of CITY's Representative when presented with a written work order signed by CITY's Representative, subject, however, to the right of the COMPANY to require written confirmation of such extra work order by CITY. Payment for extra work shall be as agreed in the work order.

7. **Safety:** COMPANY shall at all times exercise reasonable precaution for the safety of employees and others on or near the work and shall comply with all applicable provisions of federal, state and municipal laws. All machinery and equipment and other physical hazards shall be guarded in accordance with federal, state or municipal laws or regulations.

8. **INDEMNITY: COMPANY SHALL INDEMNIFY AND HOLD HARMLESS AND DEFEND CITY AND ALL OF CITY'S OFFICERS, AGENTS AND EMPLOYEES FROM ALL SUITS, ACTIONS, CLAIMS, DAMAGES, PERSONAL INJURIES, ACCIDENTAL DEATH, LOSSES, PROPERTY DAMAGE AND EXPENSES OF ANY CHARACTER WHATSOEVER, INCLUDING ATTORNEY'S FEES, BROUGHT FOR OR ON ACCOUNT OF ANY INJURIES OR DAMAGES RECEIVED OR SUSTAINED BY ANY PERSON OR PERSONS OR**

PROPERTY, ON ACCOUNT OF ANY NEGLIGENT ACT OF COMPANY, THEIR AGENTS OR EMPLOYEES, OR ANY SUBCONTRACTOR, IN THE EXECUTION, SUPERVISION AND OPERATIONS GROWING OUT OF OR IN ANY WAY CONNECTED WITH THE PERFORMANCE OF THIS CONTRACT, AND COMPANY WILL BE REQUIRED TO PAY ANY JUDGMENT WITH COSTS WHICH MAY BE OBTAINED AGAINST CITY OR ANY OF ITS OFFICERS, AGENTS OR EMPLOYEES, INCLUDING ATTORNEY'S FEES. THE OBLIGATIONS CONTAINED IN THIS SECTION 8 SHALL SURVIVE THE TERMINATION OF THIS CONTRACT.

8.1. COMPANY SHALL INDEMNIFY AND HOLD HARMLESS AND DEFEND CITY AND ALL OF CITY'S OFFICERS, AGENTS AND EMPLOYEES FROM ALL SUITS, ACTIONS, CLAIMS, DAMAGES, PERSONAL INJURIES, ACCIDENTAL DEATH, PROPERTY DAMAGE, LOSSES, AND EXPENSES OF ANY CHARACTER WHATSOEVER INCLUDING ATTORNEY'S FEES, BROUGHT FOR OR ON ACCOUNT OF ANY INJURIES OR DAMAGES RECEIVED OR SUSTAINED BY ANY PERSON OR PERSONS OR PROPERTY, ON ACCOUNT OF ANY NEGLIGENT ACT OF CITY, CITY'S OFFICERS, AGENTS AND EMPLOYEES, WHETHER SUCH NEGLIGENT ACT WAS THE SOLE PROXIMATE CAUSE OF THE INJURY OR DAMAGE OR A PROXIMATE CAUSE JOINTLY AND CONCURRENTLY WITH COMPANY OR COMPANY'S EMPLOYEES, AGENTS OR SUBCONTRACTORS NEGLIGENCE IN THE EXECUTION, SUPERVISION AND OPERATIONS GROWING OUT OF OR IN ANY WAY CONNECTED WITH THE PERFORMANCE OF THIS CONTRACT, AND COMPANY WILL BE REQUIRED TO PAY ANY JUDGMENT WITH COSTS WHICH MAY BE OBTAINED AGAINST CITY OR ANY OF ITS OFFICERS, AGENTS OR EMPLOYEES, INCLUDING ATTORNEY'S FEES. THE OBLIGATIONS CONTAINED IN THIS SECTION 8.1 SHALL SURVIVE THE TERMINATION OF THIS CONTRACT.

8.2. COMPANY AGREES THAT IT WILL INDEMNIFY AND SAVE CITY HARMLESS FROM ALL CLAIMS GROWING OUT OF ANY DEMANDS OF SUBCONTRACTORS, LABORERS, WORKMEN, MECHANICS, MATERIALMEN, AND FURNISHERS OF MACHINERY AND PARTS THEREOF, EQUIPMENT, POWER TOOLS AND ALL SUPPLIES, INCURRED IN THE FURTHERANCE OF THE PERFORMANCE OF THIS CONTRACT. WHEN CITY SO DESIRES, COMPANY SHALL FURNISH SATISFACTORY EVIDENCE THAT ALL OBLIGATIONS OF THE NATURE HEREINABOVE DESIGNATED HAVE BEEN PAID, DISCHARGED OR WAIVED. COMPANY, ITS SURETIES AND INSURANCE CARRIERS SHALL DEFEND, INDEMNIFY AND SAVE HARMLESS CITY AND

ALL OF ITS OFFICERS, AGENTS AND EMPLOYEES FROM ALL SUITS, ACTIONS, OR CLAIMS OF ANY CHARACTER WHATSOEVER, BROUGHT FOR OR ON ACCOUNT OF ANY INJURIES OR DAMAGES RECEIVED OR SUSTAINED BY ANY PERSON OR PERSONS OR PROPERTY, ARISING FROM ANY ACT OF COMPANY OR ANY SUBCONTRACTOR, THEIR AGENTS OR EMPLOYEES, IN THE EXECUTION AND SUPERVISION OF THIS CONTRACT, AND WILL BE REQUIRED TO PAY ANY JUDGMENT WITH COSTS WHICH MAY BE OBTAINED AGAINST CITY OR ANY OF ITS OFFICERS, AGENTS, OR EMPLOYEES INCLUDING ATTORNEY'S FEES. THE OBLIGATIONS CONTAINED IN THIS SECTION 8.2 SHALL SURVIVE THE TERMINATION OF THIS CONTRACT.

9. **Start of Work:** COMPANY shall commence work no later than ten (10) days after receipt of the execution of this document or other written release to proceed and shall complete such work no later than 365 calendar days after release to proceed.

10. **Clean Up:** COMPANY shall promptly remove from CITY's premises all materials condemned by CITY's Representative on account of failure to conform to the contract, whether actually incorporated in the work or not, and COMPANY shall at its own expense promptly replace such condemned materials with other materials conforming to the requirements of the contract. COMPANY shall also bear the expense of restoring all work of other contractors damaged by any such removal or replacement. If COMPANY does not remove and replace any such condemned materials within a reasonable time after a written notice by CITY, CITY may remove and replace such at COMPANY's expense.

11. **Warranty:** Neither the final payment nor any provision in this contract shall relieve COMPANY of responsibility for faulty materials or workmanship, and he shall remedy any defects due thereto and pay for any damage to other work resulting therefrom, which shall appear within a period of one (1) year from the date of substantial completion. CITY shall give notice of observed defects with reasonable promptness.

12. **Remedy:** CITY may, on account of subsequently discovered evidence, withhold whole or part of any payment to such extent as may be necessary to protect itself from loss on account of:

12.1. Defective work not remedied; or

12.2. Claims filed or reasonable evidence indicating possible filing of claims; or

12.3. Failure of COMPANY to make payments promptly to subcontractors or for material or labor which CITY may pay as an agent for the COMPANY; or

12.4. Damages to another contractor or subcontractor.

When the above grounds to withhold payment are removed, or COMPANY provides a surety bond satisfactory to CITY, which will protect CITY in the amount withheld, payment may be released.

13. **Funding Out:** In the event no funds or insufficient funds are appropriated and budgeted or are otherwise unavailable in any fiscal period for contract payments due under the contract, then this contract shall terminate on the last day of the fiscal period for which full appropriations were made, without penalty or expense to CITY of any kind whatsoever.

14. **Wage Scale:** COMPANY agrees to pay all workmen in his employ no less than the generally prevailing wage rate for employees of similar category in the Permian Basin Area, as is depicted in the wage rate scale attached hereto as EXHIBIT D, and incorporated herein by reference for all legal purposes.

14.1. If applicable, the Davis-Bacon Act, 29 CFR 5.5, and any related acts or regulations are hereby incorporated by reference and made a part of this Contract, and all terms and requirements under said laws, by such incorporation, are made terms and requirements of this Contract, to which the parties to this Contract have agreed to be bound.

15. **Prompt Pay Act:** CITY and COMPANY agree that Texas Government Code, Chapter 2251, Payment for Goods and Services (the "Prompt Pay Act") does not waive governmental immunity.

16. **Payment; Retainage:** After all work is completed by COMPANY, including all Change Orders altering the original scope and amount of the contract are completed, and the CITY has inspected and approved that the work is completed and in compliance with the contract and all subsequent Change Orders, the CITY may thereafter issue payment to COMPANY in the amount of the contract and all Change Orders. The CITY shall be the final judge of when the work is completed by COMPANY. The CITY, in its sole discretion, shall determine if the work under the contract and under any Change Orders has been done to the CITY's requirements.

16.1. The CITY may make periodic payments to COMPANY; provided, however, such periodic payments may only be made pursuant to this section, and only after all work and all Change Orders are completed by COMPANY and approved by the CITY. The approval shall be in the CITY's sole discretion. Requests for progress payments may be made to the extent of the materials and labor completed at the end of each month. Upon approval by the CITY or the CITY's representative, the request and invoice shall be forwarded for payment less 5% retainage. The total of these payments shall not exceed 95% of the total contract amount.

17. **Late Completion; Liquidated Damages:** It is hereby understood and mutually agreed, by and between COMPANY and the CITY, that the date of beginning and the time for completion as specified in the contract of the work to be done hereunder are ESSENTIAL CONDITIONS of this contract; and it is further mutually understood and agreed that the work embraced in this contract shall be commenced on a date to be specified in the "Notice to Proceed." COMPANY agrees that said work shall be prosecuted regularly, diligently, and uninterruptedly at such rate of progress as will insure full completion thereof within the time specified. It is expressly understood and agreed, by and between COMPANY and the CITY, that the time for the completion of the work described herein is a reasonable time for the completion of the same, taking into consideration the average climatic range and usual industrial conditions prevailing in this locality.

17.1. In the event COMPANY shall neglect, fail or refuse to complete the work within the time herein specified, or any proper extension thereof granted by the CITY, then COMPANY and COMPANY's surety, if any, shall be liable for and does hereby agree, as a part consideration for the awarding of this contract, to pay to the CITY \$500.00, not as a penalty but as liquidated damages for such breach of contract as hereinafter set forth, for each and every day that COMPANY shall be in default after the time stipulated in the contract for completing the work. Further, the CITY shall have the right to cancel this contract for such delay. In the event the CITY cancels this contract pursuant to the terms of this section, the CITY shall pay to COMPANY only those monies deemed appropriate by the CITY, in its sole discretion, to compensate COMPANY for any work actually performed, less any liquidated damages COMPANY owes the CITY.

17.2. The said amount is fixed and agreed upon by and between COMPANY and the CITY because of the impracticability and extreme difficulty of fixing and ascertaining the actual damages the CITY would in such event sustain, and said amount is agreed to be the amount of damages which the CITY would sustain and said amount shall be retained from time to time by the CITY from current periodical estimates.

17.3. It is further agreed that time is of the essence of each and every portion of this contract and of the specifications wherein a definite and certain length of time is fixed for the performance of any act whatsoever; and where under the contract an additional time is allowed for the completion of any work, the new time limit fixed by such extension shall be of the essence of this contract. Provided, that COMPANY shall not be charged with liquidated damages or any excess cost when the CITY determines, in its sole discretion, that COMPANY is without fault and COMPANY's reasons for the time extension are acceptable to the CITY. Provided, further, that COMPANY shall not be charged with liquidated damages or excess cost when the delay in completion of the work is due to

- a. To any preference, priority or allocation order duly issued by the Government;
- b. To unforeseeable cause beyond the control and without the fault or negligence of COMPANY, including, but not restricted to, acts of God, or of the public enemy, acts of the CITY, acts of another contractor in the performance of a contract with the CITY, fires, floods, epidemics, quarantine restrictions, strikes, freight embargoes, and severe weather; and
- c. To any delays of subcontractors or suppliers occasioned by any of the causes specified in subsections (a) and (b) of this article.

17.4. Provided, further, that COMPANY shall, within ten (10) days from the beginning of such delay, unless the CITY shall, in its sole discretion grant a further period of time prior to the date of final settlement of the contract, notify the CITY, in writing, of the causes of the delay, who shall ascertain the facts and extent of the delay and notify COMPANY within a reasonable time of its decision in the matter.

17.5. COMPANY AGREES THAT THE PAYMENT OF SUCH LIQUIDATED DAMAGES MAY BE RECOVERED BY THE CITY FROM RETAINAGE HELD BY THE CITY. NOTWITHSTANDING ANY OTHER PROVISION HEREOF, COMPANY HEREBY RELEASES, ACQUITS, RELINQUISHES AND FOREVER DISCHARGES CITY, CITY'S EMPLOYEES AND OFFICERS FROM ANY AND ALL DEMANDS, CLAIMS, DAMAGES, OR CAUSES OF ACTION OF ANY KIND WHATSOEVER ARISING FROM THE CITY WITHHOLDING PAYMENT FROM COMPANY AS LIQUIDATED DAMAGES FOR COMPANY'S FAILURE TO COMPLETE THE WORK WITHIN THE TIME SPECIFIED HEREIN, INCLUDING BUT NOT LIMITED TO BREACH OF CONTRACT, QUANTUM MERUIT, CLAIMS UNDER THE DUE PROCESS AND TAKINGS CLAUSES OF THE TEXAS AND UNITED STATES CONSTITUTIONS, TORT CLAIMS, OR CITY'S NEGLIGENCE.

17.6. COMPANY SHALL RECEIVE NO FINANCIAL COMPENSATION FOR DELAY OR HINDRANCE TO THE WORK. IN NO EVENT SHALL THE CITY BE LIABLE TO COMPANY OR ANY SUBCONTRACTOR OR SUPPLIER, ANY OTHER PERSON OR ANY SURETY FOR OR ANY EMPLOYEE OR AGENT OF ANY OF THEM, FOR ANY DAMAGES ARISING OUT OF OR ASSOCIATED WITH ANY DELAY OR HINDRANCE TO THE WORK, REGARDLESS OF THE SOURCE OF THE DELAY OR HINDRANCE, INCLUDING EVENTS OF FORCE MAJEURE, AND EVEN IF SUCH DELAY OR HINDRANCE RESULTS FROM, ARISES OUT OF OR IS DUE, IN WHOLE OR IN PART, TO THE NEGLIGENCE OF THE CITY. COMPANY'S SOLE REMEDY IN ANY SUCH CASE SHALL BE AN EXTENSION OF TIME.

18. **No Third-Party Beneficiary:** CITY's approval of this contract does not create a third-party beneficiary. **PACKET 7.158** September 12, 2023

beneficiary. There is no third-party beneficiary to this contract. No person or entity who is not a party to this contract shall have any third-party beneficiary or other rights hereunder.

19. WAIVER OF ATTORNEY FEES: BY EXECUTING THIS CONTRACT, COMPANY AGREES TO WAIVE AND DOES HEREBY KNOWINGLY, CONCLUSIVELY, VOLUNTARILY AND INTENTIONALLY WAIVE ANY CLAIM IT HAS OR MAY HAVE IN THE FUTURE AGAINST CITY REGARDING THE AWARD OR ATTORNEY'S FEES, WHICH ARE IN ANY WAY RELATED TO THIS CONTRACT, OR THE CONSTRUCTION, INTERPRETATION OR BREACH OF THIS CONTRACT. COMPANY SPECIFICALLY AGREES THAT IF COMPANY BRINGS OR COMMENCES ANY LEGAL ACTION OR PROCEEDING RELATED TO THIS CONTRACT, THE CONSTRUCTION, INTERPRETATION, VALIDITY OR BREACH OF THIS CONTRACT, INCLUDING, BUT NOT LIMITED TO, ANY ACTION PURSUANT TO THE PROVISIONS OF THE TEXAS UNIFORM DECLARATORY JUDGMENTS ACT (TEXAS CIVIL PRACTICE AND REMEDIES CODE SECTION 37.001, ET SEQ., AS AMENDED), OR CHAPTER 271 OF THE TEXAS LOCAL GOVERNMENT CODE, COMPANY AGREES TO ABANDON, WAIVE AND RELINQUISH ANY AND ALL RIGHTS TO THE RECOVERY OF ATTORNEY'S FEES TO WHICH COMPANY MIGHT OTHERWISE BE ENTITLED.

COMPANY AGREES THAT THIS IS THE VOLUNTARY AND INTENTIONAL RELINQUISHMENT AND ABANDONMENT OF A PRESENTLY-EXISTING KNOWN RIGHT. COMPANY ACKNOWLEDGES THAT IT UNDERSTANDS ALL TERMS AND CONDITIONS OF THIS CONTRACT. COMPANY FURTHER ACKNOWLEDGES AND AGREES THAT THERE WAS AND IS NO DISPARITY OF BARGAINING POWER BETWEEN CITY AND COMPANY. THIS SECTION SHALL NOT BE CONSTRUED OR INTERPRETED AS A WAIVER OR GOVERNMENTAL IMMUNITY AND SHALL SURVIVE THE TERMINATION OF THIS CONTRACT.

COMPANY IS RELYING ON ITS OWN JUDGMENT. COMPANY HAD THE OPPORTUNITY TO DISCUSS THIS CONTRACT WITH COMPETENT LEGAL COUNSEL PRIOR TO ITS EXECUTION. THE OBLIGATIONS CONTAINED IN THIS SECTION 18 SHALL SURVIVE THE TERMINATION OF THIS CONTRACT.

20. Governmental Immunity: By executing this contract CITY is not waiving its right of governmental immunity. CITY is retaining its immunity from suit. CITY is not granting consent to be sued by legislative resolution or action.

THERE IS NO WAIVER OF GOVERNMENTAL IMMUNITY.

21. Insurance:

COMPANY shall at all times during the term of this Contract maintain and keep in full force and effect insurance in the following types and minimum amounts with companies authorized to do business in the State of Texas:

Commercial General Liability (including Contractual liability):

-Personal Injury: \$1,000,000.00 per person
\$1,000,000.00 per occurrence

-Property Damage: \$500,000.00 per occurrence

Business Automobile Liability: \$250,000.00 combined single limit -
Personal Injury and Property Damage

Workers' Compensation: Statutory limits

Employers' Liability: \$500,000.00 per accident or occurrence

The Commercial General Liability shall be on a per project aggregate, including completed operations, and shall be on a claims-occurred basis. This insurance shall name CITY as an additional insured and waive subrogation in favor of CITY.

The Business Automobile Liability insurance provided by COMPANY shall cover any auto for bodily injury and property damage, including owned vehicles, hired and non-city vehicles, and employee non-ownership, and the amount of such policy shall be a minimum of \$250,000.00 covering any vehicle used for the execution of the work that is the subject of this Contract. This insurance shall name CITY as an additional insured and waive subrogation in favor of CITY.

The Workers' Compensation coverage provided by COMPANY shall inure to the benefit of employees injured during the course and scope of their employment by COMPANY pursuant to this Contract. The Workers' Compensation shall waive all rights of subrogation in favor of CITY.

All insurance required pursuant to this Contract shall provide for a waiver of subrogation in favor of CITY. All insurance required pursuant to this Contract, except for Workers' Compensation Insurance, shall name CITY as an additional insured on a claims occurred basis. CITY shall be provided the notice by COMPANY's insurance provider not later than thirty (30) days prior to any reduction or termination of such coverage.

COMPANY shall contractually require all contractors, subcontractors, and sub-subcontractors that work on any portion of the work that is the subject of this Contract to obtain insurance coverage that meets or exceeds the policy requirements and minimum amounts specified herein. All contractors, subcontractors, and sub-subcontractors shall obtain insurance policies that provide blanket waivers of

subrogation in favor of the City of Midland and policies that name the City of Midland as an additional insured on a claims occurred basis (except workers' compensation).

The parties agree that, prior to the execution of the Contract, COMPANY shall provide one or more certificates of insurance specifically stating that these requirements have been met and subject to the approval of CITY. CITY shall not be required to provide any insurance whatsoever pursuant to this Contract.

COMPANY certifies that the certificate of insurance provided as required herein complies with the requirements of Chapter 1811 of the Texas Insurance Code. COMPANY shall not use an unapproved certificate of insurance or insert inappropriate language on a certificate. Compliance with state law is the sole responsibility of COMPANY.

22. **Assignment:** COMPANY shall not, either directly or indirectly, assign all or any part of this Contract or any interest, right or privilege herein, without the prior written consent of CITY. The issue on whether or not to grant consent to an assignment is in the sole discretion of CITY.

23. **RELEASE: NOTWITHSTANDING ANY OTHER PROVISION CONTAINED HEREIN, COMPANY HEREBY RELEASES, ACQUITS, RELINQUISHES AND FOREVER DISCHARGES CITY AND CITY'S COUNCIL MEMBERS, EMPLOYEES, AND OFFICERS FROM ANY AND ALL DEMANDS, CLAIMS, DAMAGES OR CAUSES OF ACTION OF ANY KIND WHATSOEVER THAT COMPANY HAS OR MIGHT HAVE IN THE FUTURE, INCLUDING, BUT NOT LIMITED TO, BREACH OF CONTRACT, QUANTUM MERUIT, CLAIMS UNDER THE DUE PROCESS AND TAKINGS CLAUSES OF THE TEXAS AND UNITED STATES CONSTITUTIONS, TORT CLAIMS, OR CITY'S NEGLIGENCE. THE OBLIGATIONS CONTAINED IN THIS SECTION SHALL SURVIVE THE TERMINATION OF THIS CONTRACT.**

24. **Governing Law and Venue:** This contract shall be governed by the laws of the State of Texas. All performance and payment made pursuant to this contract shall be deemed to have occurred in Midland County, Texas. The obligations and undertakings of each of the parties to this Agreement shall be deemed to have occurred in Midland County, Texas. Exclusive venue for any claims, suits or any other action arising from or connected in any way to this contract or the performance of this contract shall be in Midland County, Texas.

25. **Independent Contractor:** COMPANY shall perform all work and services described herein as an independent contractor and not as an officer, agent, servant, or employee of CITY. COMPANY shall have exclusive control of, and the exclusive right to control the details of the services and work to be

performed hereunder, and all persons performing the same. COMPANY shall be solely responsible for the acts and omissions of its officers, agents, employees, contractors and subcontractors and the doctrine of respondeat superior shall not apply as between CITY and COMPANY, its officers, agents, employees, contractors and subcontractors. Nothing in this Contract shall be construed as creating a partnership or joint enterprise between CITY and COMPANY. No person performing any of the work and services described hereunder by COMPANY shall be considered an officer, agent, servant or employee of CITY. Further, it is specifically understood and agreed that nothing in this contract is intended or construed as creating a "Community of Pecuniary Interest" or an "Equal Right of Control" which would give rise to vicarious liability.

COMPANY shall be an independent contractor under this Contract and shall assume all of the rights, obligations and liabilities, applicable to it as such independent contractor hereunder. CITY does not have the power to direct the order in which the work is done. CITY shall not have the right to control the means, methods or details of COMPANY's work. COMPANY shall assume exclusive responsibility for the work. COMPANY is entirely free to do the work in its own way.

26. Notice of Alleged Breach; Statutory Prerequisites: As a condition precedent to filing suit for alleged damages incurred by an alleged breach of an express or implied provision of this Contract, COMPANY or its legal representative, shall give the City Manager, or any other reasonable official of CITY, notice in writing (consisting of one (1) original and seven (7) copies of notice attached to a copy of this Contract) of such damages, duly verified, within one hundred twenty (120) days after the same has been sustained. The discovery rule does not apply to the giving of this notice. The notice shall include when, where and how the damages occurred, the apparent extent thereof, the amount of damages sustained, the amount for which COMPANY shall settle, the physical and mailing addresses of COMPANY at the time and date the claim was presented and the physical and mailing addresses of COMPANY for the six (6) months immediately preceding the occurrence of such damages, and the names and addresses of the witnesses upon whom COMPANY relies to establish its claim; and a failure to provide such written notification within the time and manner provided herein shall exonerate, excuse and except CITY from any liability whatsoever. CITY is under no obligation to provide notice to COMPANY that COMPANY's notice is insufficient. CITY reserves the right to request additional information regarding the claim. Said additional information shall be supplied within thirty (30) days after receipt of notice.

The statutory prerequisites outlined herein constitute jurisdictional requirements pursuant to Section 271.154 of the Texas Local Government Code and Section 311.034 of the Texas Government Code. Notwithstanding any other provision to the contrary, COMPANY shall comply with the

requirements of this Section shall perpetually bar COMPANY's claim for damages under Chapter 271 of the Texas Local Government Code, and Section 311.034 of the Texas Government Code, regardless if CITY has actual or constructive notice or knowledge of said claim or alleged damages. COMPANY agrees that the requirements of this entire Contract are reasonable. The provisions and obligations of this Section shall survive the termination of this Contract.

27. **Consideration:** The terms of this Contract are supported by good and valuable consideration, the receipt and sufficiency of which is hereby acknowledged by the parties named herein.

28. **Termination At Will:** CITY may terminate this Contract at will for no or any reason upon giving at least one hundred eighty (180) days written notice to COMPANY. The parties to this Contract understand and agree that it is in CITY's sole discretion to cancel the Contract during the term of the Contract without penalty to CITY. COMPANY has no expectation and has received no guarantees that this Contract will not be terminated before the end of the Contract term. The parties have bargained for the flexibility of terminating this Contract upon tender of the requisite notice at any time during the term of the Contract. All work and services under the Contract shall be suspended upon termination of the Contract becoming effective.

29. **Compliance:** COMPANY agrees that it shall comply with Texas Government Code Section 2252.908, *et seq.*, as amended. COMPANY agrees that it shall comply with Texas Local Government Code Section 176.006, *et seq.*, as amended.

30. To the extent that Sections 2271.002 and 2274.002 of the Texas Government Code (collectively, the "Anti-Boycott Statutes") apply to this Contract, Company hereby verifies:

- that Company does not boycott Israel and will not boycott Israel during the term of this Contract;
- that Company does not boycott energy companies and will not boycott energy companies during the term of this Contract; and
- that Company does not have a practice, policy, guidance, or directive that discriminates against a firearm entity or firearm trade association and will not discriminate during the term of this Contract against a firearm entity or firearm trade association.

To the extent that the Anti-Boycott Statutes do not apply to this Contract, such verification is not required, and Company shall be deemed to have not made such verification.

31. **Records Retention and Production of Information.** To the extent that this Contract constitutes a contract described by Section 552.371 of the Texas Government Code, COMPANY shall: (i) preserve all contracting information related to this Contract as provided by the records retention requirements

applicable to CITY for the duration of this Contract; (ii) promptly provide to CITY any contracting information related to the Contract that is in the custody or possession of COMPANY on request of CITY; and (iii) on completion of the Contract, either: (a) provide at no cost to CITY all contracting information related to the Contract that is in the custody or possession of COMPANY; or (b) preserve the contracting information related to the Contract as provided by the records retention requirements applicable to CITY.

32. **Public Information.** To the extent that this Contract is a contract described by Section 552.371 of the Texas Government Code, COMPANY agrees as follows in accordance with Section 552.372(b) of the Texas Government Code: The requirements of Subchapter J, Chapter 552, Government Code, may apply to this Contract, and COMPANY agrees that the contract can be terminated if COMPANY knowingly or intentionally fails to comply with a requirement of that subchapter.

33. **Conflict of Terms.** If a conflict of terms or language exists between: (i) any of the provisions of this Contract and (ii) any of the provisions contained in any exhibit(s) attached to this Contract, precedence shall be given to the provisions of this Contract. For the avoidance of any doubt, the provisions contained in this Contract shall supersede any and all conflicting provisions contained in any exhibit(s) attached hereto. Furthermore, the parties acknowledge and agree that any provision contained in an exhibit(s) attached to this Contract that imposes an additional express or implied obligation on CITY is hereby made void and of no force or effect. CITY's sole and exclusive obligations under this Contract are contained in the provisions of this Contract that precede the signature page(s), which evidences the parties' execution.

34. Company agrees that all iron or steel products produced through a manufacturing process and used in the project that is the subject of this Contract shall be produced in the United States in accordance with Government Code § 2252.202, et seq., as amended.

EXECUTED IN DUPLICATE the day and year first above mentioned.

THE CITY OF MIDLAND, TEXAS

By: _____
Tommy Gonzalez, City Manager

ATTEST

Marcia Bentley-German, City Governance Officer/City Secretary

APPROVED ONLY AS TO FORM

John Ohnemiller, City Attorney

COMPANY:

By: _____

Name: _____

Title: _____

STATE OF _____ §

§

COUNTY OF _____ §

BEFORE ME, the undersigned authority, on this ____ day of _____, 20____ personally appeared, _____, an officer of Onyx General Contractors, LLC, known to me to be the person and official whose name is subscribed to the forgoing instrument, and acknowledged to me that he executed the same as the act and deed of said corporation, for the purposes and consideration therein expressed, and in the capacity therein stated.

GIVEN UNDER MY HAND AND SEAL OF OFFICE this the ____ day of _____, 20____.

EXHIBIT C

Bonding Requirements

The successful bidder shall be required to furnish a Performance & Payment Bond* for bids in excess of \$50,000.00, in an amount equal to one hundred percent (100%) of the total contract price, such bond to be executed in five (5) original counterparts by a Corporate Surety authorized to do business in the State of Texas and acceptable to the City of Midland. All bonds must be executed on forms contained in these contract documents. The form of agreement which the successful bidder, as contractor, will be required to execute is also included herewith. The form of agreement and the form of the bonds should be carefully examined by the bidder.

A certified check, cashier's check, bank money order, or irrevocable letter of credit issued by a bank satisfactory to the City, or a bidder's bond on the form provided, in the amount of five percent (5%) of the largest possible lump sum bid submitted, payable without recourse to the City, must accompany the bidder's proposal, as a guaranty that the bidder will enter a contract and execute the required payment bond and guaranty in the forms provided within fifteen (15) days after notice of award of contract to him. Bids or proposals without the required bid guaranty will not be considered. All bid sureties and payment bonds shall name the City of Midland as Obligee.

*A cash security such as a cashier's check or irrevocable letter of credit issued by a bank satisfactory to the City for 100 % of the contract amount may be supplied in lieu of the Performance and Payment Bonds. The check will be returned un-cashed upon satisfactory completion of the work and evidence of payment of all obligations due for the contract.

PERFORMANCE BOND

THE STATE OF TEXAS §

COUNTY OF MIDLAND §

SURETY NO _____

KNOW ALL MEN BY THESE PRESENTS, THAT _____ (Hereinafter called the Principal[s]), as Principal(s), and _____ (Hereinafter called the Surety), as Surety, are held and firmly bound unto the City of Midland, Texas a home rule municipal corporation of Midland County, Texas, (hereinafter called the Obligee), in the amount of _____ DOLLARS (\$_____) for the payment whereof the said Principal and surety bind themselves, and their heirs, administrators, executors, successors and assigns, jointly and severally, firmly by these presents.

WHEREAS, the Principal has entered into a certain written contract with the Obligee, dated the _____ day of _____, 20____, for the furnishing of materials and equipment to perform all labor and work necessary for the construction of _____, specifically including in the scope of this work and bond, the additional maintenance guaranty provisions set forth in the contract conditions, which contract is hereby referred to and made a part hereof as fully and to the same extent as if copies at length herein, as well as the Principal's primary obligation to perform according to plans and specifications.

NOW, THEREFORE, THE CONDITION OF THIS OBLIGATION IS SUCH, that if the said Principal shall faithfully perform the work in accordance with the plans, specifications, instructions to bidder, general and special conditions and other contract documents, including any addendum thereto, then this obligation shall be void; otherwise to remain in full force and effect.

PROVIDED further that if any legal action be filed upon this Bond venue shall lie in Midland County, State of Texas.

Surety, for value received, stipulates and agrees that no change, extension of time, alteration or addition to the terms of the contract, or to the work performed thereunder, or the plans, specifications or drawings accompanying the same, or any assignment of the contract as may be provided for in the instructions to bidders, shall in anywise affect its obligation on this Bond, and it does waive notice of any such change, extension of time, alteration or addition to the terms of the contract, assignment thereof, or the work to be performed thereunder.

IN WITNESS WHEREOF, the said Principal and surety do sign and seal this instrument, this

_____ day of _____, 20__.

Principal

Surety

By _____

By _____

Address _____

Address _____

APPROVED AS TO FORM:

City Attorney

NOTE: Attach Power of Attorney

PAYMENT BOND

THE STATE OF TEXAS §

COUNTY OF MIDLAND §

SURETY NO _____

KNOW ALL MEN BY THESE PRESENTS, THAT
_____ of the City of
_____ of the County of _____ and State of Texas
as Principal, and _____, as Surety, are held and
firmly bound unto the City of Midland, Texas, as Oblige, in the amount of
_____ DOLLARS
(\$ _____) for the payment whereof the said Principal and Surety bind themselves, their heirs,
administrators, executors, successors and assigns, jointly and severally, firmly by these presents.

WHEREAS, the Principal has entered into a certain written contract with the Oblige, dated the _____
day of _____, 20____, for the furnishing of materials, equipment to perform all labor and work
necessary for _____, hereof as fully and to the
same extent as if copied at length herein.

NOW, THEREFORE, the condition of the obligation is that if the said Principal shall pay all claimants
supplying labor and material to him or a subcontractor in the prosecution of the work provided for in said
contract, then this obligation shall be null and void; otherwise, it is to remain in full force and effect.

Surety, for value received, stipulates and agrees that no change, extension of time alteration or addition
to the terms of the contract, or to the work performed there under, or the plans, specifications of drawings
accompanying the same, or any assignment of the contract as may be provided for in the instructions to bidders,
shall in anywise affect its obligation on this Bond, and it does waive notice of any such change, extension of

time, alteration or addition to the terms of the contract, assignment thereof, or to the work to be performed there under.

IN WITNESS WHEREOF the said Principal and Surety have signed and sealed this instrument, this

_____ day of _____, 20__.

Principal

Surety

By _____

By _____

Address _____

Address _____

APPROVED AS TO FORM:

City Attorney

NOTE: Attach Power of Attorney

EXHIBIT D – BUILDING WAGE RATES rev 01-01-21

General Decision Number: TX20210261 01/01/2021

Superseded General Decision Number: TX20200261

State: Texas

Construction Type: Building

County: Midland County in Texas.

BUILDING CONSTRUCTION PROJECTS (does not include single family homes or apartments up to and including 4 stories).

Note: Under Executive Order (EO) 13658, an hourly minimum wage of \$10.95 for calendar year 2021 applies to all contracts subject to the Davis-Bacon Act for which the contract is awarded (and any solicitation was issued) on or after January 1, 2015. If this contract is covered by the EO, the contractor must pay all workers in any classification listed on this wage determination at least \$10.95 per hour (or the applicable wage rate listed on this wage determination, if it is higher) for all hours spent performing on the contract in calendar year 2021. If this contract is covered by the EO and a classification considered necessary for performance of work on the contract does not appear on this wage determination, the contractor must pay workers in that classification at least the wage rate determined through the conformance process set forth in 29 CFR 5.5(a)(1)(ii) (or the EO minimum wage rate, if it is higher than the conformed wage rate). The EO minimum wage rate will be adjusted annually. Please note that this EO applies to the above-mentioned types of contracts entered into by the federal government that are subject to the Davis-Bacon Act itself, but it does not apply to contracts subject only to the Davis-Bacon Related Acts, including those set forth at 29 CFR 5.1(a)(2)-(60). Additional information on contractor requirements and worker protections under the EO is available at www.dol.gov/whd/govcontracts.

Modification Number Publication Date

0 01/01/2021

BOIL0074-003 01/01/2017

	Rates	Fringes
BOILERMAKER.....	\$ 28.00	22.35

ENGI0178-005 06/01/2020

	Rates	Fringes
POWER EQUIPMENT OPERATOR		
(1) Tower Crane.....	\$ 32.85	13.10
(2) Cranes with Pile Driving or Caisson Attachment and Hydraulic Crane 60 tons and above.....	\$ 28.75	10.60
(3) Hydraulic cranes 59 Tons and under.....	\$ 32.35	13.10

* IRON0084-011 06/01/2020

	Rates	Fringes
IRONWORKER, ORNAMENTAL.....	\$ 25.26	7.13

* PLUM0404-001 09/01/2020

	Rates	Fringes
PLUMBER.....	\$ 26.05	8.81

SUTX2014-037 07/21/2014

	Rates	Fringes
BRICKLAYER.....	\$ 20.00	0.00
CARPENTER.....	\$ 13.82	0.00
CEMENT MASON/CONCRETE FINISHER...	\$ 13.76	0.00
ELECTRICIAN.....	\$ 23.18	6.31
INSULATOR - MECHANICAL		
(Duct, Pipe & Mechanical System Insulation)....	\$ 19.77	7.13
IRONWORKER, REINFORCING.....	\$ 12.27	0.00

IRONWORKER, STRUCTURAL.....	\$ 22.16	5.26
LABORER: Common or General.....	\$ 11.80	0.00
LABORER: Mason Tender - Brick.....	\$ 11.38	0.00
LABORER: Mason Tender - Cement/Concrete.....	\$ 10.58	0.00
LABORER: Pipelayer.....	\$ 12.49	2.13
LABORER: Roof Tearoff.....	\$ 11.28	0.00
OPERATOR: Backhoe/Excavator/Trackhoe.....	\$ 14.25	0.00
OPERATOR: Bobcat/Skid Steer/Skid Loader.....	\$ 13.93	0.00
OPERATOR: Bulldozer.....	\$ 18.29	1.31
OPERATOR: Drill.....	\$ 16.22	0.34
OPERATOR: Forklift.....	\$ 14.83	0.00
OPERATOR: Grader/Blade.....	\$ 13.37	0.00
OPERATOR: Loader.....	\$ 13.55	0.94
OPERATOR: Mechanic.....	\$ 17.52	3.33
OPERATOR: Paver (Asphalt, Aggregate, and Concrete).....	\$ 16.03	0.00
OPERATOR: Roller.....	\$ 12.70	0.00
PAINTER (Brush, Roller, and Spray).....	\$ 15.00	0.73
PIPEFITTER.....	\$ 25.80	8.55
ROOFER.....	\$ 14.75	0.00
SHEET METAL WORKER (HVAC Duct Installation Only).....	\$ 22.73	7.52
SHEET METAL WORKER, Excludes HVAC Duct Installation.....	\$ 19.50	0.00

TILE FINISHER.....	\$ 11.22	0.00
TILE SETTER.....	\$ 14.74	0.00
TRUCK DRIVER: Dump Truck.....	\$ 12.39	1.18
TRUCK DRIVER: Flatbed Truck.....	\$ 19.65	8.57
TRUCK DRIVER: Semi-Trailer Truck.....	\$ 12.50	0.00
TRUCK DRIVER: Water Truck.....	\$ 12.00	4.11

WELDERS - Receive rate prescribed for craft performing operation to which welding is incidental.

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Note: Executive Order (EO) 13706, Establishing Paid Sick Leave for Federal Contractors applies to all contracts subject to the Davis-Bacon Act for which the contract is awarded (and any solicitation was issued) on or after January 1, 2017. If this contract is covered by the EO, the contractor must provide employees with 1 hour of paid sick leave for every 30 hours they work, up to 56 hours of paid sick leave each year. Employees must be permitted to use paid sick leave for their own illness, injury or other health-related needs, including preventive care; to assist a family member (or person who is like family to the employee) who is ill, injured, or has other health-related needs, including preventive care; or for reasons resulting from, or to assist a family member (or person who is like family to the employee) who is a victim of, domestic violence, sexual assault, or stalking. Additional information on contractor requirements and worker protections under the EO is available at www.dol.gov/whd/govcontracts. Unlisted classifications needed for work not included within the scope of the classifications listed may be added after award only as provided in the labor standards contract clauses

(29CFR 5.5 (a) (1) (ii)).

EXHIBIT D – Heavy and Highway Wage Rates rev 01-01-21

"General Decision Number: TX20210002 01/01/2021

Superseded General Decision Number: TX20200002

State: Texas

Construction Types: Heavy and Highway

Counties: Armstrong, Carson, Crosby, Ector, Irion, Lubbock, Midland, Potter, Randall, Taylor and Tom Green Counties in Texas.

HEAVY & HIGHWAY CONSTRUCTION PROJECTS

Note: Under Executive Order (EO) 13658, an hourly minimum wage of \$10.95 for calendar year 2021 applies to all contracts subject to the Davis-Bacon Act for which the contract is awarded (and any solicitation was issued) on or after January 1, 2015. If this contract is covered by the EO, the contractor must pay all workers in any classification listed on this wage determination at least \$10.95 per hour (or the applicable wage rate listed on this wage determination, if it is higher) for all hours spent performing on the contract in calendar year 2021. If this contract is covered by the EO and a classification considered necessary for performance of work on the contract does not appear on this wage determination, the contractor must pay workers in that classification at least the wage rate determined through the conformance process set forth in 29 CFR 5.5(a)(1)(ii) (or the EO minimum wage rate, if it is higher than the conformed wage rate). The EO minimum wage rate will be adjusted annually. Please note that this EO applies to the above-mentioned types of contracts entered into by the federal government that are subject to the Davis-Bacon Act itself, but it does not apply to contracts subject only to the Davis-Bacon Related Acts, including those set forth at 29 CFR 5.1(a)(2)-(60). Additional information on contractor requirements and worker protections under the EO is available at www.dol.gov/whd/gov contracts.

Modification Number Publication Date

0 01/01/2021

* SUTX2011-002 08/02/2011

	Rates	Fringes
CEMENT MASON/CONCRETE		
FINISHER (Paving & Structures).....	\$ 13.55	
ELECTRICIAN.....	\$ 20.96	
FORM BUILDER/FORM SETTER		
Paving & Curb.....	\$ 12.36	

Structures.....\$ 13.52

LABORER

Asphalt Raker.....\$ 12.28
Flagger.....\$ 9.30
Laborer, Common.....\$ 10.30
Laborer, Utility.....\$ 11.80
Work Zone Barricade Servicer.....\$ 10.30

POWER EQUIPMENT OPERATOR:

Asphalt Distributer.....\$ 14.87
Asphalt Paving Machine.....\$ 13.40
Broom and Sweeper.....\$ 11.21
Crane, Lattice Boom 80 Tons or Less.....\$ 16.82
Crawler Tractor Operator.....\$ 13.96
Excavator, 50,000 lbs or less.....\$ 13.46
Front End Loader Operator, Over 3 CY.....\$ 12.77
Front End Loader, 3CY or less.....\$ 12.28
Loader/Backhoe.....\$ 14.18
Mechanic.....\$ 20.14
Milling Machine.....\$ 15.54
Motor Grader, Rough.....\$ 16.15
Motor Grader, Fine.....\$ 17.49
Pavement Marking Machine.....\$ 16.42
Reclaimer/Pulverizer.....\$ 12.85
Roller, Asphalt.....\$ 10.95
Roller, Other.....\$ 10.36
Scraper.....\$ 10.61
Spreader Box.....\$ 12.60

Servicer.....\$ 13.98

Steel Worker (Reinforcing).....\$ 13.50

TRUCK DRIVER

Lowboy-Float.....\$ 14.46
Single Axle.....\$ 12.74
Single or Tandem Axle Dump.....\$ 11.33
Tandem Axle Tractor with Semi.....\$ 12.49

WELDERS - Receive rate prescribed for craft performing operation to which welding is incidental.

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Note: Executive Order (EO) 13706, Establishing Paid Sick Leave for Federal Contractors applies to all contracts subject to the Davis-Bacon Act for which the contract is awarded (and any solicitation was issued) on or after January 1, 2017. If this contract is covered by the EO, the contractor must provide employees with 1 hour of paid sick leave for every 30 hours they work, up to 56 hours of paid sick leave each year. Employees must be permitted to use paid sick leave for their own illness, injury or other health-related needs, including preventive care; to assist a family member (or person who is like family to the employee) who is ill, injured, or has other health-related needs, including preventive care; or for reasons resulting from, or to assist a family member (or person who is like family to the employee) who is a victim of, domestic violence, sexual assault, or stalking. Additional information on contractor requirements and worker protections under the EO is available at www.dol.gov/whd/govcontracts. Unlisted classifications needed for work not included within the scope of the classifications listed may be added after award only as provided in the labor standards contract clauses

(29CFR 5.5 (a) (1) (ii)).

The body of each wage determination lists the classification and wage rates that have been found to be prevailing for the cited type(s) of construction in the area covered by the wage determination. The classifications are listed in alphabetical order of ""identifiers"" that indicate whether the particular rate is a union rate (current union negotiated rate for local), a survey rate (weighted average rate) or a union average rate (weighted union average rate).

Union Rate Identifiers

A four letter classification abbreviation identifier enclosed in dotted lines beginning with characters other than ""SU"" or ""UAVG"" denotes that the union classification and rate were prevailing for that classification in the survey. Example: PLUM0198-005 07/01/2014. PLUM is an abbreviation identifier of the union which prevailed in the survey for this classification, which in this example would be Plumbers. 0198 indicates the local union number or district council number where applicable, i.e., Plumbers Local 0198. The next number, 005 in the example, is an internal number used in processing the wage determination. 07/01/2014 is the effective date of the most current negotiated rate, which in this example is July 1, 2014.

Union prevailing wage rates are updated to reflect all rate changes in the collective bargaining agreement (CBA) governing this classification and rate.

Survey Rate Identifiers

Classifications listed under the ""SU"" identifier indicate that no one rate prevailed for this classification in the survey and the published rate is derived by computing a weighted average rate based on all the rates reported in the survey for that classification. As this weighted average rate

includes all rates reported in the survey, it may include both union and non-union rates. Example: SULA2012-007 5/13/2014. SU indicates the rates are survey rates based on a weighted average calculation of rates and are not majority rates. LA indicates the State of Louisiana. 2012 is the year of survey on which these classifications and rates are based. The next number, 007 in the example, is an internal number used in producing the wage determination. 5/13/2014 indicates the survey completion date for the classifications and rates under that identifier.

Survey wage rates are not updated and remain in effect until a new survey is conducted.

Union Average Rate Identifiers

Classification(s) listed under the UAVG identifier indicate that no single majority rate prevailed for those classifications; however, 100% of the data reported for the classifications was union data. EXAMPLE: UAVG-OH-0010 08/29/2014. UAVG indicates that the rate is a weighted union average rate. OH indicates the state. The next number, 0010 in the example, is an internal number used in producing the wage determination. 08/29/2014 indicates the survey completion date for the classifications and rates under that identifier.

A UAVG rate will be updated once a year, usually in January of each year, to reflect a weighted average of the current negotiated/CBA rate of the union locals from which the rate is based.

WAGE DETERMINATION APPEALS PROCESS

1.) Has there been an initial decision in the matter? This can be:

- * an existing published wage determination
- * a survey underlying a wage determination
- * a Wage and Hour Division letter setting forth a position on a wage determination matter
- * a conformance (additional classification and rate) ruling

On survey related matters, initial contact, including requests for summaries of surveys, should be with the Wage and Hour Regional Office for the area in which the survey was conducted because those Regional Offices have responsibility for the Davis-Bacon survey program. If the response from this initial contact is not satisfactory, then the process described in 2.) and 3.) should be followed.

With regard to any other matter not yet ripe for the formal process described here, initial contact should be with the Branch of Construction Wage Determinations. Write to:

Branch of Construction Wage Determinations
Wage and Hour Division
U.S. Department of Labor
200 Constitution Avenue, N.W.
Washington, DC 20210

2.) If the answer to the question in 1.) is yes, then an interested party (those affected by the action) can request review and reconsideration from the Wage and Hour Administrator (See 29 CFR Part 1.8 and 29 CFR Part 7). Write to:

Wage and Hour Administrator
U.S. Department of Labor
200 Constitution Avenue, N.W.
Washington, DC 20210

The request should be accompanied by a full statement of the interested party's position and by any information (wage payment data, project description, area practice material, etc.) that the requestor considers relevant to the issue.

3.) If the decision of the Administrator is not favorable, an interested party may appeal directly to the Administrative Review Board (formerly the Wage Appeals Board). Write to:

Administrative Review Board
U.S. Department of Labor
200 Constitution Avenue, N.W.
Washington, DC 20210

4.) All decisions by the Administrative Review Board are final.

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END OF GENERAL DECISION

IMPORTANT NOTICE

Conflict Of Interest Reporting Requirements

Compliance with LOCAL GOVERNMENT CODE TITLE 5. MATTERS AFFECTING PUBLIC OFFICERS AND EMPLOYEES SUBTITLE C. MATTERS AFFECTING PUBLIC OFFICERS AND EMPLOYEES OF MORE THAN ONE TYPE OF LOCAL GOVERNMENT CHAPTER 176. DISCLOSURE OF CERTAIN RELATIONSHIPS WITH LOCAL GOVERNMENT OFFICERS; PROVIDING PUBLIC ACCESS TO CERTAIN INFORMATION.

Form CIQ: This questionnaire reflects changes made to the law by H.B. 23, 84th Leg., Regular Session. This questionnaire shall be filed in accordance with Chapter 176, Local Government Code, by a vendor who has a business relationship as defined by Section 176.001(1-a) with a local governmental entity and the vendor meets requirements under Section 176.006(a). By law this questionnaire must be filed with the records administrator of the local governmental entity not later than the 7th business day after the date the vendor becomes aware of facts that require the statement to be filed. See Section 176.006(a-1), Local Government Code. A vendor commits an offense if the vendor knowingly violates Section 176.006, Local Government Code. An offense under this section is a misdemeanor.

Bidders are responsible for filing Conflict of Interest form "CIQ" in accordance with the above referenced statute. Failure to do so is a class C Misdemeanor. Contracts or Purchase Orders awarded to a vendor that has violated this law is subject to termination at such time that the violation is discovered with no recourse to the City of Midland. The bidder will be subsequently removed from the bidders list for a minimum of one year.

When there is no known conflict of interest as defined by the statute, it is not necessary to file/submit the Form CIQ. The form must be submitted if a conflict is subsequently discovered.

By submitting a response to this request, vendor represents that it complies with the requirements of Chapter 176 of the Texas Local Government Code.

For a current list of the local government officers go to: <http://www.midlandtexas.gov/>

Upon completion of the form, sign and submit with bid or mail to:

City of Midland
Attn: City Secretary
PO Box 1152
Midland, Texas 79702

CONFLICT OF INTEREST QUESTIONNAIRE

For vendor doing business with local governmental entity

FORM CIQ

This questionnaire reflects changes made to the law by H.B. 23, 84th Leg., Regular Session.

This questionnaire is being filed in accordance with Chapter 176, Local Government Code, by a vendor who has a business relationship as defined by Section 176.001(1-a) with a local governmental entity and the vendor meets requirements under Section 176.006(a).

By law this questionnaire must be filed with the records administrator of the local governmental entity not later than the 7th business day after the date the vendor becomes aware of facts that require the statement to be filed. See Section 176.006(a-1), Local Government Code.

A vendor commits an offense if the vendor knowingly violates Section 176.006, Local Government Code. An offense under this section is a misdemeanor.

OFFICE USE ONLY

Date Received

1 Name of vendor who has a business relationship with local governmental entity.

2 Check this box if you are filing an update to a previously filed questionnaire. (The law requires that you file an updated completed questionnaire with the appropriate filing authority not later than the 7th business day after the date on which you became aware that the originally filed questionnaire was incomplete or inaccurate.)

3 Name of local government officer about whom the information is being disclosed.

Name of Officer

4 Describe each employment or other business relationship with the local government officer, or a family member of the officer, as described by Section 176.003(a)(2)(A). Also describe any family relationship with the local government officer. Complete subparts A and B for each employment or business relationship described. Attach additional pages to this Form CIQ as necessary.

A. Is the local government officer or a family member of the officer receiving or likely to receive taxable income, other than investment income, from the vendor?

☐

Yes

☐

No

B. Is the vendor receiving or likely to receive taxable income, other than investment income, from or at the direction of the local government officer or a family member of the officer AND the taxable income is not received from the local governmental entity?

☐

Yes

☐

No

5 Describe each employment or business relationship that the vendor named in Section 1 maintains with a corporation or other business entity with respect to which the local government officer serves as an officer or director, or holds an ownership interest of one percent or more.

6 ☐ Check this box if the vendor has given the local government officer or a family member of the officer one or more gifts as described in Section 176.003(a)(2)(B), excluding gifts described in Section 176.003(a-1).

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~~PACKET~~ ~~7/18/11~~ ~~Vendor doing business with the governmental entity~~

~~September 12, 2023~~

CONFLICT OF INTEREST QUESTIONNAIRE

For vendor doing business with local governmental entity

A complete copy of Chapter 176 of the Local Government Code may be found at <http://www.statutes.legis.state.tx.us/Docs/LG/htm/LG.176.htm>. For easy reference, below are some of the sections cited on this form.

Local Government Code § 176.001(1-a): "Business relationship" means a connection between two or more parties based on commercial activity of one of the parties. The term does not include a connection based on:

- (A) a transaction that is subject to rate or fee regulation by a federal, state, or local governmental entity or an agency of a federal, state, or local governmental entity;
- (B) a transaction conducted at a price and subject to terms available to the public; or
- (C) a purchase or lease of goods or services from a person that is chartered by a state or federal agency and that is subject to regular examination by, and reporting to, that agency.

Local Government Code § 176.003(a)(2)(A) and (B):

(a) A local government officer shall file a conflicts disclosure statement with respect to a vendor if:

(2) the vendor:

(A) has an employment or other business relationship with the local government officer or a family member of the officer that results in the officer or family member receiving taxable income, other than investment income, that exceeds \$2,500 during the 12-month period preceding the date that the officer becomes aware that

(i) a contract between the local governmental entity and vendor has been executed;
or

(ii) the local governmental entity is considering entering into a contract with the vendor;

(B) has given to the local government officer or a family member of the officer one or more gifts that have an aggregate value of more than \$100 in the 12-month period preceding the date the officer becomes aware that:

- (i) a contract between the local governmental entity and vendor has been executed; or
- (ii) the local governmental entity is considering entering into a contract with the vendor.

Local Government Code § 176.006(a) and (a-1)

(a) A vendor shall file a completed conflict of interest questionnaire if the vendor has a business relationship with a local governmental entity and:

(1) has an employment or other business relationship with a local government officer of that local governmental entity, or a family member of the officer, described by Section 176.003(a)(2)(A);

(2) has given a local government officer of that local governmental entity, or a family member of the officer, one or more gifts with the aggregate value specified by Section 176.003(a)(2)(B), excluding any gift described by Section 176.003(a-1); or

(3) has a family relationship with a local government officer of that local governmental entity.

(a-1) The completed conflict of interest questionnaire must be filed with the appropriate records administrator not later than the seventh business day after the later of:

(1) the date that the vendor:

(A) begins discussions or negotiations to enter into a contract with the local governmental entity; or

(B) submits to the local governmental entity an application, response to a request for proposals or bids, correspondence, or another writing related to a potential contract with the local governmental entity; or

(2) the date the vendor becomes aware:

(A) of an employment or other business relationship with a local government officer, or a family member of the officer, described by Subsection (a);

(B) that the vendor has given one or more gifts described by Subsection (a); or

(C) of a family relationship with a local government officer.

**Consideration of Location of Bidder's Principal Place of Business
For Bids of \$50,000 up to \$100,000 for Services and \$500,000 for Commodities**

Affidavit of Eligibility

Pursuant to Texas Local Government Code 271.9051, in purchasing real property, personal property that is not affixed to real property, or services, if the City receives one or more bids from a bidder whose principal place of business is in the City of Midland and whose bid is within five percent (5%) of the lowest bid price received by the City from a bidder who is not a resident of the City of Midland, the City may enter into a contract with:

- (1) the lowest bidder; or
- (2) the bidder whose principal place of business is in the City of Midland if the City Council determines, in writing, that the local bidder offers the City the best combination of contract price and additional economic development opportunities for the City of Midland created by the contract award, including the employment of residents of the City of Midland and increased tax revenues to the City of Midland.

In order to receive consideration, bidders must submit this affidavit to:

Erika Martinez
Purchasing Manager
City of Midland
300 N. Loraine St.,
PO BOX 1152
Midland, TX 79702-1152

Complete all areas below. Incomplete affidavits may be rejected.

Local Business Name: _____

Local Address (must be within the City limits): _____

1. Is the above address the principal place of business for the business named above? ☐ Yes ☐ No
2. How many residents of the City of Midland are employed at the above business location? _____
3. Year your business was established in the City of Midland: _____
4. If you collect sales tax for ANY class of customer, provide the following Reseller information:

Reseller Permit Number: _____

Company Name and Address (as it appears on permit):

5. Does your business have more than one office in the State of Texas? ☐ Yes ☐ No
If Yes, identify the office location considered as the point-of sale for the purpose of sales tax calculation:

6. Was the local business required to pay business and/or real property tax for the most recent tax year?
☐ Yes ☐ No

If Yes, did the local business pay any of this tax to the City of Midland? ☐ Yes ☐ No

Under penalty of perjury, the undersigned states that the foregoing statements are true and correct. It is further acknowledged that any person, firm, corporation or entity intentionally submitting false information to the City in an attempt to qualify for eligibility shall be prohibited from bidding on City of Midland products and services for a period of one (1) year.

Authorized Signature: _____ Date: _____

Printed Name and Title: _____

IMPORTANT: READ CAREFULLY BEFORE MAKING BID
GENERAL CONDITIONS OF BIDDING

1. All bids are to be submitted as specified in the procurement document(s).
2. Each Bidder is requested to provide: Descriptive literature clearly marked to show each item on this bid. Any catalog or manufacturer's reference in this proposal is descriptive, but not restrictive, and is used only to indicate type and quality. If, however, the bidder proposes similar but not identical terms, he must furnish all particulars. If no mention is made of any exceptions, it is assumed that he is bidding on the article specified and not on an approved equal and he will be required to deliver exact article specified.
3. Prices should be itemized. (Indicate unit price and extend to show total price.) In case of discrepancy between the unit price and the extension, the unit price shall govern.
4. Unit price for each item offered shall include all discounts; e.g., trade, seasonal, etc. with net 30 days payment terms. Discounts shall not be shown as such but shall be incorporated in the base bid price. Any bid showing discounts will be considered an alternate bid. The City of Midland will not be responsible for any goods delivered without a purchase order number.
5. If the Contract is awarded, it will be awarded to either the lowest responsible bidder, or to the bidder who provides goods or services at the best value for the City of Midland. In determining the best value for the City of Midland, the City of Midland may consider the criteria enumerated in Section 252.043 of the Texas Local Government Code. The City of Midland reserves the right to award by item or by total bid, or to reject any or all bids or parts of bids. Further, the City of Midland reserves all rights granted by Section 271.027 of the Texas Local Government Code. The City of Midland reserves the right to award the bid to the lowest responsible bidder.
6. Time of proposed delivery shall be stated in number of calendar days.
7. NOTE: The City of Midland, Texas is exempt from all Federal, State and City tax. Please do not include these taxes in your bid price or invoice. Taxable items must be so designated, and the City will supply vendor with a Tax Exemption Certificate, properly executed.
8. All items are to be delivered, unloaded and stacked at the location indicated on the Bid Request and Purchase Order.
9. All items are to be delivered F.O.B. to the City of Midland, Texas with freight prepaid and included in the bid.
10. Detailed specifications rule over General specifications (headings, etc.)
11. The City of Midland reserves the right to remove a company from the bid list for (1) continued failure to respond to request for bids, (2) failure to deliver merchandise within promised time, or (3) delivery of substandard merchandise.
12. No officer or employee of the City shall have a financial interest, direct or indirect, in any contract with the City, or be financially interested, directly or indirectly, in the sale to the City of any lands, materials, supplies or services except as allowed under chapter 176 of the Local Government Code. Form CIQ shall be submitted and placed on file with the City of Midland.
13. The City shall determine the most advantageous bid for the City and accept the proposal of the responsible party submitting the lowest and/or most advantageous bid or reject any and all bids.
14. The City of Midland, Texas may consider as informal any bid not prepared and submitted in accordance with the provisions hereof, and may waive, in its sole discretion, any informalities.

STANDARD PURCHASE TERMS AND CONDITIONS
PURCHASING DIVISION, CITY OF MIDLAND, TEXAS

"Seller", as used herein, has the same meaning as "Company". "Buyer", as used herein, has the same meaning as "City".

Seller and Buyer agree as follows:

1. SELLER TO PACKAGE GOODS - Seller will package goods in accordance with good commercial practice. Each shipping container shall be clearly and permanently marked as follows; (a) Seller's name and address, (b) Consignee's name, and address, and purchase order number, (c) Container number and total number of containers, e.g. box 1 of 4 boxes, and (d) the number of the container bearing the packing slip. Seller shall bear cost of packaging unless otherwise provided. Goods shall be suitably packed to secure lowest transportation costs and to conform with requirements of common carriers and any applicable specifications. Buyer's count or weight shall be final and conclusive on shipments not accompanied by packing lists.

2. SHIPMENT UNDER RESERVATION PROHIBITED - Seller is not authorized to ship the goods under reservation and no tender of a bill of lading will serve as a tender of goods.

3. TITLE & RISK OF LOSS - The title and risk of loss of the goods shall not pass to Buyer until Buyer actually receives and takes possession of the goods at the point or points of delivery in Midland, Texas.

4. NO REPLACEMENT OF DEFECTIVE TENDER - Every tender or delivery of goods must fully comply with all provisions of this contract as to time of delivery, quality and the like. If a tender is made which does not fully conform, this shall constitute a breach and Seller shall not have the right to substitute a conforming tender, provided, where the time for performance has yet expired, the Seller may reasonably notify Buyer of his intention to cure and may then make a conforming tender within the contract time but not afterward.

5. PLACE OF DELIVERY - The place of delivery shall be that set forth in the block of the purchase order entitled "deliver to".

6. INVOICES - Seller shall submit separate ORIGINAL invoices, on each purchase order. Invoices shall indicate the purchase order number. All invoices must be mailed to City of Midland, Accounts Payable, P.O. Box 1152, Midland, TX 79702-1152. Payment will be made within 30 days from the date the invoice and properly executed receiving documents are received by City of Midland, Accounts Payable at the above address. Invoices sent to any other address will delay payment.

7. GRATUITIES - The buyer may, by written notice to the seller, cancel this contract without liability to Seller, if it is determined by Buyer that gratuities, in the form of entertainment, gifts, or otherwise, were offered or given by the seller, or any agent or representative of the Seller, to any officer or employee of the City of Midland with a view toward securing a contract or securing favorable treatment with respect to performing of such a contract. In the event this contract is cancelled by Buyer pursuant to this provision, Buyer shall be entitled, in addition to any other rights and remedies, to recover or withhold the amount of the cost incurred by Seller in providing such gratuities.

8. WARRANTY - PRICE -

a. The price to be paid by the Buyer shall be that contained in Seller's bid which Seller warrants to be no higher than Seller's current prices on order by others for products of the kind and specifications covered by this agreement for similar quantities under similar or like conditions and methods of purchase. In the event Seller breaches this warranty, the prices of the items shall be reduced to the Seller's current prices on order by others, or in the alternative, Buyer may cancel this contract without liability to Seller for breach or Seller's actual expense.

b. The Seller warrants that no person or selling agency has been employed or retained to solicit or secure this contract upon an agreement or understanding for commission, percentage, brokerage, or contingent fee excepting bona fide employees or bona fide established commercial or selling agencies maintained by the Seller for the purpose of securing business. For breach or violation of this warranty the Buyer shall have the right or rights to cancel this contract without liability and to deduct from the contract price, or otherwise recover the full amount of such commission, percentage, brokerage or contingent fee.

9. WARRANTY - PRODUCT - Seller shall not limit or exclude any implied warranties and any attempt to do so shall render this contract voidable at the option of the Buyer. Seller warrants that the goods furnished will conform to the specification, drawings, and description listed in the bid invitation, and to the sample(s) furnished by Seller, if any. In the event of a conflict between the specifications, drawings and descriptions, the specifications shall govern.

10. SAFETY WARRANTY - Seller warrants that the product sold to Buyer shall conform to the standards promulgated by the U.S. Department of Labor under the Occupational Safety and Health Act of 1970. In the event the product does not conform to OSHA standards, Buyer may return the product for correction or replacement at the Seller's expense. In the event Seller fails to make the appropriate correction within a reasonable time, correction made by buyer will be at Seller's expense.

11. RIGHT OF INSPECTION - Buyer shall have the right to inspect the goods at delivery before accepting them.

12. CANCELLATION - Buyer shall have the right to cancel for default all or any part of the undelivered portion of this order if Seller breached any of the terms hereof including warranties of Seller if the Seller becomes insolvent or commits acts of bankruptcy. Such right of cancellation is in addition to and not in lieu of any other remedies which Buyer may have in law or equity.

13. TERMINATION - The performance of work under this order may be terminated in whole, or in part by the Buyer in accordance with this provision. Termination of work hereunder shall be effected by the delivery to Seller of a "Notice of Termination" specifying the extent to which performance of work under the order is terminated and the date upon which such termination becomes effective. Such right of termination is in addition to and not in lieu of the rights of Buyer set forth in Clause 13, herein.

14. FORCE MAJEURE - Neither party shall be held responsible for losses, resulting if the fulfillment of any terms or provisions of this contract is delayed or prevented by any cause not within the control of the party whose performance is interfered with, and which by the exercise of reasonable diligence said party is unable to prevent.

15. ASSIGNMENT - DELEGATION - No right or interest in this contract shall be assigned or delegation of any obligation made by Seller without the written permission of the Buyer. Any attempted assignment or delegation by the Seller shall be wholly void and totally ineffective for all purposes unless made in conformity with this paragraph.

16. MODIFICATIONS - This contract can be modified or rescinded only by a writing signed by both of the parties or their duly authorized agents.

17. INTERPRETATION - PAROL EVIDENCE - This writing, plus any specifications for bids and performance provided by Buyer in its advertisement for bids, is intended by the parties as a final expression of this agreement. No course of prior dealings between the parties and no usage of the trade shall be relevant to supplement or explain any term used in this agreement. Acceptance or acquiescence in a course of performance rendered under this agreement shall not be relevant to determine the meaning of this agreement even though the accepting or acquiescing party has knowledge of the performance and opportunity for objection. Whenever a term defined by the Uniform Commercial Code is used in this agreement, the definition contained in the Code is to control.

18. ADVERTISING - Seller shall not advertise or publish without Buyer's prior consent the fact that Buyer has entered into the contract, except to the extent necessary to comply with proper requests for information from an authorized representative of the federal, state or local government.

19. RIGHT TO ASSURANCE - Whenever one party to the contract in good faith has reason to question the other party's intent to perform he may demand that the other party give written assurance of this intent to perform. In the event that a demand is made and no assurance is given within five (5) days, the demanding party may treat this failure as an anticipatory repudiation of the contract.

20. PROTECTION AGAINST ROYALTIES OR PATENT INFRINGEMENT - The Seller shall pay all royalties and license fees, and shall provide for the use of any design, device, material or process covered by letters patent or copyright by suitable legal agreement with Patentee or Owner thereof. The Seller shall defend all suits or claims for infringement of any patent or copyrights and shall indemnify and save the Buyer harmless from any loss on account thereof, except that Buyer shall defend all such suits and claims and shall be responsible for all such loss when a particular design, device, material or process is allowed to the Seller, the Seller shall indemnify and save Buyer harmless from any loss on account thereof. If the material or process specified or required by Buyer is an infringement, the Seller shall be responsible for such loss unless he promptly gives written notice to the buyer of such infringement.

21. TIME - It is hereby expressly agreed and understood that time is of the essence for the performance of this contract, and any failure by contract to meet the time specifications of this agreement will cause Seller to be in default of this agreement.

22. TAX - The City of Midland is exempt from all Federal, State and City tax. Please do not include these taxes in your bid price or invoice. Taxable items must be so designated, and the City will supply vendor with a Tax Exemption Certificate, properly executed.

23. INSURANCE –

The following provisions apply unless the agreement is for the supply of goods only:

Seller shall at all times during the term of this agreement maintain and keep in full force and effect insurance in the following types and minimum amounts with companies authorized to do business in the State of Texas:

Commercial General Liability (including Contractual liability):

-Personal Injury: \$1,000,000.00 per person
\$1,000,000.00 per occurrence

-Property Damage: \$500,000.00 per occurrence

Business Automobile Liability: \$250,000.00 combined single limit-
Personal Injury and Property Damage

Worker's Compensation: Statutory limits

Employers' Liability: \$500,000.00 per accident or occurrence

The Commercial General Liability shall be on a per project or policy aggregate, including completed operations, and shall be on an occurrence basis.

The Workers' Compensation coverage provided by Seller shall inure to the benefit of employees injured during the course and scope of their employment by Seller pursuant to this agreement.

The Business Automobile Liability insurance provided by Seller shall cover any auto for bodily injury and property damage, including owned vehicles, hired and non-owner vehicles, and employee non-ownership, and the amount of such policy shall be a minimum of \$250,000.00 covering any vehicle used for the execution of the work that is the subject of this agreement.

All insurance required pursuant to this agreement, except for Worker's Compensation Insurance, shall name the Buyer as an additional insured on a claims occurred basis. All insurance required pursuant to this agreement, including Worker's Compensation Insurance, shall provide for a waiver of subrogation as to the Buyer.

The parties agree that, prior to the execution of the agreement, Seller shall provide one or more certificates of insurance showing that the requirements of this article have been met, and specifically containing, without limitations, the following endorsement:

"The City of Midland is included as an additional insured, on a claims occurred basis, on all policies except for Worker's Compensation. The Seller and Insurer hereby waive all rights of subrogation with respect to claims against the City of Midland, its agents, employees and officers, on all policies of insurance."

Buyer shall be provided the notice by Seller's insurance provider not later than thirty (30) days prior to any reduction or termination of such coverage. Buyer shall not be required to provide any insurance whatsoever pursuant to this agreement.

Seller shall contractually require all contractors, subcontractors, and sub-subcontractors that work on any portion of the work that is the subject of this agreement to obtain insurance coverage that meets or exceeds the policy requirements and minimum amounts specified herein. All contractors, subcontractors, and sub-subcontractors shall obtain insurance policies that provide blanket waivers of subrogation in favor of the City of Midland and policies that name the City of Midland as an additional insured on a claims occurred basis (except workers compensation).

24. **ASSIGNMENT** - Seller shall not, either directly or indirectly, assign all or any part of this agreement or any interest, right or privilege herein, without the prior written consent of the Buyer. The issue on whether or not to grant consent to an assignment is in the sole discretion of the Buyer.

25. **RELEASE - NOTWITHSTANDING ANY OTHER PROVISIONS, SELLER HEREBY RELEASES, ACQUITS, RELINQUISHES AND FOREVER DISCHARGES BUYER, BUYER'S EMPLOYEES AND OFFICERS, FROM ANY AND ALL DEMANDS, CLAIMS, DAMAGES, OR CAUSES OF ACTION OF ANY KIND WHATSOEVER WHICH SELLER HAS OR MIGHT HAVE IN THE FUTURE, INCLUDING BUT NOT LIMITED TO BREACH OF CONTRACT, QUANTUM MERUIT, CLAIMS UNDER THE DUE PROCESS AND TAKINGS CLAUSES OF THE TEXAS AND UNITED STATES CONSTITUTIONS, TORT CLAIMS, OR BUYER'S NEGLIGENCE.**

26. **GOVERNING LAW AND VENUE** - This agreement shall be governed by the laws of the State of Texas. All performance and payment made pursuant to this agreement shall be deemed to have occurred in Midland County, Texas. Exclusive venue for any claims, suits or any other action arising from or connected in any way to this agreement or the performance of this agreement shall be in Midland County, Texas. The obligations and undertakings of each of the parties to this agreement shall be deemed to have occurred in Midland County, Texas.

27. **INDEPENDENT CONTRACTOR** - It is expressly understood and agreed that Seller shall perform all work and services described herein as an independent contractor and not as an officer, agent, servant or employee of the Buyer; that Seller shall have exclusive control of and the exclusive right to control the details of the services and work performed hereunder, and all persons performing the same; and shall be solely responsible for the acts and omissions of its officers, agents, employees, contractors and subcontractors; that the doctrine of respondeat superior shall not apply as between Buyer and Seller, its officers, agents, employees, contractors and subcontractors; and that nothing herein shall be construed as creating a partnership or joint enterprise between Buyer and Seller. No person performing any of the work and services described hereunder by Seller shall be considered an officer, agent, servant or employee of the Buyer. Further, it is specifically understood and agreed that nothing in this agreement is intended or shall be construed as creating a "Community of Pecuniary Interest" or "An Equal Right of Control" which would give rise to vicarious liability. Seller shall be an independent contractor under this agreement and shall assume all of the rights, obligations and liabilities, applicable to it as such independent contractor hereunder. The Buyer does not have the power to direct the order in which the work is done. The Buyer shall not have the right to control the means, methods or details of the Seller's work. Seller shall assume exclusive responsibility for the work. Seller is entirely free to do the work in its own way.

28. **NOTICE OF ALLEGED BREACH; STATUTORY PREREQUISITES** - As a condition precedent to filing suit for alleged damages incurred by an alleged breach of an express or implied provision of this agreement, Seller or his legal representative, shall give the City Manager, or any other reasonable official of the Buyer, notice in writing (consisting of one original and seven copies of notice attached to a copy of this agreement) of such damages, duly verified, within one-hundred-twenty (120) days after the same has been sustained. The discovery rule does not apply to the giving of this notice. The notice shall include when, where and how the damages occurred, the apparent extent thereof, the amount of damages sustained, the amount for which the Seller will settle, the physical and mailing addresses of Seller at the time and date the claim was presented and the physical and mailing addresses of Seller for the six months immediately preceding the occurrence of such damages, and the names and addresses of the witnesses upon whom the Seller relies to establish its claim; and a failure to so notify the City Manager within the time and manner provided herein shall exonerate, excuse and except the Buyer from any liability whatsoever. The Buyer is under no obligation to provide notice to Seller that Seller's notice is insufficient. Buyer reserves the right to request reasonable additional information regarding the claim. Said additional information shall be supplied within thirty (30) days after receipt of notice.

The statutory prerequisites outlined herein constitute jurisdictional requirements pursuant to Section 271.154 of the Texas Local Government Code and Section 311.034 of the Texas Government Code. Notwithstanding any other provision, Seller's failure to comply with the requirements herein shall perpetually bar Seller's claim for damages under Chapter 271 of the Texas Local Government Code, and Section 311.034 of the Texas Government Code, regardless if Buyer has actual or constructive notice or knowledge of said claim or alleged damages. Seller agrees that the requirements of this entire agreement are reasonable.

29. **INDEMNITY (NOT APPLICABLE TO PURCHASE AGREEMENTS) - SELLER WILL INDEMNIFY AND HOLD HARMLESS AND DEFEND BUYER AND ALL OF BUYER'S OFFICERS, AGENTS AND EMPLOYEES FROM ALL SUITS, ACTIONS, CLAIMS, DAMAGES, PERSONAL INJURIES, LOSSES, PROPERTY DAMAGE AND EXPENSES OF ANY CHARACTER WHATSOEVER, INCLUDING REASONABLE ATTORNEY'S FEES,**

BROUGHT FOR OR ON ACCOUNT OF ANY INJURIES OR DAMAGES RECEIVED OR SUSTAINED BY ANY PERSON OR PERSONS OR PROPERTY, ON ACCOUNT OF ANY NEGLIGENT ACT OF SELLER, its agents or employees, or any subcontractor, arising out of, or resulting from, Seller's use of, or activities on, the agreement premises, and Seller will be required to pay any judgment with costs which may be obtained against Buyer or any of its officers, agents or employees, including reasonable attorney's fees.

SELLER SHALL INDEMNIFY AND HOLD HARMLESS AND DEFEND BUYER AND ALL OF BUYER'S OFFICERS, AGENTS AND EMPLOYEES FROM ALL SUITS, ACTIONS, CLAIMS, DAMAGES, ACCIDENTAL DEATH, PERSONAL INJURIES, PROPERTY DAMAGE, LOSSES, AND EXPENSE OF ANY CHARACTER WHATSOEVER INCLUDING REASONABLE ATTORNEY'S FEES, BROUGHT FOR OR ON ACCOUNT OF ANY INJURIES OR DAMAGES RECEIVED OR SUSTAINED BY ANY PERSON OR PERSONS OR PROPERTY, ON ACCOUNT OF ANY NEGLIGENT ACT OF BUYER, BUYER'S OFFICERS, AGENTS AND EMPLOYEES, WHETHER SUCH NEGLIGENT ACT WAS THE SOLE PROXIMATE CAUSE OF THE INJURY OR DAMAGE OR A PROXIMATE CAUSE JOINTLY AND CONCURRENTLY WITH SELLER OR SELLER'S EMPLOYEES, AGENTS OR SUBCONTRACTORS NEGLIGENCE, IN THE EXECUTION, SUPERVISION AND OPERATIONS GROWING OUT OF OR IN ANY WAY CONNECTED WITH THE PERFORMANCE OF THIS AGREEMENT AND SELLER WILL BE REQUIRED TO PAY ANY JUDGMENT WITH COSTS WHICH MAY BE OBTAINED AGAINST BUYER OR ANY OF BUYER'S OFFICERS, AGENTS OR EMPLOYEES, INCLUDING ATTORNEY'S FEES.

30. **SOVEREIGN IMMUNITY** - By executing this agreement the Buyer is not waiving its right of sovereign immunity. The Buyer is retaining its immunity from suit. The Buyer is not granting consent to be sued by legislative resolution or action. **THERE IS NO WAIVER OF SOVEREIGN IMMUNITY.**

31. **THIRD PARTY BENEFICIARY** - The Buyer's approval of this agreement does not create a third party beneficiary. There is no third party beneficiary to this agreement. No person or entity who is not a party to this agreement shall have any third party beneficiary or other rights hereunder.

32. **ATTORNEY FEES** - BY EXECUTING THIS AGREEMENT, SELLER AGREES TO WAIVE AND DOES HEREBY KNOWINGLY, CONCLUSIVELY, VOLUNTARILY AND INTENTIONALLY WAIVE ANY CLAIM IT HAS OR MAY HAVE IN THE FUTURE AGAINST THE BUYER, REGARDING THE AWARD OF ATTORNEY'S FEES, WHICH ARE IN ANY WAY RELATED TO THE AGREEMENT, OR THE CONSTRUCTION, INTERPRETATION OR BREACH OF THE AGREEMENT. THE SELLER SPECIFICALLY AGREES THAT IF THE SELLER BRINGS OR COMMENCES ANY LEGAL ACTION OR PROCEEDING RELATED TO THIS AGREEMENT, THE CONSTRUCTION, INTERPRETATION, VALIDITY OR BREACH OF THIS AGREEMENT, INCLUDING BUT NOT LIMITED TO ANY ACTION PURSUANT TO THE PROVISIONS OF THE TEXAS UNIFORM DECLARATORY JUDGMENTS ACT (TEXAS CIVIL PRACTICE AND REMEDIES CODE SECTION 37.001, ET. SEQ., AS AMENDED), OR CHAPTER 271 OF THE TEXAS LOCAL GOVERNMENT CODE, THE SELLER AGREES TO ABANDON, WAIVE AND RELINQUISH ANY AND ALL RIGHTS TO THE RECOVERY OF ATTORNEY'S FEES TO WHICH SELLER MIGHT OTHERWISE BE ENTITLED.

SELLER AGREES THAT THIS IS THE VOLUNTARY AND INTENTIONAL RELINQUISHMENT AND ABANDONMENT OF A PRESENTLY EXISTING KNOWN RIGHT. SELLER ACKNOWLEDGES THAT IT UNDERSTANDS ALL TERMS AND CONDITIONS OF THE AGREEMENT. THE SELLER FURTHER ACKNOWLEDGES AND AGREES THAT THERE WAS AND IS NO DISPARITY OF BARGAINING POWER BETWEEN THE BUYER AND THE SELLER. THIS SECTION SHALL NOT BE CONSTRUED OR INTERPRETED AS A WAIVER OF SOVEREIGN IMMUNITY.

THE SELLER AND BUYER ARE RELYING ON THEIR OWN JUDGMENT. EACH PARTY HAD THE OPPORTUNITY TO DISCUSS THIS AGREEMENT WITH LEGAL COUNSEL PRIOR TO ITS EXECUTION.

33. **CONSIDERATION** - The terms of this agreement are supported by good and valuable consideration, the receipt and sufficiency of which is hereby acknowledged by the parties named herein.

34. **CERTIFICATION** - In accordance with the Texas Local Government Code, the City of Midland Department of Facilities and Fleet Management does hereby certify that the City of Midland is in compliance with Sections 252, 271 and all applicable sections of the Texas Local Government Code and other state law as it applies to procurement and contracting issues.

35. **FEDERAL WAGE REQUIREMENTS** - If applicable, the Davis-Bacon Act, 29 CFR 5.5, and any related acts or regulations are hereby incorporated by reference and made a part of this agreement, and all terms and requirements under said laws, by such incorporation, are made terms and requirements of this agreement, to which the parties to this agreement have agreed to be bound.

36. COMPLIANCE WITH FEDERAL, STATE AND LOCAL LAWS - Seller shall at all times during the term of this agreement comply with applicable federal, state, and local laws regarding Seller's activities pursuant to this agreement, including but not limited to all applicable sections of the Municipal Code of Midland, Texas, as may be amended, said sections being hereby incorporated by reference and made a part of this agreement for all legal purposes. Failure to abide by any such law mentioned herein constitutes grounds for the immediate termination of this agreement.

SECTION 01 10 00 - SUMMARY

PART 1 - GENERAL

1.1 SUMMARY

- A. Section Includes:
 - 1. Work covered by Contract Documents.
 - 2. Contractor's use of site and premises.
 - 3. Permits.
- B. Related Requirements:
 - 1. Other Division 01 Specification Sections apply to Work of this Section.

1.2 WORK COVERED BY CONTRACT DOCUMENTS

- A. Identification: West and North Citizens' Collection Stations.
- B. Location: Midland, Texas.
- C. Owner: City of Midland.
- D. Work consists of construction of two citizen collection station facilities. Facility construction includes HMAC and concrete roadways, cast-in-place retaining wall, concrete paved parking lot, electrical services, light poles, and building construction. Building construction includes erection of prefabricated metal building, HVAC, plumbing, electrical, and interior finish.

1.3 CONTRACTOR'S USE OF SITE AND PREMISES

- A. Limits on Use of Site:
 - 1. Owner occupancy.
 - 2. Work by others.
- B. Construction Operations: Limited to areas noted on Drawings.
- C. Time Restrictions for Performing Work:
 - 1. 7:00 a.m. to 7:00 p.m. Monday through Friday.
- D. Utility Outages and Shutdowns:
 - 1. Coordinate and schedule utility outages/shutdown.
 - 2. Allowed only as previously agreed upon.
 - 3. Schedule at least 1 week before outage/shutdown.
 - 4. Submit early request of outage/shutdown to Engineer itemizing dates, times, and durations.

1.4 PERMITS

- A. Furnish all necessary permits for construction of Work including:
 - 1. Building permit.
 - 2. Stormwater permit.

PART 2 - PRODUCTS (Not Used)

PART 3 - EXECUTION (Not Used)

END OF SECTION

SECTION 01 20 00 - PRICE AND PAYMENT PROCEDURES

PART 1 - GENERAL

1.1 SUMMARY

- A. Section Includes:
 - 1. Inspection and testing allowances.
 - 2. Schedule of Values.
 - 3. Application for Payment.
 - 4. Change Procedures.
 - 5. Measurement and payment - unit prices.
 - 6. Alternates.
- B. Related Requirements:
 - 1. Other Division 01 Specification Sections apply to Work of this Section.

1.2 UNIT PRICES

- A. Authority: Measurement methods delineated in Section 01 22 00 "Measurement and Payment."
- B. Take measurements and compute quantities. Engineer to verify.
- C. Unit Quantities: Quantities and measurements indicated in Bid Form are for Contract purposes only and should be verified by Proposer. Quantities and measurements supplied or placed in Work determine payment. When actual Work requires more or fewer quantities than those indicated, provide required quantities at contracted unit prices.
- D. Payment Includes:
 - 1. Full compensation for required labor, products, tools, equipment, plant, transportation, services, and incidentals;
 - 2. Erection, application, or installation of Work item; and
 - 3. Overhead and profit.
- E. Final payment for Work governed by unit prices will be made based on actual measurements and quantities accepted by Engineer multiplied by unit price for Work incorporated in or made necessary by Work.

PART 2 - PRODUCTS (Not Used)

PART 3 - EXECUTION (Not Used)

END OF SECTION

SECTION 01 22 00 – MEASUREMENT AND PAYMENT

PART 1 - GENERAL

1.1 SUMMARY

- A. Section Includes:
 - 1. Procedures for measurement and payment.
 - 2. Mobilization demobilization.
 - 3. Unit price items.
 - 4. Lump sum items.
 - 5. Proposal Form-specific payment items.
- B. Related Requirements:
 - 1. Section 00 42 00 “Proposal Form.”
 - 2. Other Division 01 Specification Sections apply to Work of the Section.

1.2 PROCEDURES FOR MEASUREMENT AND PAYMENT

- A. Unit price Proposal on each item as stated in Section 00 42 00 “Proposal Form” includes furnishing all labor, superintendence, machinery, equipment, and materials except as otherwise specified, necessary, or incidental to complete various item of Work per Drawings and Specifications.
- B. Cost of Work or materials shown on Drawings, or called for in Specifications, and on which no separate payment is made included in Proposal prices on various pay items.
- C. Payment not made for any items not complete, including all associated incidental Work.

1.3 UNIT PRICE ITEMS

- A. Unit price items, not otherwise included herein, paid at a unit price per unit.
- B. Payment will include all Work and material for installing unit price item as specified.
- C. Measurement made in units shown on Section 00 42 00 “Proposal Form.”

1.4 LUMP SUM ITEMS

- A. Lump sum items include all Work and materials for installing lump sum item as specified.
- B. Payment based on percentage complete basis as agreed by Engineer and Contractor.
- C. Payment includes all Work and material for installing lump sum Proposal item as specified.

1.5 PROPOSAL FORM-SPECIFIC PAYMENT ITEMS

- A. Proposal Item 1: Mobilization (5 percent Maximum):
 - 1. Measurement: Lump Sum Basis.
 - 2. Payment: Made for mobilizing and demobilizing all equipment, tools, insurance, bonds, and all other job-related items to and from the job site. Price will be on a lump sum basis and shall include all equipment, labor, materials, superintendence, and all incidentals necessary to become fully mobilized at the start of the Project and demobilized when Work is complete. Mobilization related expenses include Contractor’s cost for the following: obtaining and setting up construction office

- facilities, obtaining and paying for electric power required for construction, providing and maintaining dust control over the Project working area, temporary fencing, and all other incidentals required for Contractor to complete mobilization. This Proposal item shall not exceed 5 percent of the Contract price.
- B. Proposal Item 2: Erosion Control:
1. Measurement: Lump Sum Basis.
 2. Payment: Made for all costs associated with providing all labor, equipment, materials, and supervision necessary to implement an approved traffic control plan. Payment shall also include all costs associated with grading and constructing any necessary temporary bypass roads needed to keep the flow of traffic moving during construction operations.
- C. Proposal Item 3: Excavation:
1. Measurement: Per Cubic Yard Basis.
 2. Payment: Made for providing all labor, equipment, materials, supplies, etc., necessary to excavate the road and drainage ponds to the elevations and grades shown on the Plans. Subgrade preparation to receive concrete structures is incidental to this Proposal item. No payment for Work outside limits indicated on Drawings.
- D. Proposal Item 4: Embankment (Fill):
1. Measurement: Per Cubic Yard Basis.
 2. Payment: Made for providing all labor, equipment, materials, supplies, etc., necessary to fill the areas shown to construct the access road and drainage channels as shown. Subgrade preparation to receive concrete structures is incidental to this Proposal item. No payment for Work outside limits indicated on Drawings.
- E. Proposal Item 5: Furnish and Install 3-Inch-Thick Type "B" HMAC, 9-Inch Base Course, 12-Inch Subgrade:
1. Measurement: Per Square Yard Basis.
 2. Payment: Made for providing and installing 3-inch HMAC Type B pavement, 9-inch base course and preparation of 12 inches of subgrade. Pavement shall include all costs associated with providing all labor, equipment, materials, and supervision necessary to install the pavement sections to the grades shown on the Plans in accordance with Specifications. No payment for Work outside limits indicated on Drawings.
- F. Proposal Item 6: Furnish and Install 8-Inch-Thick Concrete Pavement and Reinforcement, 6-Inch Base Course, 12-Inch Subgrade:
1. Measurement: Per Square Yard Basis.
 2. Payment: Made for providing and installing 8-inch concrete pavement and reinforcement, 6-inch base course and preparation of 12 inches of subgrade. Pavement shall include all costs associated with providing all labor, equipment, materials, and supervision necessary to install the pavement sections to the grades shown on the Plans in accordance with the Specifications. 6-inch ramps, transformer pad, condensing unit pad, bollards, and wheel stops are incidental to this Proposal item. No payment for Work outside limits indicated on Drawings.
- G. Proposal Item 7: Concrete Drainage Gutter:
1. Measurement: Per Linear Foot.
 2. Payment: Made for the concrete drainage gutters as detailed on the plans. Pavement shall include all costs associated with providing all labor, equipment, materials, and supervision necessary to install the pavement sections to the grades shown on the Plans in accordance with the Specifications.

- H. Proposal Item 8: Concrete Retaining Wall and Steel Rails:
 - 1. Measurement: Per Linear Foot Basis.
 - 2. Payment: Made for providing and installing the concrete retaining wall. Payment shall include all costs associated with providing all labor, equipment, materials, supervision, excavation, fine grading, curing, welding, painted steel posts and rails, steel embed plates, steel C-channels, control joints, backfill, and all other appurtenances necessary to install the retaining wall as shown on the Plans and in accordance with Specifications.
- I. Proposal Item 9: Entrance Gate:
 - 1. Measurement: Per Linear Foot Basis.
 - 2. Payment: Made for providing and installing the Wrought Iron/Steel Gate at the Entrance. Payment shall include all costs associated with providing all labor, equipment, materials, and supervision necessary to install the shown on the Drawings and in accordance with Specifications.
- J. Proposal Item 10: Exit Gate:
 - 1. Measurement: Per Linear Foot Basis.
 - 2. Payment: Made for providing and installing a wrought iron/steel swing gate at exit. Payment shall include all costs associated with providing all labor, equipment, materials, and supervision necessary to install as shown on Drawings and in accordance with Specification.
- K. Proposal Item 11: Six-Foot Chain Link Fence:
 - 1. Measurement: Per Linear Foot Basis.
 - 2. Payment: Made for providing and installing the chain link fence with e-strand barb wire and screening along property boundary on a linear foot basis. Payment shall include all costs associated with providing all labor, equipment, materials, and supervision necessary to install the shown on the Drawings and in accordance with Specifications. Sliding gates are incidental to this Proposal item.
- L. Proposal Item 12: Pavement Markings and Striping:
 - 1. Measurement: Per Each Basis.
 - 2. Payment: Made for providing and installing pavement marking symbols. Payment shall include all costs associated with providing all labor, equipment, materials, and supervision necessary to install the pavement markings as shown on the Plans and in accordance with Specifications.
- M. Proposal Item 13: Schedule 80 Waterline.
 - 1. Measurement: Per Linear Foot Basis.
 - 2. Payment: Made for providing and installing the Schedule 80 pipe as shown on Plans. Payment shall include all costs associated with providing all labor, equipment, materials, and supervision necessary to install as shown on the Drawings and in accordance with Specifications. No payment for Work outside limits indicated on Drawings.
- N. Proposal Item 14: SDR 35 Sewer Line.
 - 1. Measurement: Per Linear Foot Basis.
 - 2. Payment: Made for providing and installing the SDR 35 pipe as shown on Plans. Payment shall include all costs associated with providing all labor, equipment, materials, and supervision necessary to install as shown on the Drawings and in accordance with the Specification. No payment for Work outside limits indicated on Drawings.

- O. Proposal Item 15: Traffic Signage:
1. Measurement: Per Each Basis.
 2. Payment: Made for the installation of traffic signage. Payment shall include all costs associated with providing all labor, equipment, materials, and supervision necessary to install traffic signage. Such payment shall be compensation for the complete performance of the work in accordance with the Drawings and provisions of these Specifications.
- P. Proposal Item 16: 40-Foot by 60-Foot Metal Building:
1. Measurement: Lump Sum Basis.
 2. Payment: Made for costs associated with providing all labor, equipment, materials, and supervision necessary to anchor the structure on site on a lump sum basis. Payment shall include all costs associated with providing all labor, equipment, and supervision necessary.
- Q. Proposal Item 17: Electrical Site Work:
1. Measurement: Lump Sum Basis.
 2. Payment: Made for the electrical site improvements. Electrical Work includes grounding system, service pole, weather head, riser, meter can, main disconnect, fusible/non-fusible disconnects, electrical racks, distributions panels, dry-type transformers, in-ground pull boxes, conduits, trenching and backfill, wires/cables, area light fixtures with poles and foundations, interior and exterior light fixtures, receptacles, light switches, data connection points, all building preparations for camera locations, installation of Owner-provided compactor and guard shack, installation of any other electrical items indicated on Contract Drawings, and all associated terminations. Payment includes full compensation for complete performance of the Work in accordance with the Drawings and provisions of these Specifications.
- R. Proposal Item 18: Septic Tank:
1. Measurement: Lump Sum Basis.
 2. Payment made for all costs associated with providing the system design, and all labor, equipment, materials, and supervision necessary to install septic tank, absorptive field, and all necessary piping, fittings, clean outs, and valves.
- S. Proposal Item 19: Water Well:
1. Measurement: Lump Sum Basis.
 2. Payment made for all costs associated with providing all required materials to generate water from the existing well at the facility and connect to waterline installed as part of Proposal Item 13.
- T. Proposal Item 20: Mobilization (5 percent maximum):
1. Measurement: Lump Sum Basis.
 2. Payment: Made for mobilizing and de-mobilizing, tools, insurance, bonds, and all other job-related items to and from the Job Site. Price will be on a lump sum Basis and shall include all equipment, labor, materials, superintendence, and all incidentals necessary to become fully mobilized at the start of Project, and demobilized when Work is complete. Mobilization related expenses includes Contractor's cost for the following: obtaining and setting up construction office facilities, obtain and paying for the electrical power required for construction, providing and maintaining dust control over the Project working area, temporary fencing, and all other incidentals required for Contractor to complete mobilization. This Proposal item shall not exceed 5 percent of the Contract price.

- U. Proposal Item 21: Erosion Control:
 - 1. Measurement: Lump Sum Basis.
 - 2. Made for all costs associated with providing all labor, equipment, materials, and supervision necessary to implement an approved traffic control Plan. Payment shall also include all costs associated with grading and constructing any necessary temporary bypass roads needed to keep the flow of traffic moving during construction operations.
- V. Proposal Item 22: Excavation:
 - 1. Measurement: Per Cubic Yard Basis.
 - 2. Payment: Made for providing all labor, equipment, materials, supplies etc., necessary to excavate the road and drainage ponds to the elevations and grades shown on Plans. Subgrade preparation to receive concrete structures is incidental to the Proposal item. No payment for Work outside limits indicated on Drawings.
- W. Proposal Item 23: Embankment (Fill):
 - 1. Measurement: Per Cubic Yard Basis.
 - 2. Payment: Made for providing all labor, equipment, materials, supplies, etc., necessary to fill the areas shown to construct the access road and drainage channels as shown. Subgrade preparation to receive concrete structures is incidental to this Proposal item. No payment for Work outside limits indicted on Drawings.
- X. Proposal Item 24: Furnish and Install 3-Inch-Thick Type "B" HMAC, 9-Inch Base Course, 12-Inch Subgrade:
 - 1. Measurement: Per Square Yard Basis.
 - 2. Payment: Made for providing and installing 3-inch HMAC pavement, 9-inch base course and preparation of 12 inches of subgrade. Pavement shall include all costs associated with providing all labor, equipment, materials, and supervision necessary to install the pavement Sections to the grades shown on Plans in accordance with Specifications. No payment for Work outside limits indicated on Drawings.
- Y. Proposal Item 25: Furnish and Install 8-Inch-Thick Concrete Pavement and Reinforcement, 6-Inch Base Course, 12-Inch Subgrade:
 - 1. Measurement: Per Square Yard Basis.
 - 2. Payment: Made for providing and installing 8-inch concrete pavement and reinforcement, 6-inch base course, and preparation of 12 inches of subgrade. Pavement shall include all costs associated with providing all labor, equipment, materials, and supervision necessary to install the pavement Sections to the grade shown on the Plans in accordance with the Specifications. 6-inch ramps, transformer pad, condensing unit pad, bollards, and wheel stops are incidental to this Proposal item. No payment for Work outside limits indicated on Drawings.
- Z. Proposal Item 26: Concrete Drainage Gutter:
 - 1. Measurement: Per Linear Foot Basis.
 - 2. Payment: Made for the concrete drainage gutters as detailed on Plans. Pavement shall include all costs associated with providing all labor, equipment, materials, and supervision necessary to install the pavement sections to the grades shown on Plans in accordance with the Specifications.
- AA. Proposal Item 27: Concrete Retaining Wall and Steel Rails:
 - 1. Measurement: Per Linear Foot Basis.
 - 2. Payment: Made for providing and installing the concrete retaining wall. Payment shall include all costs associated with providing all labor, equipment, materials, supervision, excavation, fine grading, curing, welding, painted steel posts and rails, steel embed plates, steel C-channels, control joints, backfill, and all other appurtenances necessary to install the retaining wall as shown on Plans and in accordance with Specification.

- BB. Proposal Item 28: Entrance Gate:
1. Measurement: Per Linear Foot Basis.
 2. Payment: Made for providing and installing the wrought-iron/steel gate at entrance. Payment shall include all costs associated with providing all labor, equipment, materials, and supervision necessary to install as shown on Drawings and in accordance with Specifications.
- CC. Proposal Item 29: Exit Gate:
1. Measurement: Per Linear Foot Basis.
 2. Payment: Made for providing and installing the wrought iron/steel swing gate at exit. Payment shall include all costs associated with providing all labor, equipment, materials, and supervision necessary to install as shown on Drawings and in accordance with Specifications.
- DD. Proposal Item 30: Six-Foot Chain Link Fence:
1. Measurement: Per Linear Foot Basis.
 2. Payment: Made for providing and installing the chain link fence with e-strand barb wire and screening along property boundary on a linear foot basis. Payment shall include all costs associated with providing all labor, equipment, materials, and supervision necessary to install as shown on Drawings and in accordance with Specifications. Sliding gates are incidental to this Proposal item.
- EE. Proposal Item 31: Pavement Markings and Striping:
1. Measurement: Per Each Basis.
 2. Payment: Made for providing and installing pavement marking symbols. Payment shall include all costs associated with providing all labor, equipment, materials, and supervision necessary to install the pavement markings as shown on Plans and in accordance with Specifications.
- FF. Proposal Item 32: Schedule 80 Waterline:
1. Measurement: Per Linear Foot Basis.
 2. Payment: Made for providing and installing Schedule 80 pipe as shown on Plans. Payment shall include all costs associated with providing all labor, equipment, materials, and supervision necessary to install as shown on Drawings and in accordance with Specifications. No payment for Work outside limits indicted on Drawings.
- GG. Proposal Item 33: SDR 35 Sewer Line:
1. Measurement: Per Linear Foot Basis.
 2. Payment: Made for providing and installing the SDR 35 pipe as shown on Plans. Payment shall include all costs associated with providing all labor, equipment, materials, and supervision necessary to install as shown on Drawings and in accordance with Specifications. No payment for Work outside limits indicated on Drawings.
- HH. Proposal Item 34: Traffic Signage:
1. Measurement: Per Each Basis.
 2. Payment: Made for installation of traffic signage. Payment shall include all costs associated with providing all labor, equipment, materials, and supervision necessary to install traffic signage. Such payment shall be compensation for the complete performance of Work in accordance with Drawings and provision of these Specifications.

- II. Proposal Item 35: 40-Foot by 60-Foot Metal Building:
 - 1. Measurement: Lump Sum Basis.
 - 2. Payment: Made for installation of metal building. Payment shall include all costs associated with providing all labor, equipment, and supervision necessary to install metal building. Such payment shall be compensation for the complete performance of Work in accordance with Drawings and provision of these Specifications.
- JJ. Proposal Item 36: Electrical Site Work:
 - 1. Measurement: Lump Sum Basis.
 - 2. Payment: Made for electrical site improvements. Electrical Work includes grounding system, service pole, weather head, riser, meter can, main disconnect, fusible/non-fusible disconnects, electrical racks, distribution panels, dry-type transformers, in-ground pull boxes, conduits, trenching and backfill, wires/cables area light fixtures with poles and foundations, interior and exterior light fixtures, receptacles, light switches, data connection points, all building preparation for camera locations, installation of Owner-provided compactor and guard shack, installation of any other electrical items indicated on Contract Drawings, and all associated terminations. Payment includes full compensation for complete performance of Work in accordance with Drawings and provisions of these Specifications.
- KK. Proposal Item 37: Septic Tank:
 - 1. Measurement: Lump Sum Basis.
 - 2. Payment made for all costs associated with providing the system design, and all labor, equipment, materials, and supervision necessary to install septic tank, absorptive field, and all necessary piping, fittings, clean outs, and valves.
- LL. Proposal Item 38: Landscape and Irrigation:
 - 1. Measurement: Lump Sum Basis:
 - 2. Made for installing landscaping and irrigation as shown on Plans. Payment shall include all costs associated with providing all labor, equipment, and supervision necessary.
- MM. Proposal Item 39: Entrance Road:
 - 1. Measurement: Per Square Yard Basis.
 - 2. Made for providing and installing pavement material to install the entrance road. Pavement shall include all costs associated with providing all labor, equipment, materials, and supervision necessary to install the pavement sections to the grades shown on Plans in accordance with the Specifications. No payment for Work outside limits indicated on Drawings.

PART 2 - PRODUCTS (Not Used)

PART 3 - EXECUTION (Not Used)

END OF SECTION

SECTION 01 30 00 - ADMINISTRATIVE REQUIREMENTS

PART 1 - GENERAL

1.1 SUMMARY

- A. Section Includes:
 - 1. Project Information Management.
 - 2. Coordination.
 - 3. Preconstruction meeting.
 - 4. Electronic drawing file (digital data) request.
 - 5. Request for information.
 - 6. Progress meetings.
 - 7. Preinstallation meetings.
- B. Related Requirements:
 - 1. Other Division 01 Specification Sections apply to Work of this Section.

1.2 PROJECT INFORMATION MANAGEMENT

- A. Project Website:
 - 1. Use Newforma Info Exchange at <https://projects.team-psc.com/UserWeb/Login> to send and receive Project information.
 - 2. Contact Engineer to set up user name and password information.
 - 3. If Project is not listed when logged in, contact Engineer to add Project to your account.
- B. Project information includes, but is not limited to:
 - 1. Product Submittals.
 - 2. Requests for Information (RFI).
 - 3. Applications for Payment.
 - 4. Schedules.
 - 5. Construction Change Requests (CCRs).
 - 6. Closeout Documents.
 - 7. Construction Document Files.

1.3 COORDINATION

- A. Coordinate scheduling, submittals, and Work to assure efficient and orderly sequence of installation of construction elements.
- B. Verify utility requirements and characteristics of operating equipment are compatible with building utilities. Coordinate work of various Sections having interdependent responsibilities for installing, connecting to, and placing such equipment in service.
- C. Coordinate space requirements and installation of mechanical and electrical work indicated diagrammatically on Drawings. Follow routing as closely as practicable. Utilize spaces efficiently to maximize accessibility for other installations, maintenance, and repairs.
- D. In finished building areas, except as otherwise indicated, conceal pipes, ducts, and wiring within construction. Coordinate locations of fixtures and outlets with finish elements as applicable.

- E. Coordinate completion and clean-up of Work of separate Sections in preparation for Substantial Completion.
- F. After Owner occupancy of premises, coordinate access to site with Owner for correction of defective Work and Work not in accordance with Contract Documents to minimize disruption of Owner's activities.

1.4 PRECONSTRUCTION MEETING

- A. Engineer will schedule a meeting after Notice to Proceed.
- B. Attendance Required:
 - 1. Owner.
 - 2. Engineer.
 - 3. Contractor.
 - 4. Major subcontractors.
- C. Agenda:
 - 1. Distribute Contract Documents.
 - 2. Submit lists of subcontractors and products, Schedule of Values, submittal schedule, and progress schedule.
 - 3. Designate personnel representing each party in Contract and Engineer.
 - 4. Procedures and processing field decisions, submittals, substitutions, Applications for Payments, proposal request, Change Orders, Request for Information (RFI), and Contract closeout procedures.
 - 5. Review Notice to Proceed and Substantial/Final Completion Dates.
 - 6. Workmen's identification and background checks.
 - 7. Stormwater Pollution and Prevention Plan (SWPPP) if necessary.
 - 8. Scheduling:
 - a. Use of premises by Owner and Contractor.
 - b. Owner's requirements.
 - c. Construction facilities and controls provided by Owner.
 - d. Temporary utilities provided by Owner.
 - e. Security and housekeeping procedures.
 - f. Construction progress meetings.
 - g. Procedures for testing.
 - h. Procedures for maintaining record documents.
 - i. Requirements for start-up of equipment.
 - j. Inspection and acceptance of equipment put into service during construction.
 - 9. Scheduling activities of Construction Material Testing lab.
- D. Engineer shall record minutes and distribute copies to participants.

1.5 ELECTRONIC DRAWING FILE (DIGITAL DATA) REQUEST

- A. During Procurement Phase:
 - 1. Bidders and Proposers may purchase a Digital Data file. Digital Data file will be provided in software release currently used by Engineer. File will be provided via Engineer's Project website.
 - 2. AutoCAD Drawing files (.dwg) are available for purchase from Engineer upon request. Cost of files are indicated below plus applicable tax.
 - a. 1 – 3 Sheets: \$100.00 per sheet.
 - b. 4 – 6 Sheets: \$400.00 flat fee.
 - c. 7 – 9 Sheets: \$500.00 flat fee.

3. Revit® BIM Model files (.rvt) are available for purchase from Engineer upon request. Cost of model files are \$150.00 for each model plus applicable tax. All details, detail annotation, and reference are omitted and not part of the Model file.
 4. Prior to delivery of file(s), purchaser shall sign a Digital Data Licensing Agreement. Payment for Digital Data file(s) shall occur upon delivery of file to purchaser.
 5. Digital Data file(s) shall be used only for preparing Bids and Proposals required by this Project not used in any other form in whole or in part.
- B. Upon Award of Contract:
1. At pre-construction meeting, Contractor shall bring the executed Digital Data Licensing Agreement (AIA C106-2013) at the end of this Section for release of electronic files. Upon Contractor submitting the executed Agreement to Engineer, Engineer will provide Contractor one electronic copy of the Revit® BIM Model file(s), AutoCAD (.dwg file(s), when Revit® BIM Model file is not available, and Portable Document Format (.pdf) file(s) at no charge within five working days. Note that CAD files associated with the Work can be accessed and exported from the Revit® BIM Model provided to Contractor through Revit® software; therefore, Engineer will not provide individual CAD files. Files and Formats to be as followed:
 - a. Civil Overall master file in AutoCAD format.
 - 1) Overall Site Plan with utility and grading information.
 - 2) All details, detail annotation, and references are omitted and not part of the AutoCAD file.
 - b. Landscape: Overall master file in AutoCAD format.
 - 1) Overall Site Plan with grading, flatwork, irrigation, and planting plans.
 - 2) All details, detail annotation, and references are omitted and not part of the AutoCAD file.
 - c. Structural: Revit® BIM Model and associated working plans views.
 - 1) Overall Site Plan with utility and grading information.
 - 2) All details, detail annotation, and reference are omitted and not part of the AutoCAD file.
 - d. Architectural/Interior: Revit® BIM Model and associated working plan views.
 - 1) Plan views contain overall and enlarged section plan view set-up of floor plans, floor patterns, reflected ceilings, and roof plans only. All plan views contain grids, dimensions, room names, and general annotation.
 - 2) Reflected Ceiling Plans contain ceilings grids and types only. Lighting and mechanical are provided as part of the MEP Model.
 - 3) Roof Plans contain grids and general annotation only. Mechanical is provided as part of the MEP Model.
 - 4) Interior and exterior elevations and schedules.
 - 5) Finish plans and finish schedules.
 - 6) All details, details annotation, and references are omitted and not part of the model life.
 - e. Mechanical, Electrical, and Plumbing: Revit® BIM Model and associated working plan views.
 - 1) Plan views contain overall and enlarged plan section view set-up of mechanical, electrical lighting, electrical power, and plumbing plans only.
 - 2) All details, detail annotation, and references are omitted and not part of the model file.

- f. Other Disciplines: Revit® BIM Model and associated working plan views.
 - 1) Plan views contain overall and enlarged plan section view set-up showing all device locations and general annotation.
 - 2) All details, detail annotation and references are omitted and not part of the model file
 - 3) The Revit All details, detail annotation, and references are omitted and not part of the model file.
- 2. Revit® BIM Model file provided to Contractor is NOT FOR CONSTRUCTION PURPOSES, but convenience only. This BIM Model will consist of the original model utilized for base bid. It is Contractor responsibility to coordinate all accepted alternated, addenda, RFI, Proposal Request, and any other changes realized during procurement and construction phases. Engineer will not provide up-to-date Contract Documents or update BIM Models to Contractor unless otherwise stated within the Owner/Engineer Agreement.
- 3. Conformed Construction Documents: If required by Owner/Engineer Agreement, they will be provided in PDF. Conformed Construction Documents are Drawings and Specifications modified to include any Addenda issued before execution of the Contract.
 - a. To the extent Conformed Construction Documents are provided to Contractor, the following provisions shall apply:
 - 1) Conformed Construction Documents, and related information contained therein, are provided for Contractor's convenience only and does not relieve Contractor from Contract Document requirements. Specifically, to the extent that any discrepancy or conflict exist between Issue for Bid documents, including any Addenda issued prior to execution of Contact or Modifications issued after execution of Contact on the one hand, and Conformed Construction Documents on the other; Issue for Bid documents Addenda, and Modifications shall control unless otherwise specified in writing by Engineer.
 - 2) Contractor shall not use such Drawings, documents, or other data, in whole or in part, for any purpose or project other than this Project, in preparation of Shop Drawings and other submittals.
 - 3) Contractor acknowledges that such Drawings, documents, or other data obtained prior to use by them for any purpose.
 - 4) Any Conformed Construction Documents, including any Drawings Specifications, documents, or other data related thereto, are provided "as is" without representation or warranty by Engineer, either expressed or implied.
 - 5) Contractor acknowledges that Conformed Construction Documents provide by Engineer are as courtesy to Contractor at their specific request, and accordingly, CONTRACTOR HEREBY AGREES TO RELEASE, HOLD HARMLESS, DEFEND, AND INDEMNIFY ENGINEER AND OWNER FROM ANY AND ALL CLAIMS, DEMANDS, OR CAUSES OF ACTION, WHICH CONTRACTOR OR ANY THIRD PARTY MAY HAVE BY REASON OF ANY INJURY OR DAMAGE SUSTAINED BY CONTRACTOR OR THIRD PARTY ARISING OUT OF OR IN ANY WAY RELATED TO THE USE OF SUCH CONFORMED CONSTRUCTION DOCUMENTS.

1.6 REQUEST FOR INFORMATION (RFI)

- A. RFI requests from subcontractors or material suppliers will not be considered.
- B. Information indicated on RFI shall be complete before submission. If Engineer determines request can be answered with information provided, Engineer will assign RFI tracking number. If Engineer determines request is not an RFI, request will be returned to Contractor electronically and deleted from Engineer's electronic tracking software without assigning an RFI tracking number. A transmittal document returning denied RFI request will be provided with a response indicating action to be taken by Contractor.
- C. RFIs may contain more than 1 item when items are related. Otherwise, only 1 item shall be addressed on each RFI request.
- D. Allow 7 days for Engineer's response to each RFI.
- E. Response to RFI will be issued to Contractor and Owner per Section 01 33 00 "Submittal Procedures."
- F. Responses from Engineer are not changes unless issued with a change per Section 01 20 00 "Price and Payment Procedures."

1.7 PROGRESS MEETINGS

- A. Schedule and administer monthly meetings throughout Work progress at minimum.
- B. Engineer will arrange meetings, prepare agenda with copies for participants, preside at meetings.
- C. Attendance Required:
 - 1. Owner.
 - 2. Job superintendent.
 - 3. Major subcontractors.
 - 4. Suppliers.
 - 5. Engineer.
 - 6. As appropriate to agenda topics for each meeting.
- D. Agenda:
 - 1. Review minutes of previous meetings.
 - 2. Review Work progress.
 - 3. Field observations, problems, and decisions.
 - 4. Identify problems which impede planned progress.
 - 5. Review submittal schedule and status of submittals.
 - 6. Review off-site fabrication and delivery schedules.
 - 7. Maintenance of progress schedule.
 - 8. Corrective measures to regain projected schedules.
 - 9. Planned progress during succeeding Work period.
 - 10. Coordinate projected progress.
 - 11. Maintenance of quality and work standards.
 - 12. Effect of proposed changes on progress schedule and coordination.
 - 13. Testing.
 - 14. Other business relating to Work.
- E. Record minutes and distribute copies within 5 days to Engineer, participants, and those affected by decisions made.

1.8 PREINSTALLATION MEETING

- A. When required in individual Specifications, convene a preinstallation meeting at site before installing Work.
- B. Require attendance of parties directly affecting, or affected by, Work.
- C. Notify Engineer 14 days in advance of meeting date.
- D. Prepare agenda and preside at meeting.
 - 1. Review conditions of installation, preparation, and installation procedures.
 - 2. Review coordination with related work.
- E. Record minutes and distribute copies within 5 days after meeting to participants and copy Engineer.

PART 2 - PRODUCTS (Not Used)

PART 3 - EXECUTION (Not Used)

END OF SECTION



AIA[®] Document C106[™] – 2013

Digital Data Licensing Agreement

AGREEMENT made as of the day of in the year
(In words, indicate day, month and year.)

BETWEEN the Party transmitting Digital Data ("Transmitting Party"):
(Name, address and contact information, including electronic addresses)

Parkhill.

and the Party receiving the Digital Data ("Receiving Party"):
(Name, address and contact information, including electronic addresses)

for the following Project:
(Name and location or address)

The Transmitting Party and Receiving Party agree as follows.

TABLE OF ARTICLES

- | | |
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| 1 | GENERAL PROVISIONS |
| 2 | TRANSMISSION OF DIGITAL DATA |
| 3 | LICENSE CONDITIONS |
| 4 | LICENSING FEE OR OTHER COMPENSATION |
| 5 | DIGITAL DATA |

ARTICLE 1 GENERAL PROVISIONS

§ 1.1 The purpose of this Agreement is to grant a license from the Transmitting Party to the Receiving Party for the Receiving Party's use of Digital Data on the Project, and to set forth the license terms.

§ 1.2 This Agreement is the entire and integrated agreement between the parties. Except as specifically set forth herein, this Agreement does not create any other contractual relationship between the parties.

ADDITIONS AND DELETIONS:

The author of this document has added information needed for its completion. The author may also have revised the text of the original AIA standard form. An *Additions and Deletions Report* that notes added information as well as revisions to the standard form text is available from the author and should be reviewed. A vertical line in the left margin of this document indicates where the author has added necessary information and where the author has added to or deleted from the original AIA text.

This document has important legal consequences. Consultation with an attorney is encouraged with respect to its completion or modification.

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§ 1.3 For purposes of this Agreement, the term Digital Data is defined to include only those items identified in Article 5 below.

§ 1.3.1 Confidential Digital Data is defined as Digital Data containing confidential or business proprietary information that the Transmitting Party designates and clearly marks as "confidential."

ARTICLE 2 TRANSMISSION OF DIGITAL DATA

§ 2.1 The Transmitting Party grants to the Receiving Party a nonexclusive limited license to use the Digital Data identified in Article 5 solely and exclusively to perform services for, or construction of, the Project in accordance with the terms and conditions set forth in this Agreement.

§ 2.2 The transmission of Digital Data constitutes a warranty by the Transmitting Party to the Receiving Party that the Transmitting Party is the copyright owner of the Digital Data, or otherwise has permission to transmit the Digital Data to the Receiving Party for its use on the Project in accordance with the terms and conditions of this Agreement.

§ 2.3 If the Transmitting Party transmits Confidential Digital Data, the transmission of such Confidential Digital Data constitutes a warranty to the Receiving Party that the Transmitting Party is authorized to transmit the Confidential Digital Data. If the Receiving Party receives Confidential Digital Data, the Receiving Party shall keep the Confidential Digital Data strictly confidential and shall not disclose it to any other person or entity except as set forth in Section 2.3.1.

§ 2.3.1 The Receiving Party may disclose the Confidential Digital Data as required by law or court order, including a subpoena or other form of compulsory legal process issued by a court or governmental entity. The Receiving Party may also disclose the Confidential Digital Data to its employees, consultants or contractors in order to perform services or work solely and exclusively for the Project, provided those employees, consultants and contractors are subject to the restrictions on the disclosure and use of Confidential Digital Data as set forth in this Agreement.

§ 2.4 The Transmitting Party retains its rights in the Digital Data. By transmitting the Digital Data, the Transmitting Party does not grant to the Receiving Party an assignment of those rights; nor does the Transmitting Party convey to the Receiving Party any right in the software used to generate the Digital Data.

§ 2.5 To the fullest extent permitted by law, the Receiving Party shall indemnify and defend the Transmitting Party from and against all claims arising from or related to the Receiving Party's modification to, or unlicensed use of, the Digital Data.

ARTICLE 3 LICENSE CONDITIONS

The parties agree to the following conditions on the limited license granted in Section 2.1:

(State below rights or restrictions applicable to the Receiving Party's use of the Digital Data, requirements for data format, transmission method or other conditions on data to be transmitted.)

This Digital Data is part of the Transmitting Party's Instruments of Service and shall not be used by Receiving Party or anyone else receiving this data through or from the Receiving Party for any purpose other than as a convenience in the preparation of bid submittals, shop drawings, coordination drawings, construction phase submittals, and field layout and staking required by the Owner for the exclusive use of the referenced Project. Any use or reuse by the Receiving Party or by others will be at the Receiving Party's sole risk and without liability or legal exposure to Transmitting Party. The Receiving Party agrees to make no claim and hereby waive, to the fullest extent permitted by law, any claim or cause of action of any nature against Transmitting Party, its officers, directors, employees, or subconsultants that may arise out of or in connection with Receiving Party's use of this Digital Data.

Receiving party or any third party, to the fullest extent permitted by law, shall indemnify and hold harmless the Transmitting Party against all damages, liabilities or costs, including reasonable attorney's fees and defense costs arising out of or resulting from Receiving Party or any third parties use of this Digital Data.

No representation as to the compatibility of this Digital Data with Receiving Party's hardware or software is provided.

This Digital Data is not a Construction Document. Differences may exist between this Digital Data and corresponding two-dimensional hard-copy Construction Document. The Transmitting Party makes no representation regarding the

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accuracy or completeness of the Digital Data the Receiving Party receives. In the event that a conflict arises between the signed/sealed two-dimensional hard-copy Construction Document prepared by Transmitting Party and the Digital Data, the signed/sealed two-dimensional hard-copy Construction Document shall govern. The Receiving Party is responsible for determining if any conflict exists. By the Receiving Party's use of this Digital Data, Receiving Party is not relieved of their duty to fully comply with the Contract Documents, including, and without limitation, the need to check, confirm and coordinate all dimensions and details, field measurements, verify field conditions and coordination of work with that of other contractors for the Project.

Because information presented in the Digital Data can be modified, unintentionally or otherwise, the Transmitting Party reserves the right to remove all indicia of ownership and/or involvement from each Digital Data.

Under no circumstances shall delivery of this Digital Data for use by the Receiving Party be deemed a sale of document ownership by Transmitting Party, and no warranties, either express or implied, of merchantability or fitness for any particular purpose is made. In no event shall the Transmitting Party be liable for any loss of profit or any consequential damages as a result of the Receiving Party's use or reuse of this Digital Data.

The Digital Data file does not necessarily contain all the information that is required to produce finished Construction Documents. Because of this, there may be data within the Digital Data that is missing, incomplete or even contradictory to the information provided in the final two dimensional Construction Documents.

Professional judgment will need to be used by the Receiving Party, along with reasonable expectations and interpretations in order to use the Digital Data for its intended purpose. Should the Transmitting Party provide revised and updated copies of the Digital Data to the Receiving Party throughout the Project, all terms and conditions of this agreement will be applicable and unchanged for all subsequent transmissions of the Digital Data.

ARTICLE 4 LICENSING FEE OR OTHER COMPENSATION

The Receiving Party agrees to pay the Transmitting Party the following fee for the Receiving Party's use of the Digital Data:

(State the fee, in dollars, or other method by which the Receiving Party will compensate the Transmitting Party for the Receiving Party's use of the Digital Data.)

DURING PROCUREMENT PHASE

.dwg Files

1-3 Sheets \$125.00 per sheet plus applicable tax

4-6 Sheets \$500.00 flat fee plus applicable tax

7-9 Sheets \$700 flat fee plus applicable tax

.rvt Files

Revit Models are \$300.00 per model plus applicable tax

UPON AWARD OF CONTRACT:

No service fee will be required for delivery of the electronic file(s).

ARTICLE 5 DIGITAL DATA

The Parties agree that the following items constitute the Digital Data subject to the license granted in Section 2.1:

(Identify below, in detail, the information created or stored in digital form the parties intend to be subject to this Agreement.)

[Revit Models (.rvt files)]

[AutoCAD (.dwg files)]

[Portable Document Format (.pdf)]

This Agreement is entered into as of the day and year first written above and will terminate upon Substantial Completion of the Project, as that term is defined in AIA Document A201™–2017, General Conditions of the Contract for Construction, unless otherwise agreed by the parties and set forth below.
(Indicate when this Agreement will terminate, if other than the date of Substantial Completion.)

None

PARKHILL

TRANSMITTING PARTY (Signature)

(Printed name and title)

RECEIVING PARTY (Signature)

(Printed name and title)

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SECTION 01 32 16 - CONSTRUCTION PROGRESS SCHEDULE

PART 1 - GENERAL

1.1 SUMMARY

- A. Section Includes:
 - 1. Submittals.
 - 2. Bar Gantt chart schedules.
 - 3. Review and evaluation.
 - 4. Updating schedules.
 - 5. Distribution.
- B. Related Sections:
 - 1. Other Division 01 Specification Sections apply to Work of this Section.

1.2 SUBMITTALS

- A. Post as electronic file to Project website.
- B. Submit initial progress schedule for Engineer review within 15 days after established Notice to Proceed date.
- C. Schedule Updates:
 - 1. Submit with each Application for Payment.
 - 2. Projected and actual percent of completion.
 - 3. Completion progress by listed activity and subactivity to within 5 working days prior to submittal.
 - 4. Changes in Work scope and activities modified since submittal.
 - 5. Delays in submittals or resubmittals, deliveries, or Work.
 - 6. Revised projections of progress and completion.
- D. Narrative Progress Report:
 - 1. Submit with each Application for Payment.
 - 2. Summary of Work completed during past period between reports.
 - 3. Work planned during next period.
 - 4. Explanation of differences between summary of Work completed and Work planned in previously-submitted report.
 - 5. Current and anticipated delaying factors and estimated impact on other activities and completion milestones.
 - 6. Corrective action taken or proposed.

1.3 BAR GANTT CHART SCHEDULES

- A. Format Bar Gantt chart Schedule to include at least:
 - 1. Identification and listing, in chronological order, activities reasonably required to complete Work including:
 - a. Subcontract Work.
 - b. Major equipment design, fabrication, factory testing, and delivery dates including required lead times.
 - c. Move-in and other preliminary activities.

- d. Equipment and equipment system test and startup activities.
- e. Project closeout and cleanup.
- f. Work sequences, constraints, and milestones.
- 2. Listings identified by Specification Section number.
- 3. Identification of:
 - a. Horizontal time frame by year, month, and week.
 - b. Duration, early start, and completion for each activity and subactivity.
 - c. Critical activities and Project float.
 - d. Sub-schedules to further define critical portions of Work.

1.4 REVIEW AND EVALUATION

- A. Participate in joint review and evaluation of schedules with Engineer at each Progress Meeting or Application for Payment submittals.
- B. Evaluate Project status to determine Work behind and ahead of schedule.
- C. After review, revise schedules incorporating results of review and resubmit within 10 days.

1.5 UPDATING SCHEDULES

- A. Maintain schedules to record actual start and finish dates of completed activities.
- B. Indicate progress of each activity to date of revision with projected completion date of each activity. Update schedules to depict current status of Work.
- C. Identify activities modified since previous submittal, major changes in Work, and other identifiable changes.
- D. Upon approval of Change Order, include change in next schedule submittal.
- E. Indicate changes required to maintain Date of Substantial Completion.
- F. Prepare narrative report to define problem areas, anticipated delays, and impact on schedule. Report corrective action taken or proposed and effect.

1.6 DISTRIBUTION

- A. Following joint review, distribute copies to subcontractors, suppliers, Engineer, Owner, and other concerned parties.
- B. Instruct recipients to promptly report, in writing, problems anticipated by projections shown in schedules.

PART 2 - PRODUCTS (Not Used)

PART 3 - EXECUTION (Not Used)

END OF SECTION

SECTION 01 33 00 - SUBMITTAL PROCEDURES

PART 1 - GENERAL

1.1 SUMMARY

- A. Section Includes:
 - 1. Submittal procedures.
 - 2. Resubmittal requirements.
 - 3. Proposed products list.
 - 4. Requirements for complete shop drawings.
 - 5. Product data.
 - 6. Samples.
 - 7. Test reports.
 - 8. Certificates.
 - 9. Manufacturer instructions.
 - 10. Manufacturer field reports.
- B. Related Requirements:
 - 1. Other Division 01 Specification Sections apply to Work of this Section.

1.2 SUBMITTAL PROCEDURES

- A. Submit to Engineer for review to check for conformance with information given and design concept expressed in Contract Documents.
- B. Produce copies and distribute in accordance with this Article.
- C. Use Project website to submit record documents as described in Section 01 70 00 "Execution and Closeout Requirements."
- D. Transmit each submittal separately with Contractor's standard transmittal letter including Contractor name, address, and phone number. Each Submittal shall contain only one Specification Section.
- E. Sequentially number transmittal forms using Section number or Contractor's sequential numbering system.
- F. Identify Project, Contractor, subcontractor, or supplier, pertinent Drawing sheet and detail number(s), and Specification Section number appropriate to Submittal.
- G. Apply Contractor's stamp, signed or initialed certifying review, verification of products required, field dimensions, adjacent construction Work, and coordination of information, is per requirements of Work and Contract Documents.
- H. Schedule Submittals to expedite Project and deliver to Engineer. Coordinate submission of related items.
- I. For each Submittal for review, allow 10 working days excluding delivery time to and from Contractor.
- J. Identify variations from Contract Documents and product or system limitations detrimental to successful performance of completed Work. Information, comments, field verifications, responses, or other notations marked on Submittals by Contractor shall be in blue or green colors only.
- K. Distribute copies of reviewed Submittals to concerned parties. Instruct parties to promptly report any inability to comply with provisions.
- L. Unrequested Submittals will not be recognized or processed.

- M. Format:
 - 1. Submit all Submittals digitally using PDF file extension. Each Submittal shall be a single PDF file including transmittal letter. Multiple files for same Submittal will not be accepted.
 - 2. Submittals in any other format, including ZIP files, will be rejected.
 - 3. Hard copies, not accepted.
 - 4. To ensure each page is legible, PDF pages of Drawings shall be same size/scale as hard copy. Where applicable, provide scale symbols to indicate scale. Illegible submittals will be rejected.
 - 5. Upload Submittals to Project website.
- N. Submittal procedures described herein apply to construction progress schedule, products list, Shop Drawings, product data, samples (actual samples and digital files of same), design data, test reports, certificates, manufacturer's instructions and field reports, erection Drawings, RFIs, and other Submittals submitted to Engineer.

1.3 RESUBMITTAL REQUIREMENTS

- A. Revise Submittals as required and resubmit to meet requirements specified and noted on submittal reviews.
- B. Mark as *Resubmittal*.
- C. Reuse original transmittal number and supplement with sequential alphabetical or numeric suffix for each Resubmittal.

1.4 PROPOSED PRODUCTS LIST

- A. Within 15 days after date of Notice to Proceed, submit complete list of major products proposed for use, with name of manufacturer, trade name, and model number of each product.
- B. For products specified only by reference standards, give manufacturer, trade name, model or catalog designation, and reference standards.

1.5 REQUIREMENTS FOR COMPLETE SHOP DRAWINGS

- A. Printable Image Size: Minimum 8.5 by 11 inches, maximum 30 by 42 inches.
- B. Draw details to a noted scale.
- C. Draw site plans to same scale indicated on Contract Drawings.
- D. Engineer-issued Construction Documents (electronic or paper format) cannot be used in any shape, form, or fashion in creating and developing Shop Drawings, except electronic files containing floor, site plans, or layout plans purchased from Engineer may be used as backgrounds for Contractor, subcontractors, sub-subcontractors, and material suppliers in Shop Drawing process.

1.6 PRODUCT DATA

- A. Mark each copy to identify applicable products, models, options, and other data. Supplement manufacturers' standard data to provide information unique to Project.
- B. Include recommendations for application and use, and reference to compliance with specified standards of trade associations and testing agencies.
- C. After review, distribute per Article 1.2 "Submittal Procedures," and provide copies for Record Documents described in Section 01 70 00 "Execution and Closeout Requirements."

1.7 SAMPLES

- A. Submit samples to illustrate functional and aesthetic characteristics of product with integral parts and attachment devices. Accompany physical sample with color digital image (photo or scanned PDF) of sample. Coordinate sample Submittals for interfacing work.
- B. Unless otherwise specified, submit samples of finishes from manufacturer's full range of standard colors, textures, and patterns, for Engineer selection.
- C. Where variations in color, pattern, or texture are inherent in material or product, submit multiple samples to indicate approximate range or variations.
- D. Include full Project information and identification of manufacturer, model number, type, style and color on each sample.
- E. Submit number of samples specified in individual Specifications, one retained by Engineer.
- F. Reviewed samples which may remain as part of Work indicated in individual Specifications.
- G. Do not use Samples for testing unless specifically stated in individual Specifications.

1.8 TEST REPORTS

- A. Submit for Engineer's knowledge as Contract Administrator or Owner.
- B. Submit test reports for information to assess conformance with information given and design concept expressed in Contract Documents.

1.9 CERTIFICATES

- A. When specified in individual Specifications, submit certification by manufacturer, installation/application subcontractor, or Contractor, to Engineer.
- B. Indicate material or product conforms to/exceeds specified requirements. Submit supporting reference data, affidavits, and certifications as appropriate.
- C. Certificates may be recent or previous test results on material or product, but must be acceptable to Engineer.

1.10 MANUFACTURER'S INSTRUCTIONS

- A. When specified in individual Specifications, submit manufacturer-printed instructions for delivery, storage, assembly, installation, startup, adjusting, and finishing.
- B. Identify conflicts between manufacturers' instructions and Contract Documents.
- C. Indicate special procedures, conditions requiring special attention and special environmental criteria required for application or installation.

1.11 MANUFACTURER'S FIELD REPORTS

- A. Submit reports for Engineer's benefit as contract administrator or for Owner.
- B. Submit report within 30 days of observation to Engineer for information.
- C. Submit for information to assess conformance with information given and design concept expressed in Contract Documents.

PART 2 - PRODUCTS (Not Used)

PART 3 - EXECUTION (Not Used)

END OF SECTION

SECTION 01 40 00 - QUALITY REQUIREMENTS

PART 1 - GENERAL

1.1 SUMMARY

- A. Section Includes:
 - 1. Quality control.
 - 2. Tolerances.
 - 3. References.
 - 4. Mockup requirements.
 - 5. Testing and inspection services.
 - 6. Manufacturer's field services.
- B. Related Sections:
 - 1. Other Division 01 Specification Sections apply to Work of this Section.

1.2 QUALITY CONTROL

- A. Monitor quality control over suppliers, manufacturers, products, services, Site conditions, and workmanship, to produce Work of specified quality.
- B. Comply with manufacturer's instructions. If manufacturer's instructions conflict with Contract Documents, request clarification from Engineer before proceeding.
- C. Perform Work using persons qualified to produce required and specified quality.
- D. Products, materials, and equipment may be subject to inspection by Engineer at place of manufacture or fabrication. Such inspections shall not relieve Contractor of complying with requirements of Contract Documents.
- E. Supervise performance of Work to ensure Work, whether completed or in progress, will not be subjected to harmful, dangerous, damaging, or otherwise deleterious exposure during construction.

1.3 TOLERANCES

- A. Monitor fabrication and installation tolerance control of products to produce acceptable Work. Do not permit tolerances to accumulate.
- B. Comply with manufacturer's recommended tolerances and tolerance requirements in reference standards. When tolerances conflict with Contract Documents, request clarification from Engineer before proceeding.
- C. Adjust products to appropriate dimensions; position before securing products in place.

1.4 REFERENCES

- A. For products or workmanship specified by association, trade, or other consensus standards, comply with requirements of standard except when more rigid requirements are specified or required by applicable codes.
- B. Conform to reference standard by date of issue current as of date of Contract Documents except where specific date is established by code.
- C. Obtain copies of standards and maintain onsite when required by product Specifications.

- D. When requirements of indicated reference standards conflict with Contract Documents, request clarification from Engineer before proceeding.
- E. Neither contractual relationships, duties, or responsibilities of parties in Contract, nor those of Engineer shall be altered from Contract Documents by mention or inference in reference documents.

1.5 TESTING AND INSPECTION SERVICES

- A. Owner will employ and pay for specified services of an independent firm to perform testing and inspection.
- B. Independent firm will perform tests, inspections, and other services specified in individual Specifications and as required by Engineer.
- C. Testing, inspections, and source quality control may occur on or off Project Site. Perform off-site testing as required by Engineer.
- D. Submit reports to Engineer, indicating observations and results of tests and compliance or noncompliance with Contract Documents.
- E. Cooperate with independent firm. Furnish samples of materials, design mix, equipment, tools, storage, safe access, and assistance by incidental labor, as requested.
 - 1. Notify Engineer and independent firm 24 hours before expected time for operations requiring services.
 - 2. Pay for additional samples and tests required for Contractor use.
- F. Employment of testing agency or laboratory shall not relieve Contractor of obligation to perform Work per requirements of Contract Documents.
- G. Retesting or Re-inspection Required Because of Nonconformance with Specified or Indicated Requirements: Payment for retesting or re-inspection will be charged to Contractor by deducting testing charges from Contract Sum/Price.
- H. Independent Firm Responsibilities:
 - 1. Test samples of mixes submitted by Contractor.
 - 2. Provide qualified personnel at Site. Cooperate with Engineer and Contractor in performance of services.
 - 3. Perform indicated sampling and testing of products per specified standards.
 - 4. Ascertain compliance of materials and mixes with Contract Document requirements.
 - 5. Promptly notify Engineer and Contractor of observed irregularities or nonconformance of Work or products.
 - 6. Perform additional tests required by Engineer.
 - 7. Attend preconstruction and progress meetings.
- I. Independent Firm Reports. After each test, promptly submit report to Engineer and Contractor and provide interpretation of test results. Include:
 - 1. Date issued.
 - 2. Project title and number.
 - 3. Name of inspector.
 - 4. Date and time of sampling or inspection.
 - 5. Identification of product and Specifications.
 - 6. Location in Project.
 - 7. Type of inspection or test.
 - 8. Date of test.
 - 9. Results of tests.
 - 10. Conformance with Contract Documents.

1.6 MANUFACTURER'S FIELD SERVICES

- A. When specified in individual Specifications, require material or product suppliers or manufacturers to provide qualified staff personnel to observe site conditions, conditions of surfaces and installation, quality of workmanship, equipment startup, testing, adjusting, and balancing equipment, commissioning, and other as applicable, and initiate instructions when necessary.
- B. Submit qualifications of observer to Engineer 30 days before required observations. Observer is subject to Engineer approval.
- C. Report observations and Site decisions or instructions given to applicators or installers that are supplemental or contrary to manufacturer's written instructions.
- D. Refer to Section 01 33 00 "Submittal Procedures," Article 1.11 - Manufacturer's Field Reports.

PART 2 - PRODUCTS (Not Used)

PART 3 - EXECUTION (Not Used)

END OF SECTION

SECTION 01 43 26 - TESTING LABORATORY SERVICES

PART 1 - GENERAL

1.1 SUMMARY

- A. Section Includes:
 - 1. Selection and payment.
 - 2. Contractor submittals.
 - 3. Laboratory responsibilities.
 - 4. Laboratory reports.
 - 5. Limits on testing laboratory authority.
 - 6. Contractor responsibilities.
 - 7. Schedule of inspections and tests.
- B. Related Sections:
 - 1. Other Division 01 Specification Sections apply to Work of this Section.

1.2 REFERENCES

- A. ASTM C1077 - Standard Practice for Agencies Testing Concrete and Concrete Aggregates for Use in Construction and Criteria for Testing Agency Evaluation.
- B. ASTM D3666 - Standard Specification for Minimum Requirements for Agencies Testing and Inspecting Road and Paving Materials.
- C. ASTM D3740 - Standard Practice for Minimum Requirements for Agencies Engaged in Testing/Inspection of Soil and Rock as Used in Engineering Design and Construction.
- D. ASTM E329 - Standard Specification for Minimum Requirements for Agencies Engaged in Construction Inspection, Testing, or Special Inspection.
- E. ISO/IEC 17025.

1.3 SELECTION AND PAYMENT

- A. Contractor shall employ and pay for services of an independent testing laboratory to perform specified inspection and testing.
- B. Employment of testing laboratory shall in no way relieve Contractor of obligation to perform work per Contract Document requirements.

1.4 QUALITY ASSURANCE

- A. Comply with requirements of ASTM C1077, D3666, D3740, E329, and ISO/IEC 17025.
- B. Laboratory: Authorized to operate in State of Texas.
- C. Laboratory Staff: Maintain a full-time, on-staff, registered Engineer to review services.

1.5 CONTRACTOR SUBMITTALS

- A. Before starting Work, submit testing laboratory name, address, and phone number, as well as names of full-time registered Engineer and responsible officer.
- B. Submit copy of laboratory facility inspection report made by Materials Reference Laboratory of National Bureau of Standards during most recent inspection, with remedy memorandum of deficiencies, reported by inspection.

- C. Submit Testing Laboratory firm's reports to the distribution list the Engineer provided at preconstruction conference, indicating observations and results of tests and indicating compliance or non-compliance with Contract Documents.
- D. Testing and employment of testing agency or laboratory does not relieve Contractor from performing Work to Contract requirements.
- E. Retest/reinspect required because of non-conformance to specified requirements using same testing agency or laboratory. Payment for retesting is Contractor responsibility.

1.6 LABORATORY RESPONSIBILITIES

- A. Test samples of mixes submitted by Contractor.
- B. Provide qualified personnel onsite. Cooperate with Engineer and Contractor in service performance.
- C. Perform specified inspection, sampling, and testing of Products per specified standards.
- D. Ascertain compliance of materials and mixes with Contract Document requirements.
- E. Promptly notify Engineer and Contractor of observed irregularities or non-conformance of Work or Products.
- F. Perform additional inspections and tests required by Engineer.
- G. Attend pre-construction conferences.

1.7 LABORATORY REPORTS

- A. After each inspection and test, promptly distribute reports to distribution list provided by Engineer at preconstruction conference.
- B. Include:
 - 1. Date issued.
 - 2. Project title and number.
 - 3. Name of inspector.
 - 4. Date and time of sampling or inspection.
 - 5. Identification of product and Specification Section.
 - 6. Location in Project.
 - 7. Type of inspection or test.
 - 8. Date of test.
 - 9. Results of tests.
 - 10. Conformance with Contract Documents.
- C. When requested by Engineer, provide interpretation of test results.

1.8 LIMITS ON TESTING LABORATORY AUTHORITY

- A. Laboratory may not release, revoke, alter, or enlarge Contract Document requirements.
- B. Laboratory may not approve or accept any portion of Work.
- C. Laboratory may not assume any duties of Contractor.
- D. Laboratory has no authority to stop the Work.

1.9 CONTRACTOR RESPONSIBILITIES

- A. Deliver to laboratory at designated location, adequate samples of materials proposed to use which require testing along with proposed mix designs.
- B. Cooperate with laboratory personnel and provide access to Work and manufacturer facilities.

- C. Provide incidental labor and facilities to provide access to Work to test, obtain, and handle samples at site or source of products to test, facilitate tests and inspections, storage, and curing test samples.
- D. Notify Engineer and laboratory 24 hours before expected time for operations requiring inspection and testing services.
- E. Pay costs of testing laboratory services from Allowance specified in Section 01 20 00 "Price and Payment Procedures" on Engineer approval of invoices.
- F. Employ services of a separate qualified testing laboratory, arrange with laboratory, and pay for additional samples and tests required by Contractor beyond specified requirements.

1.10 SCHEDULE OF INSPECTIONS AND TESTS

- A. As indicated in individual Specifications.

PART 2 - PRODUCTS (Not Used)

PART 3 - EXECUTION (Not Used)

END OF SECTION

SECTION 01 50 00 - TEMPORARY FACILITIES AND CONTROLS

PART 1 - GENERAL

1.1 SUMMARY

- A. Section Includes:
 - 1. Temporary Utilities:
 - a. Electricity.
 - b. Lighting.
 - c. Heating.
 - d. Cooling.
 - e. Ventilation.
 - f. Communication services.
 - g. Water.
 - h. Sanitary.
 - 2. Construction Facilities:
 - a. Field offices and sheds.
 - b. Employee residential occupancy.
 - c. Vehicular access.
 - d. Parking.
 - e. Progress cleaning.
 - f. Project identification.
 - g. Traffic regulation.
 - 3. Temporary Controls:
 - a. Barriers.
 - b. Fencing.
 - c. Enclosures.
 - d. Security.
 - e. Water control.
 - f. Dust control.
 - g. Erosion and sediment control.
 - h. Noise control.
 - i. Pest and rodent control.
 - j. Pollution control.
 - k. Protect Work.
 - 4. Remove utilities, facilities, and controls.
- B. Related Requirements:
 - 1. Other Divisions 01 Specification Sections apply to Work of this Section.

1.2 ELECTRICITY

- A. Provide and pay for required power service from existing electrical utility source.

1.3 LIGHTING

- A. Do not utilize permanent building lighting during construction. Provide and maintain 1-watt-per-square-foot lighting to exterior staging and storage areas after dark for security purposes.

- B. Provide and maintain 0.25-watt-per-square-foot HID lighting to interior work areas after dark for security purposes.
- C. Provide branch wiring from power source to distribution boxes with lighting conductors, pigtails, and lamps, as required.
- D. Maintain lighting and provide routine repairs.

1.4 VENTILATION

- A. Ventilate enclosed areas to assist cure of materials, dissipate humidity, and prevent accumulation of dust, fumes, vapors, or gases.
- B. Provide temporary fan units required to maintain clean air for construction operations.

1.5 COMMUNICATION SERVICES

- A. At minimum, provide cell phone service for onsite superintendent and home office phone service.

1.6 WATER

- A. Provide, maintain, and pay for suitable quality water service required for construction operations. Extend branch piping with outlets located so water is available by hoses with threaded connections.

1.7 SANITARY

- A. Provide and maintain required facilities and enclosures.
- B. Do not use existing facilities.

1.8 FIELD OFFICES AND SHEDS

- A. Office
 - 1. Construction
 - a. Portable/mobile building(s) or buildings constructed with floors raised above ground, securely fixed to foundations with steps and landings at entrance doors.
 - b. Structurally-sound, secure, weathertight enclosure to maintain environmental conditions specified.
 - c. Maintain during progress of Work.
 - d. Temperature Transmission Resistance of Floors, Walls, and Ceilings: Compatible with occupancy and storage requirements.
 - e. Exterior Materials: Weather resistant.
 - f. Interior Materials in Offices: Sheet-type materials for walls and ceilings, prefinished or painted, resilient floors and bases.
 - 2. Lighting: Exterior lighting at entrance doors.
 - 3. Fire Extinguishers: Provide appropriate-type fire extinguisher at each building.
 - 4. Provide separate workstation, similarly equipped and furnished, for Engineer use.
 - 5. Office Heating, Cooling, and Ventilating: Automatic equipment to maintain comfort conditions.
- B. Storage Areas and Sheds
 - 1. Size storage per Specifications allowing for access and orderly provision for product maintenance and inspection.

2. Fire Extinguishers: Appropriate-type fire extinguisher at each storage area.
3. Interior Materials in Storage Sheds: As required to provide specified environmental conditions for storage of products.
4. Heating and Ventilation: As required to maintain products per Contract Documents.
5. Lighting: As required for maintenance and inspection of products.
- C. Prepare: Fill/grade sites for temporary structures sloped for drainage away from buildings.
- D. Install office spaces ready for occupancy 15 days after date fixed in Notice to Proceed.
- E. Maintenance and Cleaning
 1. Weekly janitorial services for offices, periodic cleaning and maintenance for office and storage areas.
 2. Maintain approach walks free of mud, water, and snow.
- F. Removal: At Work completion remove buildings, foundations, utility services, and debris. Restore areas to original conditions.

1.9 EMPLOYEE RESIDENTIAL OCCUPANCY

- A. Not allowed on Owner property.

1.10 VEHICULAR ACCESS

- A. Construct temporary all-weather access roads from public thoroughfares to serve construction area, width and load-bearing capacity to accommodate unimpeded traffic for construction purposes.
- B. Construct temporary bridges and culverts to span low areas and allow unimpeded drainage.
- C. Extend and relocate vehicular access as Work progress requires, providing necessary detours for unimpeded traffic flow.
- D. Location as indicated on Drawings.
- E. Provide unimpeded access for emergency vehicles. Maintain 20-foot-wide driveways with turning space between and around combustible materials.
- F. Provide and maintain access to fire hydrants and control valves free of obstructions.
- G. Provide means of removing mud from vehicle wheels before entering public streets.
- H. Do not use existing onsite roads for construction traffic.
- I. Verify with local Authorities Having Jurisdiction regarding temporary fire lanes and related access.

1.11 PARKING

- A. Construct temporary gravel-surfaced parking areas to accommodate construction personnel.
- B. Locate as approved by Engineer.
- C. When Site space is not adequate, provide additional off-site parking.
- D. Use of existing on-site streets and driveways for construction traffic is not permitted.
- E. Using designated areas of existing parking facilities by construction personnel is not permitted.
- F. Do not allow heavy or tracked vehicles or construction equipment in parking areas.
- G. Do not allow vehicle parking on existing pavement.
- H. Designate one parking space for Engineer.
- I. Permanent Pavements And Parking Facilities
 1. Before Substantial Completion, bases for permanent roads and parking areas may be used for construction traffic.

2. Avoid traffic loading beyond paving design capacity. Tracked vehicles not allowed.
3. Use of permanent parking structures not permitted.
- J. Maintenance
 1. Maintain traffic and parking areas in sound condition free of excavated material, construction equipment, products, mud, snow, and ice.
 2. Maintain existing and permanent paved areas used for construction. Promptly repair breaks, potholes, low areas, standing water, and other deficiencies, to maintain paving and drainage in original, or specified, condition.
- K. Removal, Repair
 1. Remove temporary materials and construction at Substantial Completion.
 2. Remove underground work and compacted materials to 2-foot depth. Fill and grade site as specified.
 3. Repair existing facilities damaged by use, to original condition.
- L. Mud from Site Vehicles: Provide way to remove mud from wheels before entering streets.

1.12 PROGRESS CLEANING

- A. Maintain areas free of waste materials, debris, and rubbish. Maintain a clean and orderly site.
- B. Remove debris and rubbish from pipe chases, plenums, attics, crawl spaces, and other closed or remote spaces, before enclosing space.
- C. Sweep and vacuum interior areas clean before surface finishing and continue cleaning to eliminate dust.
- D. Remove waste materials, debris, and rubbish from site and dispose off-site as required to maintain clean site.

1.13 PROJECT IDENTIFICATION

- A. Project Identification Sign
 1. Size: Provide one 8 feet wide by 4 feet high.
 2. Materials: 3/4-inch-thick exterior-grade plywood and solid-wood frame.
 3. Background Paint: Exterior quality, two coats; sign background of color as selected.
 4. Lettering: Exterior paint of quality adequate to withstand weathering, fading, and chipping for construction duration, contrasting colors as selected with exhibit lettering by professional sign painter.
 5. Lettering: Precut vinyl self-adhesive products, white.
 6. Design: Design indicated in Drawings.
 7. Content:
 - a. Project title, as indicated on Contract Documents.
 - b. Owner's name and logo.
 - c. Names and titles of Engineer and consultants.
 - d. Name of Prime Contractor.
 - e. Name of major subcontractors.
 8. Lettering: Series C of Standard Alphabet for Traffic Control Devices *Manual on Uniform Traffic Control Devices for Streets and Highways*, Federal Highway Administration.
- B. Project Informational Signs
 1. If required by other documents or Specifications, provide weather-protected signs for site-safety procedures, wage rates, and stormwater pollution prevention plan (SWPPP).
 2. Erect sign on or adjacent to field office, if required.

- C. Design sign and structure to withstand 90-mile-per-hour wind velocity.
- D. Installation
 - 1. Install Project identification sign within 15 days after date fixed by Notice to Proceed.
 - 2. Erect at designated location.
 - 3. Erect supports and framing on secure foundation, rigidly braced and framed to resist wind loadings.
 - 4. Install sign surface plumb and level with butt joints. Anchor securely.
 - 5. Paint exposed surfaces of sign supports and framing.
- E. No other signs allowed without Owner permission except those required by law.
- F. Maintain clean signs and supports. Repair deterioration and damage.
- G. Remove signs, framing, supports, and foundations at completion of Project and restore area.

1.14 TRAFFIC REGULATION

- A. Contractor Responsibilities
 - 1. Provide Traffic Control Plan (TCP) as necessary for phased construction.
 - 2. TCP must be signed and sealed by a professional engineer licensed in [Texas].
 - 3. Designate a responsible individual for TCP replacement and maintenance.
- B. Signs, Signals, And Devices
 - 1. Post- and Wall-Mounted Traffic Control and Informational Signs: As approved by authority having jurisdiction, Texas Manual on Uniform Traffic Control Devices (TMUTCD), and/or TxDOT Standards shown in Plans.
 - 2. Traffic Control Signals: As approved by local jurisdictions.
 - 3. Traffic Cones and Drums: As approved by authority having jurisdiction.
 - 4. Flares and Lights: As approved by authority having jurisdiction.
 - 5. Flagperson Equipment: As required by authority having jurisdiction.
- C. Flagpersons: Provide trained and equipped flagpersons to regulate traffic when construction operations or traffic encroach on public traffic lanes.
- D. Flares and Lights: Use during hours of low visibility to delineate traffic lanes and guide traffic.
- E. Haul Routes
 - 1. Consult with authority having jurisdiction, establish public thoroughfares to use for haul routes and site access.
 - 2. Drawings indicate haul routes designated by authorities having jurisdiction for use of construction traffic.
 - 3. Confine construction traffic to designated haul routes.
 - 4. Provide traffic control at critical areas of haul routes to regulate traffic and minimize interference with public traffic.
- F. Traffic Signs And Signals
 - 1. Provide signs at approaches to Site and on-site, crossroads, detours, parking areas, and elsewhere as needed to direct construction and affected public traffic.
 - 2. Provide, operate, and maintain automatic traffic control signals to direct and maintain orderly flow of traffic in areas under Contractor's control and areas affected by Contractor operations.
 - 3. Relocate as Work progresses to maintain effective traffic control.
- G. Removal
 - 1. Remove equipment and devices when no longer required.
 - 2. Repair damage caused by installation.

3. Remove post settings to 2-foot depth.

1.15 BARRIERS

- A. Provide barriers to prevent unauthorized entry to construction areas as well as protect existing facilities and adjacent properties from damage from construction operations. Allow for Owner's use of Site.
- B. Provide barricades and covered walkways required by authorities having jurisdiction for:
 1. Public rights-of-way.
 2. Public access to existing building.
- C. Replace damaged items condition to original condition and protect items designated to remain:
 1. Trees.
 2. Shrubbery.
 3. Lawns.
- D. Protect Site improvements including but not limited to pavements, walkways, and drainage structures from damage. Replace damaged site improvements to original condition.
- E. Protect non-owned vehicular traffic and stored materials from damage.

1.16 FENCING

- A. Construction: Commercial-grade chain-link fence.
- B. Provide 6-foot-high fence around construction site equipped with vehicular and pedestrian gates with locks.

1.17 ENCLOSURES

- A. Provide temporary insulated weathertight closure of exterior openings to accommodate acceptable working conditions and protection for products, allow temporary heating, cooling, ventilation, and maintenance of required ambient temperatures identified in individual Specifications, and prevent entry of unauthorized persons. Provide access doors with self-closing hardware and locks.

1.18 SECURITY

- A. Security Program
 1. Protect Work and existing premises from theft, vandalism, and unauthorized entry.
 2. Initiate program at Project mobilization.
 3. Maintain program throughout construction period until Owner occupancy.
- B. Entry Control
 1. Restrict entrance of persons and vehicles into Project Site.
 2. Allow entrance only to authorized persons with proper identification.
 3. Maintain log of workers and visitors and make available to Owner on request.

1.19 WATER CONTROL

- A. Grade site to drain.
- B. Maintain excavations free of water.
- C. Provide, operate, and maintain pumping equipment.
- D. Protect Site from puddling and running water. Provide water barriers required to protect site from soil erosion.

- E. Provide water barriers required to protect existing buildings from puddling, ponding, or other water accumulation that may damage foundations or other subsurface construction.

1.20 DUST CONTROL

- A. Execute Work to minimize raising dust from construction operations.
- B. Provide positive means to prevent airborne dust from dispersing into atmosphere.

1.21 EROSION AND SEDIMENT CONTROL

- A. Plan and execute construction to control surface drainage from cuts, fills, borrow, and waste disposal areas. Prevent erosion and sedimentation.
- B. Minimize surface area of bare soil exposed at one time.
- C. Provide temporary measures including berms, dikes, drains, and other devices to prevent water flow resulting in erosion.
- D. Construct fill and waste areas by selective placement to avoid erosive surface silts or clays.
- E. Periodically inspect earthwork to detect evidence of erosion and sedimentation. Promptly apply corrective measures.
- F. Comply with site Section 01 57 23 "Temporary Stormwater Pollution Control."

1.22 NOISE CONTROL

- A. Provide methods, means, and facilities to minimize disruption of Owner operations and activities due to noise produced by construction operations.
- B. Conduct activities to produce noise that may interfere with Owner operations and activities only when agreed to by Owner.

1.23 PEST AND RODENT CONTROL

- A. Provide methods, means, and facilities to prevent the following from damaging Work:
 - 1. Pests.
 - 2. Insects.
 - 3. Rodents.

1.24 POLLUTION CONTROL

- A. Provide methods, means, and facilities to prevent contamination of soil, water, and atmosphere from discharge of noxious, toxic substances, and pollutants produced by construction operations.
- B. Comply with pollution and environmental control requirements of authorities having jurisdiction.

1.25 PROTECT WORK

- A. Protect installed Work and provide special protection where specified in Specifications.
- B. Provide temporary and removable protection for installed Products. Control activity in immediate work area to minimize damage.
- C. Provide protective coverings at openings in walls, roof, and soffits.
- D. Protect finished walkways, drives, and other surfaces from traffic, dirt, wear, damage, or movement of heavy objects, by protecting with durable sheet materials.

- E. Prohibit traffic or storage upon waterproofed or roofed surfaces. If traffic/activity necessary, obtain recommendations for protection from waterproofing or roofing material manufacturer.
- F. Prohibit traffic from landscaped areas.

1.26 REMOVE UTILITIES, FACILITIES, AND CONTROLS

- A. Remove temporary above-grade utilities, equipment, facilities, and materials as soon as permanent facilities can be utilized.
- B. Remove risers for underground utilities to minimum 2-foot depth and cap.
- C. Remove buried equipment, facilities, and materials completely to minimum 2-foot depth and cap.
- D. Backfill excavations as specified in other sections and grade site as indicated.
- E. Clean and repair damage caused by installation or temporary Work.
- F. Restore existing facilities used during construction to original condition. Restore permanent facilities used during construction to specified condition.
- G. Remove when no longer needed:
 - 1. Office.
 - 2. Storage sheds.

PART 2 - PRODUCTS (Not Used)

PART 3 - EXECUTION (Not Used)

END OF SECTION

SECTION 01 57 23 - TEMPORARY STORMWATER POLLUTION CONTROL

PART 1 - GENERAL

1.1 SUMMARY

- A. Section Includes:
 - 1. Contractor responsibilities.
 - 2. Submittals.
 - 3. Erosion and sediment controls.
- B. Related Requirements:
 - 1. Local jurisdiction requirements.
 - 2. Division 01 Specification Sections apply to Work of this Section.

1.2 CONTRACTOR RESPONSIBILITIES

- A. Contractor is solely responsible for meeting all TCEQ and EPA requirements for stormwater pollution prevention:
 - 1. Develop a Stormwater Pollution Prevention Plan (SWPPP) if not provided;
 - 2. File Notice of Intent (NOI) and include Owner as an "Operator;"
 - 3. Install and maintain all erosion control measures and best management practices (BMPs);
 - 4. Perform inspections and prepare reports; and
 - 5. File Notice of Termination (NOT).

1.3 SUBMITTALS

- A. Submit to Engineer, SWPPP, Submittal Procedures, and all other related documentation conforming to Section 01 33 00 "Submittal Procedures."

1.4 EROSION AND SEDIMENT CONTROLS

- A. Implement structural measures to divert flows from exposed soils, temporarily store flows, or otherwise limit run-off and discharge of pollutants from exposed areas of site. Timely implement structural practices as specified in SWPPP during construction to minimize erosion and sediment run-off.
- B. Stabilized Ingress/Egress:
 - 1. Provide stabilized access to/from construction site as soon as practical per SWPPP.
 - 2. Ensure any soil tracked off-site is cleaned from existing roads, alleys, and any adjacent properties as soon as possible. Check for any pollutants (mud, silt, sand, cement, construction materials, etc.) tracked or washed off-site and perform necessary clean-up measures at the end of each work day.
- C. Silt Fences/Diversion Berms: Provide as a temporary structural practice to minimize erosion and sediment runoff, as necessary. Properly install silt fences and/or diversion berms to effectively retain sediment immediately after completing each phase of Work where erosion would occur as sheet and rill erosion (clearing and grubbing, excavation, embankment, grading, etc.).

- D. Sand/Gravel Bags: Provide as a temporary structural practice to minimize erosion and sediment runoff. Properly place bags to effectively retain sediment immediately after completing each phase of Work (clearing and grubbing, excavation, embankment, grading, etc.) in each independent runoff area (after clearing and grubbing between ridge and drain, place bags as Work progresses, remove/replace/relocate bags as needed for Work to progress in drainage area). Replace sand/gravel bags no longer in good condition, as needed.
- E. Site Stabilization:
 - 1. Minimize surface area of base soil material at one time.
 - 2. Implement necessary stabilization measures including:
 - a. Temporary/permanent seeding/sodding;
 - b. Mulching;
 - c. Geotextiles;
 - d. Vegetative buffer strips;
 - e. Paving;
 - f. Rock riprap; and/or
 - g. Rock-filled gabions.
 - h. Inlet protection.
 - 3. Implement stabilization measures per SWPPP.

PART 2 - PRODUCTS (Not Used)

PART 3 - EXECUTION (Not Used)

END OF SECTION

SECTION 01 60 00 - PRODUCT REQUIREMENTS

PART 1 - GENERAL

1.1 SUMMARY

- A. Section Includes:
 - 1. Products.
 - 2. Product delivery requirements.
 - 3. Product storage and handling requirements.
- B. Related Sections:
 - 1. Other Division 01 Specification Sections apply to Work of this Section.

1.2 PRODUCTS

- A. At minimum, comply with specified requirements and reference standards.
- B. Specified products define standard of quality, type, function, dimension, appearance, and performance required.
- C. Furnish products of qualified manufacturers suitable for intended use. Furnish products of each type by single manufacturer unless specified otherwise. Confirm manufacturer production capacity can provide sufficient product, on time, to meet Project requirements.

1.3 PRODUCT DELIVERY REQUIREMENTS

- A. Transport and handle products per manufacturer instructions.
- B. Promptly inspect shipments to ensure products comply with requirements, quantities are correct, and products are undamaged.
- C. Provide equipment and personnel to handle products. Prevent soiling, disfigurement, or damage.
- D. Owner will not assist in offloading or accepting product deliveries.

1.4 PRODUCT STORAGE AND HANDLING REQUIREMENTS

- A. Store and protect products per manufacturer instructions.
- B. Store products with seals and labels intact and legible.
- C. Store sensitive products in weathertight, climate-controlled enclosures in an environment suitable to product.
- D. For exterior storage of fabricated products, place products on sloped supports above ground.
- E. Cover products subject to deterioration with impervious sheet covering. Provide ventilation to prevent condensation and degradation of products.
- F. Store loose granular materials on solid flat surfaces in well-drained area. Prevent mixing with foreign matter.
- G. Provide equipment and personnel to store products. Prevent soiling, disfigurement, or damage.
- H. Arrange product storage to permit access for inspection. Periodically inspect to verify products are undamaged and maintained in acceptable condition.

PART 2 - PRODUCTS (Not Used)

PART 3 - EXECUTION (Not Used)

END OF SECTION

SECTION 01 70 00 - EXECUTION AND CLOSEOUT REQUIREMENTS

PART 1 - GENERAL

1.1 SUMMARY

- A. Section Includes:
 - 1. Surveying.
 - 2. Closeout procedures.
 - 3. Starting systems.
 - 4. Demonstration and instructions.
 - 5. Testing, adjusting, and balancing.
 - 6. Project record documents.
 - 7. Operation and maintenance data.
 - 8. Manual for materials and finishes.
 - 9. Manual for equipment and systems.
 - 10. Spare parts and maintenance products.
 - 11. Product warranties and product bonds.
 - 12. Examination.
 - 13. Preparation.
 - 14. Execution.
 - 15. Protecting installed construction.
 - 16. Final cleaning.
- B. Related Sections:
 - 1. Other Division 01 Specification Sections apply to Work of this Section.

1.2 SURVEYING

- A. Employ land surveyor registered in State of Texas and acceptable to Engineer.
- B. Locate and protect survey control and reference points. Promptly notify Engineer of discrepancies discovered.
- C. Control datum for survey is indicated on Drawings.
- D. Verify setbacks, easements, and rights of way. Confirm Drawing dimensions and elevations.
- E. Provide field engineering services. Establish elevations, lines, and levels using recognized engineering survey practices.
- F. Submit copy of Site Drawing signed by land surveyor certifying elevations and locations of Work are per Contract Documents.
- G. Maintain complete and accurate log of control and survey Work as Work progresses.
- H. Protect survey control points before starting Site Work. Preserve permanent reference points during construction.
- I. Promptly report to Engineer loss or destruction of reference point or relocation required because of changes in grades or other reasons.
- J. Replace dislocated survey control points based on original survey control. Make no changes without prior written notice to Engineer.

1.3 CLOSEOUT PROCEDURES

- A. Prerequisites to Substantial Completion. Complete following items before requesting Certification of Substantial Completion either for entire Work or portions of Work:
 - 1. Submit maintenance manuals, Project Record Documents, and other similar final record data per this Section.
 - 2. Complete facility startup, testing, adjusting, balancing systems and equipment, demonstrations, and instructions to Owner's operating and maintenance personnel as specified per this Section.
 - 3. Conduct inspection to establish basis for request that Work is substantially complete. Create comprehensive list (initial punch list) indicating items to complete or correct, value of incomplete or nonconforming Work, reason for incompleteness, and date of anticipated completion for each item. Include copy of list with request for Certificate of Substantial Completion.
 - 4. Obtain and submit releases enabling Owner's full, unrestricted use of Project and access to services and utilities. Include certificate of occupancy, operating certificates, and similar releases from authorities having jurisdiction and utility companies.
 - 5. Deliver tools, spare parts, extra stocks of material, and similar physical items to Owner.
 - 6. Change locks and transmit keys directly to Owner. Advise Owner's personnel of change-over in security provisions.
 - 7. Discontinue or change over and remove temporary facilities and services from Project Site along with construction tools, mockups, and similar elements.
 - 8. Perform final cleaning per this Section.
- B. Substantial Completion Inspection:
 - 1. When Contractor considers Work substantially complete, submit to Engineer and Owner:
 - a. Written certificate that Work, or designated portion, is substantially complete.
 - b. List of items to complete or correct (initial punch list).
 - 2. Within 7 days after receipt of request for Substantial Completion, Engineer and Owner will inspect to determine if Work or designated portion is substantially complete.
 - 3. If Engineer and Owner determine Work is NOT substantially complete:
 - a. Engineer and Owner will promptly notify Contractor, in writing, stating reasons for opinion.
 - b. Contractor shall remedy deficiencies in Work and send second written request for Substantial Completion to Engineer and Owner.
 - c. Engineer and Owner will reinspect Work.
 - d. Repeat until Work passes inspection.
 - 4. When Engineer and Owner finds Work is substantially complete, they will:
 - a. Prepare Certificate of Substantial Completion on EJCDC C-625, Certificate of Substantial Completion, accompanied by Contractor's list of items to complete or correct as verified and amended by Engineer and Owner (final punch list).
 - b. Submit Certificate to Owner and Contractor for written acceptance of responsibilities assigned in Certificate.
 - 5. After Work is substantially complete:
 - a. Allow Owner occupancy of Project under provisions stated in Certificate of Substantial Completion.

- b. Complete Work listed for completion or correction within time stipulated.
- C. Prerequisites for Final Completion. Complete following items before requesting final acceptance and final payment:
 - 1. When Contractor considers Work complete, submit written certification that:
 - a. Contract Documents were reviewed.
 - b. Work was examined for compliance with Contract Documents.
 - c. Work was completed per Contract Documents.
 - d. Work is complete and ready for final inspection.
 - 2. Submit:
 - a. Final punch list indicating all items are complete or correct.
 - b. Final payment request with final releases and supporting documentation not previously submitted and accepted. Include certificates of insurance for products and completed operations, where required.
 - c. Specified warranties, workmanship/maintenance bonds, maintenance agreements, and other similar documents.
 - d. Accounting statement for final changes to Contract Sum.
 - e. Contractor's Affidavit of Payment of Debts and Claims on Contractor form.
 - f. Contractor Affidavit of Release of Liens on Contractor form.
 - g. Consent of Surety to Final Payment on Contractor form.
 - 3. Perform final cleaning for Contractor-soiled areas per this Section.
- D. Final Completion Inspection:
 - 1. Within 7 days after receipt of request for final inspection, Engineer and Owner will inspect to determine if Work or designated portion is complete.
 - 2. If Engineer and Owner consider Work incomplete or defective:
 - a. Engineer and Owner will promptly notify Contractor, in writing, listing incomplete or defective Work.
 - b. Contractor shall remedy stated deficiencies and send second written request to Engineer and Owner that Work is complete.
 - c. Engineer and Owner will reinspect Work.
 - d. Redo and Inspect Deficient Work: Repeated until Work passes inspection.
 - e. Engineer and Owner inspection.

1.4 STARTING SYSTEMS

- A. Coordinate schedule for startup of various equipment and systems.
- B. Notify Engineer 7 days before startup of each item.
- C. Verify each piece of equipment or system was checked for proper lubrication, drive rotation, belt tension, control sequence, and conditions which may cause damage.
- D. Verify tests, meter readings, and electrical characteristics agree with those required by equipment or system manufacturer.
- E. Verify wiring and support components for equipment are complete and tested.
- F. Execute startup under supervision of manufacturer representative or Contractor personnel per manufacturer's instructions.
- G. When specified in individual Specifications, require manufacturer to provide authorized representative who will be present at Site to inspect, check, and approve equipment or system installation before startup and supervise placing equipment or system in operation.
- H. Submit a written report per Section 01 33 00 "Submittal Procedures," that equipment or system has properly installed and functioning correctly.

1.5 DEMONSTRATION AND INSTRUCTIONS

- A. Demonstrate operation and maintenance (O&M) of products to Owner personnel 2 weeks before date of Substantial Completion.
- B. Demonstrate Project equipment by manufacturer's representative who is knowledgeable about Project.
- C. Use O&M manuals as basis for instruction. Review contents of manual with Owner personnel in detail to explain all aspects of operation and maintenance.
- D. Demonstrate startup, operation, control, adjustment, troubleshooting, servicing, maintenance, and shutdown of each item of equipment at agreed time, at equipment location.
- E. Prepare and insert additional data in O&M manuals when need for additional data is apparent during instruction.
- F. Required instruction time for each item of equipment and system is specified in individual Specifications.

1.6 TESTING, ADJUSTING, AND BALANCING

- A. Owner will appoint and employ services of independent firm to perform testing, adjusting, and balancing. Contractor shall pay for services from cash allowance specified in Section 01 20 00 "Price and Payment Procedures."
- B. Reports will be submitted by independent firm to Engineer indicating observations and results of tests and indicating compliance or noncompliance with requirements of Contract Documents.

1.7 PROJECT RECORD DOCUMENTS

- A. Maintain on-site one set of these record documents and record actual revisions to Work:
 - 1. Drawings.
 - 2. Specifications.
 - 3. Addenda.
 - 4. Change Orders and other modifications to Contract.
 - 5. Reviewed Shop Drawings, product data, and Samples.
 - 6. Manufacturer's instruction for assembly, installation, and adjusting.
- B. Ensure entries are complete and accurate enabling future reference by Owner.
- C. Store record documents separate from documents used for construction.
- D. Record information concurrent with construction progress not less than weekly.
- E. Specifications: Legibly mark and record, at each product Section, description of actual products installed including:
 - 1. Manufacturer name, product model, and number.
 - 2. Product substitutions or alternates used.
 - 3. Changes made by Addenda and modifications.
- F. Record Drawings. Legibly mark each item to record actual construction.
 - 1. Include Contract modifications such as Addenda, supplementary instructions, change directives, field orders, minor changes in Work, and change orders.
 - 2. Include locations of concealed elements of Work.
 - 3. Identify depth of buried utility lines and provide dimensions showing distances from permanent facility components parallel to utilities.
 - 4. Dimension ends, corners, and junctions of buried utilities to permanent facility components using triangulation.

5. Identify and locate existing buried or concealed items encountered during Project.
 6. Measured depths of foundations in relation to finish floor datum.
 7. Measured horizontal and vertical locations of underground utilities and appurtenances referenced to permanent surface improvements.
 8. Measured locations of internal utilities and appurtenances concealed in construction, referenced to visible and accessible features of Work.
 9. Field changes of dimension and detail.
 10. Details not on original Drawings.
- G. Submit marked-up paper copy documents to Engineer with claim for final Application for Payment.
- H. Submit PDF electronic files of marked-up documents to Engineer with claim for final Application for Payment.

1.8 OPERATION AND MAINTENANCE DATA

- A. Submit in PDF composite electronic indexed file.
- B. Submit data bound in 8-1/2- by 11-inch text pages, 3 D-side-ring binders with durable plastic covers.
- C. Prepare binder cover with printed *Operation and Maintenance Instructions*, title of Project, and subject matter of binder when multiple binders required.
- D. Internally subdivide binder contents with permanent page dividers, logically organized as described, with tab titling clearly printed under reinforced laminated plastic tabs.
- E. Drawings: Provide with reinforced punched binder tab. Bind in with text. Fold larger Drawings to size of text pages.
- F. Contents: Prepare Table of Contents (TOC) for each volume, with each product or system description identified, typed on white paper, in three parts as:
 1. Part 1: Directory, listing names, addresses, and phone numbers of Engineer, Contractor, subcontractors, and major equipment suppliers.
 2. Part 2: O&M instructions, arranged by system and subdivided by Specification Section. For each category, identify names, addresses, and phone numbers of subcontractors and suppliers. Include:
 - a. Significant design criteria.
 - b. List of equipment.
 - c. Parts list for each component.
 - d. Operating instructions.
 - e. Maintenance instructions for equipment and systems.
 - f. Maintenance instructions for finishes including recommended cleaning methods and materials, and special precautions identifying detrimental agents.
 - g. Safety precautions to take when operating and maintaining or working near equipment.
 3. Part 3: Project documents and certificates, including:
 - a. Shop Drawings and product data.
 - b. Certificates.
 - c. Originals of warranties.

1.9 MANUAL FOR MATERIALS AND FINISHES

- A. Submit two copies of preliminary draft or proposed formats and outlines of contents before start of Work. Engineer will review draft and return one copy with comments.
- B. For equipment or component parts of equipment put into service during construction and operated by Owner, submit documents within 10 days after acceptance.

- C. Submit one copy of completed volumes 15 days before final inspection. Draft copy reviewed and returned after final inspection, with Engineer comments. Revise content of document sets as required before final submission.
- D. Submit two sets of revised final volumes within 10 days after final inspection.
- E. Submit in PDF composite electronic indexed file of final manual within 10 days after final inspection.
- F. Building Products, Applied Materials, and Finishes: Include product data with catalog number, size, composition, and color and texture designations. Include information for reordering custom-manufactured products.
- G. Instructions for Care and Maintenance: Include manufacturer recommendations for cleaning agents and methods, precautions against detrimental agents and methods, and recommended schedule for cleaning and maintenance.
- H. Moisture Protection and Weather-Exposed Products: Include product data listing applicable reference standards, chemical composition, and details of installation. Include recommendations for inspections, maintenance, and repair.
- I. Additional requirements as specified in individual product Specifications.
- J. Include listing in TOC for design data with tabbed fly sheet and space for insertion of data.

1.10 MANUAL FOR EQUIPMENT AND SYSTEMS

- A. Submit two copies of preliminary draft or proposed formats and outlines of contents before Work. Engineer will review draft and return one copy with comments.
- B. For equipment or component parts of equipment put into service during construction and operated by Owner, submit documents within 10 days after acceptance.
- C. Submit one copy of completed volumes 15 days before final inspection. Draft copy will be reviewed and returned after final inspection with Engineer comments. Revise content of document sets as required before final submission.
- D. Submit two sets of revised final volumes within 10 days after final inspection.
- E. Submit in PDF composite electronic indexed file of final manual within 10 days after final inspection.
- F. Each System and Item of Equipment: Include description of unit/system and component parts. Identify function, normal operating characteristics, and limiting conditions. Include performance curves with engineering data and tests, complete nomenclature, and model number of replaceable parts.
- G. Panelboard Circuit Directories: Provide electrical service characteristics, controls, and communications by label machine.
- H. Include color-coded wiring diagrams as installed.
- I. Operating Procedures: Include startup, break-in, and routine normal operating instructions and sequences. Include regulation, control, stopping, shutdown, and emergency instructions. Include summer, winter, and special operating instructions.
- J. Maintenance Requirements: Include routine procedures and guide for preventative maintenance and troubleshooting; disassembly, repair, and reassembly instructions; and alignment, adjusting, balancing, and checking instructions.
- K. Include servicing and lubrication schedule and list of lubricants required.
- L. Include manufacturer-printed operation and maintenance instructions.
- M. Include sequence of operation by controls manufacturer.
- N. Include original manufacturer parts list, illustrations, assembly drawings, and diagrams required for maintenance.
- O. Include control diagrams by controls manufacturer as installed.
- P. Include Contractor coordination Drawings with color-coded piping diagrams as installed.

- Q. Include charts of valve tag numbers, with location and function of each valve, keyed to flow and control diagrams.
- R. Include list of original manufacturer's spare parts, current prices, and recommended quantities maintained in storage.
- S. Include test and balancing reports per Section 01 40 00 "Quality Requirements."
- T. Additional requirements as specified in individual product Specifications.
- U. Include listing in TOC for design data with tabbed dividers and space for insertion of data.

1.11 SPARE PARTS AND MAINTENANCE PRODUCTS

- A. Furnish spare parts, maintenance, and extra products in quantities specified in individual Specifications.
- B. Deliver to place in location as directed by Owner. Obtain receipt before final payment.

1.12 PRODUCT WARRANTIES AND PRODUCT BONDS

- A. Obtain warranties and bonds executed by responsible subcontractors, suppliers, and manufacturers within 10 days after completion of applicable item of Work.
- B. Execute and assemble transferable warranty documents and bonds from subcontractors, suppliers, and manufacturers.
- C. Verify documents are in proper form, contain full information, and are notarized.
- D. Co-execute submittals when required.
- E. Include TOC and assemble in three D-side-ring binders with durable plastic cover.
- F. Submit before final Application for Payment.
- G. Time of Submittals:
 - 1. For equipment or component parts of equipment put into service during construction with Owner permission, submit documents within 10 days after acceptance.
 - 2. Make other submittals within 10 days after date of Substantial Completion before final Application for Payment.
 - 3. For items of Work for which acceptance is delayed beyond Substantial Completion, submit within 10 days after acceptance listing date of acceptance as beginning of warranty or bond period.

PART 2 - PRODUCTS (Not Used)

PART 3 - EXECUTION

3.1 EXAMINATION

- A. Verify existing Site conditions and substrate surfaces are acceptable for subsequent Work.
- B. Beginning new Work means acceptance of existing conditions.
- C. Verify existing substrate can structurally support or attach new Work applied.
- D. Examine and verify specific conditions described in individual Specifications.
- E. Verify utility services are available with correct characteristics and in correct locations.

3.2 PREPARATION

- A. Clean substrate surfaces before applying next material or substance per manufacturer instructions.

- B. Seal cracks or openings of substrate before applying next material or substance.
- C. Apply manufacturer-required or -recommended substrate primer, sealer, or conditioner before applying new material or substance in contact or bond.

3.3 EXECUTION

- A. Comply with manufacturer installation instructions performing each step in sequence. Maintain one set of manufacturer installation instructions at Project Site during installation and until completion of construction.
- B. When manufacturer installation instructions conflict with Contract Documents, request clarification from Engineer before proceeding.
- C. Verify field measurements are as indicated on approved Shop Drawings or as instructed by manufacturer.
- D. Secure products in place with positive anchorage devices designed and sized to withstand stresses, vibration, physical distortion, or disfigurement.
 - 1. Secure Work true-to-line and level and within specified tolerances, or if not specified, industry-recognized tolerances.
 - 2. Physically separate products in place, provide electrical insulation, or provide protective coatings to prevent galvanic action or corrosion between dissimilar metals.
 - 3. Exposed Joints: Provide uniform joint width and arrange to obtain best visual effect. Refer questionable visual-effect choices to Engineer for final decision.
- E. Allow for expansion of materials and building movement.
- F. Climatic Conditions and Project Status: Install each unit of Work under conditions to ensure best possible results in coordination with entire Project.
 - 1. Isolate each unit of Work from incompatible Work necessary to prevent deterioration.
 - 2. Coordinate enclosure of Work with required inspections and tests to minimize necessity of uncovering Work for those purposes.
- G. Mounting Heights: Where not indicated, mount individual units of Work at industry-recognized standard mounting heights for particular application indicated.
 - 1. Refer questionable mounting heights choices to Engineer for final decision.
 - 2. Elements Identified as Accessible to Handicapped: Comply with applicable codes and regulations.
- H. Adjust operating products and equipment to ensure smooth and unhindered operation.
- I. Clean and perform maintenance on installed Work as frequently as necessary through remainder of construction. Lubricate operable components recommended by manufacturer.

3.4 PROTECTING INSTALLED CONSTRUCTION

- A. Protect installed Work and provide special protection where specified.
- B. Provide temporary and removable protection for installed products. Control activity in immediate Work area to prevent damage.
- C. Provide protective coverings at walls, projections, jambs, sills, and soffits of openings.
- D. Use durable sheet materials to protect finished floors, stairs, and other surfaces from traffic, dirt, wear, damage, or movement of heavy objects.
- E. Prohibit traffic or storage upon waterproofed or roofed surfaces. When traffic or activity necessary, obtain recommendations for protection from waterproofing or roofing material manufacturer.
- F. Prohibit traffic from landscaped areas.

3.5 FINAL CLEANING

- A. Execute final cleaning before final Project assessment. Employ experienced personnel or professional cleaning firm.
- B. Clean interior and exterior glass and surfaces exposed to view. Remove temporary labels, stains, and foreign substances. Polish transparent and glossy surfaces and vacuum carpeted and soft surfaces.
- C. Clean equipment and fixtures to sanitary condition with appropriate cleaning materials.
- D. Clean filters of operating equipment.
- E. Clean debris from roofs, gutters, downspouts, and drainage systems.
- F. Clean site. Sweep paved areas and rake landscaped surfaces clean.
- G. Remove waste and surplus materials, rubbish, and construction facilities from site.

END OF SECTION

SECTION 03 10 00 - CONCRETE FORMING AND ACCESSORIES

PART 1 - GENERAL

1.1 SUMMARY

- A. Section Includes:
 - 1. Form-facing material for cast-in-place concrete.
 - 2. Shoring, bracing, and anchoring.
- B. Related Requirements:
 - 1. Division 01 Specification Sections apply to Work of this Section.
 - 2. Section 32 13 13 "Concrete Paving" for formwork related to concrete pavement and walks.

1.2 DEFINITIONS

- A. Form-Facing Material: Temporary structure or mold for the support of concrete while the concrete is setting and gaining sufficient strength to be self-supporting.
- B. Formwork: The total system of support of freshly placed concrete including the mold or sheathing that contacts the concrete as well as supporting members, hardware, and necessary bracing.

1.3 PREINSTALLATION MEETINGS

- A. Preinstallation Conference: Conduct conference at Project site.
 - 1. Review the following:
 - a. Special inspection and testing and inspecting agency procedures for field quality control.
 - b. Construction, movement, contraction, and isolation joints
 - c. Forms and form-removal limitations.
 - d. Anchor rod and anchorage device installation tolerances.

1.4 ACTION SUBMITTALS

- A. Product Data: For each of the following:
 - 1. Exposed surface form-facing material.
 - 2. Concealed surface form-facing material.
 - 3. Form ties.
 - 4. Form-release agent.

1.5 INFORMATIONAL SUBMITTALS

- A. Qualification Data: For testing and inspection agency.
- B. Field quality-control reports.
- C. Minutes of preinstallation conference.

PART 2 - PRODUCTS

2.1 PERFORMANCE REQUIREMENTS

- A. Concrete Formwork: Design, engineer, erect, shore, brace, and maintain formwork, shores, and reshores in accordance with ACI 301 to support vertical, lateral, static, and dynamic loads, and construction loads that might be applied, until structure can support such loads so that resulting concrete conforms to the required shapes, lines, and dimensions.
 - 1. Design wood panel forms in accordance with APA's "Concrete Forming Design/Construction Guide."
 - 2. Design formwork to limit deflection of form-facing material to 1/240 of center-to-center spacing of supports.

2.2 FORM-FACING MATERIALS

- A. As-Cast Surface Form-Facing Material:
 - 1. Provide continuous, true, and smooth concrete surfaces.
 - 2. Furnish in largest practicable sizes to minimize number of joints.
 - 3. Acceptable Materials: As required to comply with Surface Finish designations specified in Section 03 30 00 "Cast-In-Place Concrete" and as follows:
 - a. Plywood, metal, or other approved panel materials.
 - b. Exterior-grade plywood panels, suitable for concrete forms, complying with DOC PS 1 and as follows:
 - 1) APA Structural 1 Plyform, B-B or better; mill oiled and edge sealed.
- B. Concealed Surface Form-Facing Material: Lumber, plywood, metal, plastic, or another approved material.
 - 1. Provide lumber dressed on at least 2 edges and 1 side for tight fit.

2.3 RELATED MATERIALS

- A. Chamfer Strips: Wood, metal, PVC, or rubber strips, 3/4-inch by 3/4-inch, minimum.
- B. Form-Release Agent: Commercially formulated form-release agent that does not bond with, stain, or adversely affect concrete surfaces and does not impair subsequent treatments of concrete surfaces.
 - 1. Formulate form-release agent with rust inhibitor for steel form-facing materials.
 - 2. Form release agent for form liners shall be acceptable to form liner manufacturer.
- C. Form Ties: Factory-fabricated, removable or snap-off, glass-fiber-reinforced plastic, or metal form ties designed to resist lateral pressure of fresh concrete on forms and to prevent spalling of concrete on removal.
 - 1. Furnish ties that, when removed, leave holes no larger than 1 inch in diameter in concrete surface.

PART 3 - EXECUTION

3.1 INSTALLATION OF FORMWORK

- A. Comply with ACI 301.

- B. Construct formwork so concrete members and structures are of size, shape, alignment, elevation, and position indicated within tolerance limits of ACI 117, and to comply with the Surface Finish designations specified in Section 03 30 00 "Cast-In-Place Concrete" for as-cast finishes.
- C. Limit concrete surface irregularities as follows:
 - 1. Surface Finish-2.0: ACI 117 Class B, 1/4-inch.
- D. Construct forms tight enough to prevent loss of concrete mortar.
 - 1. Minimize joints.
 - 2. Exposed Concrete: Symmetrically align joints in forms.
- E. Construct removable forms for easy removal without hammering or prying against concrete surfaces.
 - 1. Provide crush or wrecking plates where stripping may damage cast-concrete surfaces.
 - 2. Provide top forms for inclined surfaces steeper than 1.5 horizontal to 1 vertical.
 - 3. Install keyways, reglets, recesses, and other accessories for easy removal.
- F. Do not use rust-stained, steel, form-facing material.
- G. Set edge forms, bulkheads, and intermediate screed strips for slabs to achieve required elevations and slopes in finished concrete surfaces.
 - 1. Provide and secure units to support screed strips
 - 2. Use strike-off templates or compacting-type screeds.
- H. Provide temporary openings for cleanouts and inspection ports where interior area of formwork is inaccessible.
 - 1. Close openings with panels tightly fitted to forms and securely braced to prevent loss of concrete mortar.
 - 2. Locate temporary openings in forms at inconspicuous locations.
- I. Chamfer exterior corners and edges of permanently exposed concrete.
- J. At construction joints, overlap forms onto previously placed concrete not less than 12 inches.
- K. Form openings, chases, offsets, sinkages, keyways, reglets, blocking, screeds, and bulkheads required in the Work.
 - 1. Determine sizes and locations from trades providing such items.
 - 2. Obtain written approval of Engineer prior to forming openings not indicated on Drawings.
- L. Construction and Movement Joints:
 - 1. Construct joints true to line with faces perpendicular to surface plane of concrete.
 - 2. Install so strength and appearance of concrete are not impaired at locations indicated or as approved by Architect.
 - 3. Place joints perpendicular to main reinforcement.
 - 4. Locate joints for beams, slabs, joists, and girders in the middle third of spans.
 - a. Offset joints in girders a minimum distance of twice the beam width from a beam-girder intersection.
 - 5. Locate horizontal joints in walls and columns at underside of floors, slabs, beams, and girders and at the top of footings or floor slabs.
 - 6. Space vertical joints in walls as indicated on Drawings.
 - a. Locate joints beside piers integral with walls, near corners, and in concealed locations where possible.

- M. Provide temporary ports or openings in formwork where required to facilitate cleaning and inspection.
 - 1. Locate ports and openings in bottom of vertical forms, in inconspicuous location, to allow flushing water to drain.
 - 2. Close temporary ports and openings with tight-fitting panels, flush with inside face of form, and neatly fitted so joints will not be apparent in exposed concrete surfaces.
- N. Clean forms and adjacent surfaces to receive concrete. Remove chips, wood, sawdust, dirt, and other debris just before placing concrete.
- O. Retighten forms and bracing before placing concrete, as required, to prevent mortar leaks and maintain proper alignment.
- P. Coat contact surfaces of forms with form-release agent, according to manufacturer's written instructions, before placing reinforcement.

3.2 INSTALLATION OF EMBEDDED ITEMS

- A. Place and secure anchorage devices and other embedded items required for adjoining Work that is attached to or supported by cast-in-place concrete.
 - 1. Use setting Drawings, templates, diagrams, instructions, and directions furnished with items to be embedded.
 - 2. Install anchor rods, accurately located, to elevations required and complying with tolerances in Section 7.5 of AISC 303.
 - 3. Clean embedded items immediately prior to concrete placement.

3.3 REMOVING AND REUSING FORMS

- A. Formwork for sides of beams, walls, columns, and similar parts of the Work that does not support weight of concrete may be removed after cumulatively curing at not less than 50 degrees F for 24 hours after placing concrete. Concrete has to be hard enough to not be damaged by form-removal operations, and curing and protection operations need to be maintained.
- B. Clean and repair surfaces of forms to be reused in the Work.
 - 1. Split, frayed, delaminated, or otherwise damaged form-facing material are unacceptable for exposed surfaces.
 - 2. Apply new form-release agent.
- C. When forms are reused, clean surfaces, remove fins and laitance, and tighten to close joints.
 - 1. Align and secure joints to avoid offsets.
 - 2. Do not use patched forms for exposed concrete surfaces unless approved by Architect.

3.4 FIELD QUALITY CONTROL

- A. Special Inspections: Owner will engage a special inspector and qualified testing and inspecting agency to perform field tests and inspections and prepare test reports.
- B. Inspections:
 - 1. Inspect formwork for shape, location, and dimensions of the concrete member being formed.

END OF SECTION

SECTION 03 20 00 - CONCRETE REINFORCING

PART 1 - GENERAL

1.1 SUMMARY

- A. Section Includes:
 - 1. Steel reinforcement bars.
- B. Related Requirements:
 - 1. Division 01 Specification Sections apply to Work of this Section.

1.2 PREINSTALLATION MEETINGS

- A. Preinstallation Conference: Conduct conference at Project site.
 - 1. Review the following:
 - a. Special inspection and testing and inspecting agency procedures for field quality control.
 - b. Construction contraction and isolation joints.
 - c. Steel-reinforcement installation.

1.3 ACTION SUBMITTALS

- A. Product Data: For the following:
 - 1. Each type of steel reinforcement.
 - 2. Bar supports.
 - 3. Mechanical splice couplers.
- B. Sustainable Design Submittals.
- C. Shop Drawings: Comply with ACI SP-066:
 - 1. Include placing Drawings that detail fabrication, bending, and placement.
 - 2. Include bar sizes, lengths, materials, grades, bar schedules, stirrup spacing, bent bar diagrams, bar arrangement, location of splices, lengths of lap splices, details of mechanical splice couplers, tie spacing, and supports for concrete reinforcement.
- D. Construction Joint Layout: Indicate proposed construction joints required to build the structure.
 - 1. Location of construction joints is subject to approval of the Architect.

1.4 INFORMATIONAL SUBMITTALS

- A. Qualification Statements: For testing and inspection agency.
- B. Material Test Reports: For the following from a qualified testing agency:
 - 1. Steel Reinforcement:
 - a. For reinforcement to be welded, mill test analysis for chemical composition and carbon equivalent of the steel in accordance with ASTM A706/A706M.
 - 2. Mechanical splice couplers.
- C. Field quality-control reports.
- D. Minutes of preinstallation conference.

1.5 DELIVERY, STORAGE, AND HANDLING

- A. Steel Reinforcement: Deliver, store, and handle steel reinforcement to prevent bending and damage.
 - 1. Store reinforcement to avoid contact with earth.

PART 2 - PRODUCTS

2.1 STEEL REINFORCEMENT

- A. Reinforcing Bars: ASTM A615, Grade 60, deformed.

2.2 REINFORCEMENT ACCESSORIES

- A. Joint Dowel Plate: PNA-Diamond Dowel system.
- B. Bar Supports: Bolsters, chairs, spacers, and other devices for spacing, supporting, and fastening reinforcing bars and welded-wire reinforcement in place.
 - 1. Manufacture bar supports from steel wire or plastic in accordance with CRSI's "Manual of Standard Practice."
 - a. For concrete surfaces exposed to view, where legs of wire bar supports contact forms, use CRSI Class 1 plastic-protected steel wire, all-plastic bar supports, or CRSI Class 2 stainless steel bar supports.
- C. Mechanical Splice Couplers: ACI 318 Type 2, same material of reinforcing bar being spliced; standard bar lock.
- D. Steel Tie Wire: ASTM A1064, annealed steel, not less than 0.0508-inch in diameter.
 - 1. Finish: Plain, ASTM A884, Class A, Type 1.

2.3 FABRICATING REINFORCEMENT

- A. Fabricate steel reinforcement according to CRSI's "Manual of Standard Practice."

PART 3 - EXECUTION

3.1 PREPARATION

- A. Protection of In-Place Conditions:
 - 1. Do not cut or puncture vapor retarder.
 - 2. Repair damage and reseal vapor retarder before placing concrete.
- B. Clean reinforcement of loose rust and mill scale, earth, ice, and other foreign materials that reduce bond to concrete.

3.2 INSTALLATION OF STEEL REINFORCEMENT

- A. Comply with CRSI's "Manual of Standard Practice" for placing and supporting reinforcement.
- B. Accurately position, support, and secure reinforcement against displacement.
 - 1. Locate and support reinforcement with bar supports to maintain minimum concrete cover.
 - 2. Do not tack weld crossing reinforcing bars.

- C. Preserve clearance between bars of not less than 1 inch, not less than one bar diameter, or not less than 1-1/3-times size of large aggregate, whichever is greater.
- D. Provide concrete coverage in accordance with ACI 318.
- E. Set wire ties with ends directed into concrete not toward exposed concrete surfaces.
- F. Splices: Lap splices as indicated on Drawings.
 - 1. Bars indicated to be continuous and all vertical bars shall be lapped not less than 36 bar diameters at splices or 24 inches, whichever is greater.
 - 2. Stagger splices in accordance with ACI 318.
 - 3. Mechanical Splice Couplers: Install in accordance with manufacturer's instructions.

3.3 JOINTS

- A. Construction Joints: Install so strength and appearance of concrete are not impaired at locations indicated or as approved by Architect.
 - 1. Place joints perpendicular to main reinforcement.
 - 2. Do not continue reinforcement across construction joints unless otherwise indicated.
- B. Doweled Joints: Install dowel plates and support assemblies at joints where indicated. Lubricate or asphalt coat one-half of plates length to prevent concrete bonding to one side of joint.

3.4 INSTALLATION TOLERANCES

- A. Comply with ACI 117.

3.5 FIELD QUALITY CONTROL

- A. Special Inspections: Owner will engage a special inspector and qualified testing and inspecting agency to perform field tests and inspections and prepare test reports.
- B. Inspections:
 - 1. Steel-reinforcement placement.
 - 2. Steel-reinforcement mechanical splice couplers.

END OF SECTION

SECTION 03 30 00 - CAST-IN-PLACE CONCRETE

PART 1 - GENERAL

1.1 SUMMARY

- A. Section Includes:
 - 1. Cast-in-place concrete, including concrete materials, mixture design, placement procedures, and finishes.
- B. Related Requirements:
 - 1. Division 01 Specification Sections apply to Work of this Section.
 - 2. Section 03 10 00 "Concrete Forming and Accessories" for form-facing materials.
 - 3. Section 03 20 00 "Concrete Reinforcing" for steel reinforcing bars.
 - 4. Section 31 20 00 "Earth Moving" for drainage fill under slabs-on-ground.
 - 5. Section 32 13 13 "Concrete Paving" for concrete pavement and walks.

1.2 DEFINITIONS

- A. Cementitious Materials: Portland cement alone or in combination with one or more of the following: blended hydraulic cement, fly ash; materials subject to compliance with requirements.
- B. Water/Cement Ratio (w/cm): The ratio by weight of water to cementitious materials.

1.3 PREINSTALLATION MEETINGS

- A. Preinstallation Conference: Conduct conference at Project site.
 - 1. Require representatives of each entity directly concerned with cast-in-place concrete to attend including the following:
 - a. Contractor's superintendent.
 - b. Independent testing agency responsible for concrete design mixtures.
 - c. Ready-mix concrete manufacturer.
 - d. Concrete Subcontractor.
 - 2. Review the following:
 - a. Special inspection and testing and inspecting agency procedures for field quality control.
 - b. Construction joints, control joints, isolation joints, and joint-filler strips.
 - c. Semirigid joint fillers.
 - d. Vapor-retarder installation.
 - e. Anchor rod and anchorage device installation tolerances.
 - f. Cold and hot weather concreting procedures.
 - g. Concrete finishes and finishing.
 - h. Curing procedures.
 - i. Forms and form-removal limitations.
 - j. Methods for achieving specified floor and slab flatness and levelness.
 - k. Floor and slab flatness and levelness measurements.
 - l. Concrete repair procedures.
 - m. Concrete protection.

1.4 ACTION SUBMITTALS

- A. Product Data: For each of the following.
 - 1. Portland cement.
 - 2. Fly ash.
 - 3. Blended hydraulic cement.
 - 4. Aggregates.
 - 5. Admixtures:
 - a. Include limitations of use including restrictions on cementitious materials, supplementary cementitious materials, air entrainment, aggregates, temperature at time of concrete placement, relative humidity at time of concrete placement, curing conditions, and use of other admixtures.
 - 6. Vapor retarders.
 - 7. Curing materials.
 - a. Include documentation from color pigment manufacturer, indicating that proposed methods of curing are recommended by color pigment manufacturer.
 - 8. Joint fillers.
 - 9. Repair materials.
- B. Sustainable Design Submittals:
- C. Design Mixtures: For each concrete mixture, include the following:
 - 1. Mixture identification.
 - 2. Minimum 28-day compressive strength.
 - 3. Durability exposure class.
 - 4. Maximum w/cm.
 - 5. Slump limit.
 - 6. Air content.
 - 7. Nominal maximum aggregate size.
 - 8. Indicate amounts of mixing water to be withheld for later addition at Project site if permitted.
 - 9. Intended placement method.
 - 10. Submit alternate design mixtures when characteristics of materials, Project conditions, weather, test results, or other circumstances warrant adjustments.
- D. Shop Drawings:
 - 1. Construction Joint Layout: Indicate proposed construction joints required to construct the structure.
 - a. Location of construction joints is subject to approval of the Engineer.
- E. Concrete Schedule: For each location of each Class of concrete indicated in "Concrete Mixtures" Article including the following:
 - 1. Concrete Class designation.
 - 2. Location within Project.
 - 3. Exposure Class designation.
 - 4. Formed Surface Finish designation and final finish.
 - 5. Final finish for floors.
 - 6. Curing process.

1.5 INFORMATIONAL SUBMITTALS

- A. Qualification Data: For the following:
 - 1. Installer: Include copies of applicable ACI certificates.
 - 2. Ready-mixed concrete manufacturer.
 - 3. Testing agency: Include copies of applicable ACI certificates.
- B. Material Certificates: For each of the following signed by manufacturers:
 - 1. Cementitious materials.
 - 2. Admixtures.
 - 3. Curing compounds.
 - 4. Bonding agents.
 - 5. Adhesives.
 - 6. Vapor retarders.
 - 7. Semirigid joint filler.
 - 8. Joint-filler strips.
 - 9. Repair materials.
- C. Material Test Reports: For the following from a qualified testing agency:
 - 1. Portland cement.
 - 2. Fly ash.
 - 3. Blended hydraulic cement.
 - 4. Aggregates.
 - 5. Admixtures.
- D. Floor surface flatness and levelness measurements report indicating compliance with specified tolerances.
- E. Research Reports:
 - 1. For concrete admixtures in accordance with ICC's Acceptance Criteria AC198.
- F. Preconstruction Test Reports: For each mix design.
- G. Field quality-control reports.
- H. Minutes of preinstallation conference.

1.6 QUALITY ASSURANCE

- A. Installer Qualifications: A qualified installer who employs Project personnel qualified as an ACI-certified Flatwork Technician and Finisher and a supervisor who is a certified ACI Flatwork Concrete Finisher/Technician or an ACI Concrete Flatwork Technician.
 - 1. Post-Installed Concrete Anchors Installers: ACI-certified Adhesive Anchor Installer.
- B. Ready-Mixed Concrete Manufacturer Qualifications: A firm experienced in manufacturing ready-mixed concrete products and that complies with ASTM C94 requirements for production facilities and equipment.
 - 1. Manufacturer certified in accordance with NRMCA's "Certification of Ready Mixed Concrete Production Facilities."

1.7 PRECONSTRUCTION TESTING

- A. Preconstruction Testing Service: Engage a qualified testing agency to perform preconstruction testing on each concrete mixture.
 - 1. Include the following information in each test report:
 - a. Admixture dosage rates.
 - b. Slump.
 - c. Air content.

- d. Seven-day compressive strength.
- e. 28-day compressive strength.

1.8 DELIVERY, STORAGE, AND HANDLING

- A. Comply with ASTM C94 and ACI 301.

1.9 FIELD CONDITIONS

- A. Cold-Weather Placement: Comply with ACI 301 and ACI 306.1 and as follows.
 - 1. Protect concrete Work from physical damage or reduced strength that could be caused by frost, freezing actions, or low temperatures.
 - 2. When average high and low temperature is expected to fall below 40 degrees F for 3 successive days, maintain delivered concrete mixture temperature within the temperature range required by ACI 301.
 - 3. Do not use frozen materials or materials containing ice or snow.
 - 4. Do not place concrete in contact with surfaces less than 35 degrees F, other than reinforcing steel.
 - 5. Do not use calcium chloride, salt, or other materials containing antifreeze agents or chemical accelerators unless otherwise specified and approved in mixture designs.
- B. Hot-Weather Placement: Comply with ACI 301 and ACI 305.1, and as follows:
 - 1. Maintain concrete temperature at time of discharge to not exceed 95 degrees F.
 - 2. Fog-spray forms, steel reinforcement, and subgrade just before placing concrete. Keep subgrade uniformly moist without standing water, soft spots, or dry areas.

PART 2 - PRODUCTS

2.1 CONCRETE, GENERAL

- A. ACI Publications: Comply with ACI 301 unless modified by requirements in the Contract Documents.

2.2 CONCRETE MATERIALS

- A. Cementitious Materials:
 - 1. Portland Cement: ASTM C150, gray.
 - 2. Fly Ash: ASTM C618, Class F.
 - 3. Blended Hydraulic Cement: ASTM C595, Type IS, portland blast-furnace slag Type IL, portland-limestone cement.
- B. Normal-Weight Aggregates: ASTM C33, Class 3S coarse aggregate or better, graded. Provide aggregates from a single source.
 - 1. Alkali-Silica Reaction: Comply with one of the following:
 - a. Expansion Result of Aggregate: Not more than 0.04-percent at one-year when tested in accordance with ASTM C1293.
 - b. Expansion Results of Aggregate and Cementitious Materials in Combination: Not more than 0.10-percent at an age of 16 days when tested in accordance with ASTM C1567.

- c. Alkali Content in Concrete: Not more than pounds per cubic yardfour for moderately reactive aggregate or pounds per cubic yardthree for highly reactive aggregate, when tested in accordance with ASTM C1293 and categorized in accordance with ASTM C1778, based on alkali content being calculated in accordance with ACI 301.
- 2. Maximum Coarse-Aggregate Size: One-and-three-fourth inch nominal.
- 3. Fine Aggregate: Free of materials with deleterious reactivity to alkali in cement.
- C. Chemical Admixtures: Certified by manufacturer to be compatible with other admixtures that do not contribute water-soluble chloride ions exceeding those permitted in hardened concrete. Do not use calcium chloride or admixtures containing calcium chloride.
 - 1. Water-Reducing Admixture: ASTM C494, Type A.
 - 2. High-Range, Water-Reducing Admixture: ASTM C494, Type F.

2.3 VAPOR RETARDERS

- A. Sheet Vapor Retarder, Class A: ASTM E1745, Class A, except with maximum water-vapor permeance of not less than 20-mils--thick. Include manufacturer's recommended adhesive or pressure-sensitive tape.

2.4 CURING MATERIALS

- A. Evaporation Retarder: Waterborne, monomolecular film forming, manufactured for application to fresh concrete.
- B. Absorptive Cover: AASHTO M 182, Class 2, burlap cloth made from jute or kenaf, weighing approximately 9 ounces per square yard when dry.
- C. Moisture-Retaining Cover: ASTM C171, polyethylene film burlap-polyethylene sheet.
 - 1. Color:
 - a. Ambient Temperature Below 50 degrees F: Black.
 - b. Ambient Temperature between 50 degrees F and 85 degrees F: Any color.
 - c. Ambient Temperature Above 85 degrees F: White.
- D. Water: Potable or complying with ASTM C1602.
- E. Clear, Solvent-Borne, Membrane-Forming, Curing and Sealing Compound: ASTM C1315, Type 1, Class A.

2.5 RELATED MATERIALS

- A. Expansion- and Isolation-Joint-Filler Strips: ASTM D1751, asphalt-saturated cellulosic fiber.
- B. Semirigid Joint Filler: Two-component, semirigid, 100 percent solids, epoxy resin with a Type A shore durometer hardness of 80 in accordance with ASTM D2240.
- C. Bonding Agent: ASTM C1059, Type II, nonredispersible, acrylic emulsion or styrene butadiene.
- D. Epoxy Bonding Adhesive: ASTM C881, two-component epoxy resin, capable of humid curing and bonding to damp surfaces, of class suitable for application temperature and of grade and class to suit requirements, and as follows:
 - 1. Types IV and V, load bearing, for bonding hardened or freshly mixed concrete to hardened concrete.

2.6 CONCRETE MIXTURES, GENERAL

- A. Prepare design mixtures for each type and strength of concrete, proportioned on the basis of laboratory trial mixture or field test data, or both, in accordance with ACI 301.
 - 1. Use a qualified testing agency for preparing and reporting proposed mixture designs, based on laboratory trial mixtures.
- B. Cementitious Materials: Limit percentage, by weight, of cementitious materials other than portland cement in concrete as follows:
 - 1. Fly Ash: 25 percent by mass.
- C. Admixtures: Use admixtures in accordance with manufacturer's written instructions.
 - 1. Use water-reducing, high-range water-reducing, or plasticizing admixture in concrete, as required, for placement and workability.
 - 2. Use water-reducing admixture in pumped concrete and concrete with a w/cm below 0.50.

2.7 CONCRETE MIXTURES

- A. Class A: Normal-weight concrete used for footings, grade beams, and tie beams.
 - 1. Exposure Class: ACI 318 F2.
 - 2. Minimum Compressive Strength: 4,000 psi at 28 days.
 - 3. Maximum w/cm: .50.
 - 4. Slump Limit: 4 inches, plus or minus 1 inch.
- B. Class B: Normal-weight concrete used for foundation walls.
 - 1. Exposure Class: ACI 318.
 - 2. Minimum Compressive Strength: 4,000 psi at 28 days.
 - 3. Maximum w/cm: 0.50.
 - 4. Slump Limit: 6 inches, plus or minus 1 inch for concrete with verified slump of 3 inches plus or minus 1 inch before adding high-range water-reducing admixture or plasticizing admixture at Project Site.
- C. Class C: Normal-weight concrete used for interior slabs-on-ground.
 - 1. Exposure Class: ACI 318 F0.
 - 2. Minimum Compressive Strength: 4,000 psi at 28 days.
 - 3. Maximum w/cm: 0.45.
 - 4. Minimum Cementitious Materials Content: Based on the requirements of ACI 301 for floors and relatee to nominal maximu aggregate sizes.
 - 5. Slump Limit: 6 inches, plus or minus 1 inch for concrete with verified slump of 3 inches plus or minus 1 inch before adding high-range water-reducing admixture or plasticizing admixture at Project site.
 - 6. Air Content:
 - a. Do not use an air-entraining admixture or allow total air content to exceed 3 percent for concrete used in trowel-finished floors.

2.8 CONCRETE MIXING

- A. Ready-Mixed Concrete: Measure, batch, mix, and deliver concrete in accordance with ASTM C94 and ASTM C1116, and furnish batch ticket information.

PART 3 - EXECUTION

3.1 EXAMINATION

- A. Verification of Conditions:
 - 1. Before placing concrete, verify that installation of concrete forms, accessories, and reinforcement, and embedded items is complete and that required inspections have been performed.
 - 2. Do not proceed until unsatisfactory conditions have been corrected.

3.2 PREPARATION

- A. Provide reasonable auxiliary services to accommodate field testing and inspections, acceptable to testing agency, including the following:
 - 1. Daily access to the Work.
 - 2. Incidental labor and facilities necessary to facilitate tests and inspections.
 - 3. Secure space for storage, initial curing, and field curing of test samples, including source of water and continuous electrical power at Project site during site curing period for test samples.
 - 4. Security and protection for test samples and for testing and inspection equipment at Project site.

3.3 INSTALLATION OF EMBEDDED ITEMS

- A. Place and secure anchorage devices and other embedded items required for adjoining Work that is attached to or supported by cast-in-place concrete.
 - 1. Use setting Drawings, templates, diagrams, instructions, and directions furnished with items to be embedded.
 - 2. Install anchor rods, accurately located, to elevations required and complying with tolerances in Section 7.5 of ANSI/AISC 303.

3.4 INSTALLATION OF VAPOR RETARDER

- A. Sheet Vapor Retarders: Place, protect, and repair sheet vapor retarder in accordance with ASTM E1643 and manufacturer's written instructions.
 - 1. Install vapor retarder with longest dimension parallel with direction of concrete pour.
 - 2. Face laps away from exposed direction of concrete pour.
 - 3. Lap vapor retarder Down footings and grade beams not less than 6 inches, sealing vapor retarder to concrete.
 - 4. Lap joints 6 inches and seal with manufacturer's recommended tape.
 - 5. Terminate vapor retarder at the top of floor slabs and grade beams sealing entire perimeter to floor slabs, grade beams, or foundation walls.
 - 6. Seal penetrations in accordance with vapor retarder manufacturer's instructions.
 - 7. Protect vapor retarder during placement of reinforcement and concrete.
 - a. Repair damaged areas by patching with vapor retarder material, overlapping damages area by 6 inches on all sides, and sealing to vapor retarder.

3.5 JOINTS

- A. Construct joints true to line, with faces perpendicular to surface plane of concrete.
- B. Construction Joints: Coordinate with floor slab pattern and concrete placement sequence.
 - 1. Install so strength and appearance of concrete are not impaired, at locations indicated on Drawings or as approved by Engineer.
 - 2. Place joints perpendicular to main reinforcement.
 - a. Cut reinforcement across construction joints unless otherwise indicated.
 - 3. Locate joints for beams, slabs, joists, and girders at third points of spans. Offset joints in girders a minimum distance of twice the beam width from a beam-girder intersection.
 - 4. Locate horizontal joints in walls and columns at underside of floors, slabs, beams, and girders and at the top of footings or floor slabs.
 - 5. Space vertical joints in walls as indicated on Drawings. Unless otherwise indicated on Drawings, locate vertical joints beside piers integral with walls, near corners, and in concealed locations where possible.
 - 6. Use a bonding agent at locations where fresh concrete is placed against hardened or partially hardened concrete surfaces.
- C. Control Joints in Slabs-on-Ground: Form weakened-plane control joints, sectioning concrete into areas as indicated. Construct control joints for a depth equal to at least one-fourth of concrete thickness as follows:
 - 1. Sawed Joints: Form control joints with "early entry" process equipped with shatterproof abrasive or diamond-rimmed blades. Cut 1/8-inch-wide joints into concrete when cutting action does not tear, abrade, or otherwise damage surface and before concrete develops random cracks.
- D. Isolation Joints in Slabs-on-Ground: After removing formwork, install joint-filler strips at slab junctions with vertical surfaces, such as column pedestals, foundation walls, grade beams, and other locations, as indicated.
 - 1. Extend joint-filler strips full width and depth of joint, terminating flush with finished concrete surface unless otherwise indicated on Drawings.
 - 2. Terminate full-width joint-filler strips not less than 1/2-inch or more than 1-inch below finished concrete surface, where joint sealants are indicated.
 - 3. Install joint-filler strips in lengths as long as practicable. Where more than one length is required, lace or clip sections together.
- E. Doweled Joints:
 - 1. Install dowel plates and support assemblies at joints where indicated on Drawings.
 - 2. Lubricate or asphalt coat one-half of dowel plates length to prevent concrete bonding to one side of joint.
- F. Dowel Plates: Install dowel plates at joints where indicated on Drawings.

3.6 CONCRETE PLACEMENT

- A. Before placing concrete, verify that installation of formwork, reinforcement, embedded items, and vapor retarder is complete and that required inspections are completed.
 - 1. Immediately prior to concrete placement, inspect vapor retarder for damage and deficient installation, and repair defective areas.
 - 2. Provide continuous inspection of vapor retarder during concrete placement and make necessary repairs to damaged areas as Work progresses.
- B. Notify Engineer and testing and inspection agencies 24 hours prior to commencement of concrete placement.

- C. Do not add water to concrete during delivery, at Project site, but not to exceed the amount indicated on the concrete delivery ticket.
 - 1. Do not add water to concrete after adding high-range water-reducing admixtures to mixture.
- D. Before test sampling and placing concrete, water may be added at Project site, subject to limitations of ACI 301, but not to exceed the amount indicated on the concrete delivery ticket.
 - 1. Do not add water to concrete after adding high-range water-reducing admixtures to mixture.
- E. Deposit concrete continuously in one layer or in horizontal layers of such thickness that no new concrete is placed on concrete that has hardened enough to cause seams or planes of weakness.
 - 1. If a section cannot be placed continuously, provide construction joints as indicated.
 - 2. Deposit concrete to avoid segregation.
 - 3. Deposit concrete in horizontal layers of depth not to exceed formwork design pressures and in a manner to avoid inclined construction joints.
 - 4. Consolidate placed concrete with mechanical vibrating equipment in accordance with ACI 301.
 - a. Do not use vibrators to transport concrete inside forms.
 - b. Insert and withdraw vibrators vertically at uniformly spaced locations to rapidly penetrate placed layer and at least 6 inches into preceding layer.
 - c. Do not insert vibrators into lower layers of concrete that have begun to lose plasticity.
 - d. At each insertion, limit duration of vibration to time necessary to consolidate concrete, and complete embedment of reinforcement and other embedded items without causing mixture constituents to segregate.
- F. Deposit and consolidate concrete for floors and slabs in a continuous operation, within limits of construction joints, until placement of a panel or section is complete.
 - 1. Do not place concrete floors and slabs in a checkerboard sequence.
 - 2. Consolidate concrete during placement operations, so concrete is thoroughly worked around reinforcement and other embedded items and into corners.
 - 3. Maintain reinforcement in position on chairs during concrete placement.
 - 4. Screed slab surfaces with a straightedge and strike off to correct elevations.
 - 5. Level concrete, cut high areas, and fill low areas.
 - 6. Slope surfaces uniformly to drains where required.
 - 7. Begin initial floating using bull floats or darbies to form a uniform and open-textured surface plane, before excess bleedwater appears on the surface.
 - 8. Do not further disturb slab surfaces before starting finishing operations.

3.7 FINISHING FORMED SURFACES

- A. As-Cast Surface Finishes:
 - 1. ACI 301 Surface Finish SF-2.0: As-cast concrete texture imparted by form-facing material, arranged in an orderly and symmetrical manner with a minimum of seams.
 - a. Patch voids larger than 3/4-inch wide or 1/2-inch deep.
 - b. Remove projections larger than 1/4-inch.
 - c. Patch tie holes.
 - d. Surface Tolerance: ACI 117 Class B.
 - e. Locations: Apply to concrete surfaces exposed to public view.
- B. Related Unformed Surfaces:

1. At tops of walls, horizontal offsets, and similar unformed surfaces adjacent to formed surfaces, strike off smooth and finish with a color and texture matching adjacent formed surfaces.
2. Continue final surface treatment of formed surfaces uniformly across adjacent unformed surfaces unless otherwise indicated.

3.8 FINISHING FLOORS AND SLABS

- A. Comply with ACI 302.1R recommendations for screeding, restraightening, and finishing operations for concrete surfaces. Do not wet concrete surfaces.
- B. Float Finish:
 1. When bleedwater sheen has disappeared and concrete surface has stiffened sufficiently to permit operation of specific float apparatus, consolidate concrete surface with power-driven floats or by hand floating if area is small or inaccessible to power-driven floats.
 2. Repeat float passes and restraightening until surface is left with a uniform, smooth, granular texture and complies with ACI 117 tolerances for conventional concrete.
 3. Apply float finish to surfaces to receive trowel finish.
- C. Trowel Finish:
 1. After applying float finish, apply first troweling and consolidate concrete by hand or power-driven trowel.
 2. Continue troweling passes and restraighten until surface is free of trowel marks and uniform in texture and appearance.
 3. Grind smooth any surface defects that would telegraph through applied coatings or floor coverings.
 4. Do not add water to concrete surface.
 5. Do not apply hard-troweled finish to concrete, which has a total air content greater than 3 percent.
 6. Apply a trowel finish to surfaces exposed to view or to be covered with resilient flooring, carpet, ceramic tile.
 7. Finish surfaces to the following tolerances, in accordance with ASTM E1155, for a randomly trafficked floor surface:
 - a. Slabs on Ground:
 - 1) Finish and measure surface so gap at any point between concrete surface and an unleveled, freestanding, 10-feet long straightedge resting on two high spots and placed anywhere on the surface does not exceed 1/4-inch and also no more than 1/16-inch in 2 feet.
- D. Broom Finish: Apply a broom finish to exterior concrete platforms, steps, ramps, and locations indicated on Drawings.
 1. Immediately after float finishing, slightly roughen trafficked surface by brooming with fiber-bristle broom perpendicular to main traffic route.
 2. Coordinate required final finish with Engineer before application.

3.9 INSTALLATION OF MISCELLANEOUS CONCRETE ITEMS

- A. Filling In:
 1. Fill in holes and openings left in concrete structures after Work of other trades is in place unless otherwise indicated.
 2. Mix, place, and cure concrete, as specified, to blend with in-place construction.
 3. Provide other miscellaneous concrete filling indicated or required to complete the Work.

- B. Curbs: Provide monolithic finish to interior curbs by stripping forms while concrete is still green and by steel-troweling surfaces to a hard, dense finish with corners, intersections, and terminations slightly rounded.
- C. Equipment Bases and Foundations:
 - 1. Coordinate sizes and locations of concrete bases with actual equipment provided.
 - 2. Construct concrete bases 6 inches high unless otherwise indicated on Drawings, and extend base not less than 6 inches in each direction beyond the maximum dimensions of supported equipment unless otherwise indicated on Drawings, or unless required for seismic anchor support.
 - 3. Minimum Compressive Strength: 4,000 psi 3,000 psi at 28 days.
 - 4. Install dowel rods to connect concrete base to concrete floor. Unless otherwise indicated, install dowel rods on 18-inch centers around the full perimeter of concrete base.
 - 5. For supported equipment, install epoxy-coated anchor bolts that extend through concrete base and anchor into structural concrete substrate.
 - 6. Prior to pouring concrete, place and secure anchorage devices.
 - a. Use setting Drawings, templates, diagrams, instructions, and directions furnished with items to be embedded.
 - b. Cast anchor-bolt insert into bases.
 - c. Install anchor bolts to elevations required for proper attachment to supported equipment.

3.10 CONCRETE CURING

- A. Protect freshly placed concrete from premature drying and excessive cold or hot temperatures.
 - 1. Comply with ACI 301 and ACI 306.1 for cold weather protection during curing.
 - 2. Comply with ACI 301 and ACI 305.1 for hot-weather protection during curing.
- B. Curing Unformed Surfaces: Comply with ACI 308.1 as follows:
 - 1. Begin curing immediately after finishing concrete.
 - 2. Interior Concrete Floors:
 - a. Floors to Receive Floor Coverings Specified in Other Sections: Contractor has option of the following:
 - 1) Absorptive Cover: As soon as concrete has sufficient set to permit application without marring concrete surface, install prewetted absorptive cover over entire area of floor.
 - a) Lap edges and ends of absorptive cover not less than 12 inches.
 - b) Maintain absorptive cover water saturated, and in place, for duration of curing period, but not less than 7 days.
 - 2) Moisture-Retaining-Cover Curing: Cover concrete surfaces with moisture-retaining cover for curing concrete, placed in widest practicable width, with sides and ends lapped at least 12 inches, and sealed by waterproof tape or adhesive.
 - a) Immediately repair any holes or tears during curing period, using cover material and waterproof tape.
 - b) Cure for not less than 7 days.
 - b. Floors to Receive Curing Compound after moist cure:
 - 1) Apply uniformly in continuous operation by power spray or roller in accordance with manufacturer's written instructions.
 - 2) Recoat areas subjected to heavy rainfall within three hours after initial application.

- 3) Maintain continuity of coating, and repair damage during curing period.
- 4) Removal: After curing period has elapsed, remove curing compound without damaging concrete surfaces by method recommended by curing compound manufacturer unless manufacturer certifies curing compound does not interfere with bonding of floor covering used on Project.

3.11 TOLERANCES

- A. Conform to ACI 117.

3.12 JOINT FILLING

- A. Prepare, clean, and install joint filler in accordance with manufacturer's written instructions.
 1. Defer joint filling until concrete has aged at least one month.
 2. Do not fill joints until construction traffic has permanently ceased.
- B. Remove dirt, debris, saw cuttings, curing compounds, and sealers from joints; leave contact faces of joints clean and dry.
- C. Install semirigid joint filler full depth in saw-cut joints and at least 2 inches deep in formed joints.
- D. Overfill joint, and trim joint filler flush with top of joint after hardening.

3.13 CONCRETE SURFACE REPAIRS

- A. Defective Concrete:
 1. Repair and patch defective areas when approved by Engineer.
 2. Remove and replace concrete that cannot be repaired and patched to Engineer's approval.
- B. Patching Mortar: Mix dry-pack patching mortar, consisting of one part portland cement to two and one-half parts fine aggregate passing a No. 16 sieve, using only enough water for handling and placing.
- C. Repairing Formed Surfaces: Surface defects include color and texture irregularities, cracks, spalls, air bubbles, honeycombs, rock pockets, fins and other projections on the surface, and stains and other discolorations that cannot be removed by cleaning.
 1. Immediately after form removal, cut out honeycombs, rock pockets, and voids more than 1/2-inch in any dimension to solid concrete.
 - a. Limit cut depth to 3/4-inch.
 - b. Make edges of cuts perpendicular to concrete surface.
 - c. Clean, dampen with water, and brush-coat holes and voids with bonding agent.
 - d. Fill and compact with patching mortar before bonding agent has dried.
 - e. Fill form-tie voids with patching mortar or cone plugs secured in place with bonding agent.
 2. Repair defects on surfaces exposed to view by blending white portland cement and standard portland cement, so that, when dry, patching mortar matches surrounding color.
 - a. Patch a test area at inconspicuous locations to verify mixture and color match before proceeding with patching.

- b. Compact mortar in place and strike off slightly higher than surrounding surface.
 - 3. Repair defects on concealed formed surfaces that will affect concrete's durability and structural performance as determined by Engineer.
- D. Repairing Unformed Surfaces:
 - 1. Test unformed surfaces, such as floors and slabs, for finish, and verify surface tolerances specified for each surface.
 - a. Correct low and high areas.
 - b. Test surfaces sloped to drain for trueness of slope and smoothness; use a sloped template.
 - 2. Repair finished surfaces containing surface defects, including spalls, popouts, honeycombs, rock pockets, crazing, and cracks in excess of 0.01-inch wide or that penetrate to reinforcement or completely through unreinforced sections regardless of width, and other objectionable conditions.
 - 3. After concrete has cured at least 14 days, correct high areas by grinding.
 - 4. Correct localized low areas during, or immediately after, completing surface-finishing operations by cutting out low areas and replacing with patching mortar.
 - a. Finish repaired areas to blend into adjacent concrete.
 - 5. Repair defective areas, except random cracks and single holes 1-inch or less in diameter, by cutting out and replacing with fresh concrete.
 - a. Remove defective areas with clean, square cuts, and expose steel reinforcement with at least a 3/4-inch clearance all around.
 - b. Dampen concrete surfaces in contact with patching concrete and apply bonding agent.
 - c. Mix patching concrete of same materials and mixture as original concrete, except without coarse aggregate.
 - d. Place, compact, and finish to blend with adjacent finished concrete.
 - e. Cure in same manner as adjacent concrete.
 - 6. Repair random cracks and single holes 1-inch or less in diameter with patching mortar.
 - a. Groove top of cracks and cut out holes to sound concrete, and clean off dust, dirt, and loose particles.
 - b. Dampen cleaned concrete surfaces and apply bonding agent.
 - c. Place patching mortar before bonding agent has dried.
 - d. Compact patching mortar and finish to match adjacent concrete.
 - e. Keep patched area continuously moist for at least 72 hours.
- E. Perform structural repairs of concrete, subject to Engineer's approval, using epoxy adhesive and patching mortar.
- F. Repair materials and installation not specified above may be used, subject to Engineer's approval.

3.14 FIELD QUALITY CONTROL

- A. Special Inspections: Owner will engage a special inspector to perform field tests and inspections and prepare testing and inspection reports.
- B. Testing Agency: Owner will engage a qualified testing and inspecting agency to perform tests and inspections and to submit reports.
 - 1. Testing agency shall be responsible for providing curing container for composite samples on Site and verifying that field-cured composite samples are cured in accordance with ASTM C31.

2. Testing agency shall immediately report to Engineer, Contractor, and concrete manufacturer any failure of Work to comply with Contract Documents.
3. Testing agency shall report results of tests and inspections, in writing, to Owner, Engineer, Contractor, and concrete manufacturer within 48 hours of inspections and tests.
 - a. Test reports shall include reporting requirements of ASTM C31, ASTM C39, and ACI 301, including the following as applicable to each test and inspection:
 - 1) Project name.
 - 2) Name of testing agency.
 - 3) Names and certification numbers of field and laboratory technicians performing inspections and testing.
 - 4) Name of concrete manufacturer.
 - 5) Date and time of inspection, sampling, and field testing.
 - 6) Date and time of concrete placement.
 - 7) Location in Work of concrete represented by samples.
 - 8) Date and time sample was obtained.
 - 9) Truck and batch ticket numbers.
 - 10) Design compressive strength at 28 days.
 - 11) Concrete mixture designation, proportions, and materials.
 - 12) Field test results.
 - 13) Information on storage and curing of samples before testing, including curing method and maximum and minimum temperatures during initial curing period.
 - 14) Type of fracture and compressive break strengths at 7 days and 28 days.
- C. Batch Tickets: For each load delivered, submit three copies of batch delivery ticket to testing agency, indicating quantity, mix identification, admixtures, design strength, aggregate size, design air content, design slump at time of batching, and amount of water that can be added at Project site.
- D. Inspections:
 1. Headed bolts and studs.
 2. Verification of use of required design mixture.
 3. Concrete placement, including conveying and depositing.
 4. Curing procedures and maintenance of curing temperature.
 5. Batch Plant Inspections: On a random basis, as determined by Engineer.
- E. Concrete Tests: Testing of composite samples of fresh concrete obtained in accordance with ASTM C 172 shall be performed in accordance with the following requirements:
 1. Testing Frequency: Obtain one composite sample for each day's pour of each concrete mixture exceeding 5 cubic yards, but less than 25 cubic yards, plus one set for each additional 50 cubic yards or fraction thereof.
 - a. When frequency of testing provides fewer than five compressive-strength tests for each concrete mixture, testing shall be conducted from at least five randomly selected batches or from each batch if fewer than five are used.
 2. Slump: ASTM C143:
 - a. One test at point of placement for each composite sample, but not less than one test for each day's pour of each concrete mixture.
 - b. Perform additional tests when concrete consistency appears to change.
 3. Concrete Temperature: ASTM C1064/C1064M:
 - a. One test hourly when air temperature is 40 degrees F and below or 80 degrees F and above, and one test for each composite sample.

4. Compression Test Specimens: ASTM C31/C31M:
 - a. Cast and laboratory cure two sets of four 6-inch by 12-inch or 4-inch by 8-inch cylinder specimens for each composite sample.
 5. Compressive-Strength Tests: ASTM C39.
 - a. Test one set of two laboratory-cured specimens at 7 days and one set of two specimens at 28 days.
 - b. A compressive-strength test shall be the average compressive strength from a set of two specimens obtained from same composite sample and tested at age indicated.
 6. Strength of each concrete mixture will be satisfactory if every average of any three consecutive compressive-strength tests equals or exceeds specified compressive strength, and no compressive-strength test value falls below specified compressive strength by more than 500 psi if specified compressive strength is 5,000 psi, or no compressive strength test value is less than 10 percent of specified compressive strength if specified compressive strength is greater than 5,000 psi.
 7. Nondestructive Testing: Impact hammer, sonoscope, or other nondestructive device may be permitted by Engineer but will not be used as sole basis for approval or rejection of concrete.
 8. Additional Tests:
 - a. Testing and inspecting agency shall make additional tests of concrete when test results indicate that slump, air entrainment, compressive strengths, or other requirements have not been met, as directed by Engineer.
 - b. Testing and inspecting agency may conduct tests to determine adequacy of concrete by cored cylinders complying with ASTM C42 or by other methods as directed by Engineer.
 - 1) Acceptance criteria for concrete strength shall be in accordance with ACI 301 section 1.6.6.3.
 9. Additional testing and inspecting, at Contractor's expense, will be performed to determine compliance of replaced or additional Work with specified requirements.
 10. Correct deficiencies in the Work that test reports and inspections indicate do not comply with the Contract Documents.
- F. Measure floor and slab flatness and levelness in accordance with ASTM E1155 within 24 hours of completion of floor finishing and promptly report test results to Engineer.

3.15 PROTECTION

- A. Protect concrete surfaces as follows:
1. Protect from petroleum stains.
 2. Diaper hydraulic equipment used over concrete surfaces.
 3. Prohibit vehicles from interior concrete slabs.
 4. Prohibit use of pipe-cutting machinery over concrete surfaces.
 5. Prohibit placement of steel items on concrete surfaces.
 6. Prohibit use of acids or acidic detergents over concrete surfaces.

END OF SECTION

SECTION 05 40 00 - COLD-FORMED METAL FRAMING

PART 1 - GENERAL

1.1 SUMMARY

- A. Section Includes:
 - 1. Load-bearing fwall framing.
 - 2. Formed joist framing.
- B. Related Requirements:
 - 1. Division 01 Specification Sections apply to Work of this Section.
 - 2. Section 05 50 00 "Metal Fabrications" for miscellaneous steel shapes, masonry shelf angles, and connections used with cold-formed metal framing.
 - 3. Section 09 22 16 "Non-Structural Metal Framing."

1.2 PREINSTALLATION MEETINGS

- A. Preinstallation Conference: Conduct conference Project site.

1.3 ACTION SUBMITTALS

- A. Product Data: For the following:
 - 1. Cold-formed steel framing materials.
 - 2. Load-bearing wall framing.
 - 3. Vertical deflection clips.
 - 4. Double deflection track.
 - 5. Floor joist framing.
 - 6. Post-installed anchors.
 - 7. Power-actuated anchors.
 - 8. Sill sealer gasket.
- B. Shop Drawings:
 - 1. Indicate layout, spacings, sizes, thicknesses, and type of cold-formed steel framing; fabrication; and fastening and anchorage details, including mechanical fasteners,.
 - 2. Indicate reinforcing channels, opening framing, supplemental framing, strapping, bracing, bridges, splices, accessories, connection details, and attachment to adjoining work..
- C. Delegated Design Submittals: For cold-formed steel framing.

1.4 INFORMATIONAL SUBMITTALS

- A. Qualification Data: For testing agency.
- B. Welding certificates.
- C. Product Certificates: For each type of code-compliance certification for studs and tracks.
- D. Product Test Reports: For each listed product, for tests performed by manufacturer and witnessed by a qualified testing agency.
 - 1. Steel sheet.
 - 2. Expansion anchors.
- E. Power-actuated anchors.

1. Mechanical fasteners.
 2. Vertical deflection clips.
 3. Miscellaneous structural clips and accessories.
- F. Research Reports:
1. For nonstandard cold-formed steel framing post-installed anchors and power-actuated fasteners from ICC-ES.
 2. For sill sealer gasket/termite barrier, showing compliance with ICC-ES AC380.

1.5 QUALITY ASSURANCE

- A. Testing Agency Qualifications: Qualified according to ASTM E329 for testing indicated.
- B. Product Tests: Mill certificates or data from a qualified independent testing agency indicating steel sheet complies with requirements, including base-metal thickness, yield strength, tensile strength, total elongation, chemical requirements, and metallic-coating thickness.
- C. Code-Compliance Certification of Studs and Tracks: Provide documentation that framing members are certified according to the product-certification program of the Certified Steel Stud Association or the Steel Stud Manufacturers Association.
- D. Welding Qualifications: Qualify procedures and personnel according to the following:
 1. AWS D1.1, "Structural Welding Code - Steel."
 2. AWS D1.3, "Structural Welding Code- Sheet Steel."

1.6 DELIVERY, STORAGE, AND HANDLING

- A. Protect and store cold-formed steel framing from corrosion, moisture staining, deformation, and other damage during delivery, storage, and handling as required in AISI S202,

PART 2 - PRODUCTS

2.1 PERFORMANCE REQUIREMENTS

- A. Delegated Design: Engage a qualified Professional Engineer, as defined in Section 01 40 00 "Quality Requirements," to design cold-formed steel framing.
- B. Structural Performance: Provide cold-formed steel framing capable of withstanding design loads within limits and under conditions indicated.
 1. Design Loads: As indicated on Drawings.
 2. Deflection Limits: Design framing systems to withstand design loads without deflections greater than the following:
 - a. Exterior Load-Bearing Wall Framing: Horizontal deflection of 1/360 of the wall height.
 - b. Interior Load-Bearing Wall Framing: Horizontal deflection of 1/360 of the wall height under a horizontal load of 5 pound force per square feet.
 - c. Floor Joist Framing: Vertical deflection of 1/480 for live loads and 1/240 for total loads of the span.
 3. Design framing systems to provide for movement of framing members located outside the insulated building envelope without damage or over-stressing, sheathing failure, connection failure, undue strain on fasteners and anchors, or other detrimental effects when subject to a maximum ambient temperature change of 120 degrees F.

4. Cold-Formed Steel Framing Standards: Unless more stringent requirements are indicated, framing complies with AISI S100 and ASTM C955.

2.2 COLD-FORMED STEEL FRAMING MATERIALS

- A. Framing Members, General: Comply with ASTM C955 for conditions indicated.
- B. Steel Sheet: ASTM A1003, Structural Grade, Type H, metallic coated, of grade and coating designation as follows:
 1. Grade: As required by structural performance.
 2. Coating: G60.
- C. Sheet Steel for Vertical Deflection Clips: ASTM A653, structural steel, zinc coated, of grade and coating as follows:
 1. Grade: As required by structural performance.
 2. Coating: G60.

2.3 LOAD-BEARING WALL FRAMING

- A. Steel Studs: Manufacturer's standard C-shaped steel studs, of web depths indicated, punched, with stiffened flanges, and as follows:
 1. Minimum Base-Metal Thickness: 0.0538-inch.
 2. Flange Width: 1-5/8 inches.
- B. Steel Track: Manufacturer's standard U-shaped steel track, of web depths indicated, unpunched, with straight flanges, and as follows:
 1. Minimum Base-Metal Thickness: Matching steel studs.
 2. Flange Width: 1-1/4 inches.
- C. Steel Box or Back-to-Back Headers: Manufacturer's standard C-shapes used to form header beams, of web depths indicated, unpunched, with stiffened flanges, and as follows:
 1. Minimum Base-Metal Thickness: 0.0538-inch.
 2. Flange Width: 1-5/8 inches.
- D. Single Deflection Track: Manufacturer's single, deep-leg, U-shaped steel track; unpunched, with unstiffened flanges, of web depth to contain studs while allowing free vertical movement, with flanges designed to support horizontal loads and transfer them to the primary structure, and as follows:
 1. Minimum Base-Metal Thickness: 0.0538-inch.
 2. Flange Width: 1 inch plus the design gap.
- E. Double Deflection Tracks: Manufacturer's double, deep leg, U-shaped steel tracks, consisting of nested inner and outer track, unpunched, with unstiffened flanges.
 1. Out Track: Of web depth to allow free vertical movement of inner track, with flanges designed to support horizontal loads and transfer them to the primary structure, and as follows:
 - a. Minimum Base-Metal Thickness: 0.0538-inch.
 - b. Flange Width: 1 inch.
 2. Inner Track: Of web depth indicated and as follows:
 - a. Minimum Base-Metal Thickness: 0.0538-inch.
 - b. Flange Width: Dimension equal to sum of outer deflection track flange width plus 1 inch.

2.4 INTERIOR NON-LOAD-BEARING WALL FRAMING

- A. Steel Studs: manufacturer's standard C-shaped steel studs, of web depths indicated, punched, with stiffened flanges, and as follows:
 - 1. Minimum Base-Metal Thickness: 0.0538-inch.
 - 2. Flange Width: 1-5/8 inches.
- B. Steel Track: Manufacturer's standard U-shaped steel track, of web depths indicated, unpunched, with unstiffened flanges, and as follows:
 - 1. Minimum Base-Metal Thickness: Matching steel studs.
 - 2. Flange Width: 1-1/4 inches.
- C. Single Deflection Track: Manufacturer's single, deep-leg, U-shaped steel track, unpunched, with unstiffened flanges, of web depth to contain studs while allowing free vertical movement, with flanges designed to support horizontal loads and transfer them to primary structure, and as follows:
 - 1. Minimum Base-Metal Thickness: 0.0538-inch.
 - 2. Flange Width: 1 inch plus the design gap.
- D. Double Deflection Track: Manufacturer's double, deep-leg, U-shaped steel tracks, consisting of nested inner and outer tracks; unpunched, with unstiffened flanges.
 - 1. Out Track: Of web depth to allow free vertical movement of inner track, with flanges designed to support horizontal loads and transfer them to the primary structure, and as follows:
 - a. Minimum Base-Metal Thickness: 0.0538-inch.
 - b. Flange Width: 1 inch plus the design gap.
 - 2. Inner Track: Of web depth indicated and as follows:
 - a. Minimum Base-Metal Thickness: 0.0538-inch.
 - b. Flange Width: Dimension equal to sum of outer deflection track flange width plus 1 inch.

2.5 FLOOR JOIST FRAMING

- A. Steel Joists: Manufacturer's standard C-shaped steel joists, of web depth indicated, unpunched, with stiffened flanges, and as follows:
 - 1. Minimum Base-Metal Thickness: 0.0677-inch.
 - 2. Flange Width: 2 inches minimum
- B. Steel Joist Track: Manufacturer's standard U-shaped steel joist track, of web depths indicated, unpunched, with unstiffened flanges, and as follows:
 - a. Matching steel joists.
 - b. Flange Width: As required.

2.6 FRAMING ACCESSORIES

- A. Fabricate steel-framing accessories from ASTM A1003, Structural Grade, Type H, metallic-coated steel sheet, of same grade, and coating designation used for framing members.
- B. Provide accessories of manufacturer's standard thickness and configuration, unless otherwise indicated, as follows:
 - 1. Supplementary framing.
 - 2. Bracing, bridging, and solid blocking.
 - 3. Web stiffeners.
 - 4. Anchor clips.

5. End clips.
6. Foundaton clips
7. Gusset plates.
8. Stud kickers and knee braces.
9. Joist hangers and end closures.
10. Hole-reinforcing plates.
11. Backer plates.

2.7 ANCHORS, CLIPS, AND FASTENERS

- A. Steel Shapes and Clip: ASTM A36, zinc coated by hot-dip process according to ASTM A123.
- B. Anchor Bolts: ASTM F1554, Grade 36, threaded carbon-steel hex-headed bolts, carbon-steel nuts, and flat, hardened-steel washers: zinc coated by hot-dip process according to ASTM 153, Class C.
- C. Post-Installed Anchors: Fastener systems with bolts of same basic metal as fastened metal, if visible, unless otherwise indicted; with working capacity greater than or equal to the design load, according to an evaluation report acceptable to authorities having jurisdiction, based on ICC-ES AC01, ICC-ES AC193, ICC-ES AC58, OR ICC-ES AC308 as appropriate for the substrate.
 1. Uses: Securing cold-formed steel framing to structure.
 2. Type: Adhesive anchor.
 3. Material for Interior Locations: Carbon-steel components zinc plated to comply with ASTM B633 OR ASTM F1941, Class Fe/Zn 5, unless otherwise indicated.
- D. Power-Actuated Anchors: Fastener systems with working capacity greater than or equal to the design load, according to an evaluation report acceptable to authorities having jurisdiction, based on ICC-ES AC70.
- E. Mechanical Fasteners: ASTM C1513, corrosion-resistant-coated, self-drilling, self-tapping, steel drill screws.
 1. Head Type: Low-profile head beneath sheathing, manufacturer's standard elsewhere.
- F. Welding Electrodes: Comply with AWS standards.

2.8 MISCELLANEOUS MATERIALS

- A. Galvanizing Repair Paint; ATM A780, MIL-P-21035B, OR SSPC-Paint 20.
- B. Nonmetallic, Nonshrink Grout: Factory-packaged, nonmetallic, noncorrosive, nonstaining grout, complying with ASTM C1107, and with a fluid consisteny and 30-minute working time.
- C. Shims: Load-bearing, high-density, multimonomer, nonleaching plastic; or cold-formed steel of same grade and metallic coating as framing members supported by shims.
- D. Sill Sealer Gasket/Termite Barrier: Minimum 68-mil nominal thickness, self-adhering sheet consisting of 64 mils of rubberized asphalt laminated on one side to a 4-mil-thick, polyethylene-film reinforcement, and with release liner on adhesive side.
 1. Physical Properites:
 - a. Peel Adhesion: 17.0 pounds per inch of width when tested in accordance with ASTM D412.
 - b. Low-Temperature Flexibility: Pass at minus 25 degrees F when tested in accordance with ASTM D146.
 - c. Water Vapor Permeance: 0.05 permeance maximum when tested in accordance with ASTM E96, Method B.

- d. Resistance to Termite Penetration: Comply with ICC-ES AC380.

2.9 FABRICATION

- A. Fabricate cold-formed steel framing and accessories plumb, square, and true to line, and with connections securely fastened, according to referenced AISI's specifications and standards, manufacturer's written instructions, and requirements in this Section.
 - 1. Fabricate framing assemblies using jigs or templates.
 - 2. Cut framing members by sawing or shearing; do not torch out.
 - 3. Fasten cold-formed steel framing members by welding, screw fastening, clinch fastening, pneumatic pin fastening, or riveting as standard with fabricator. Wire tying of framing members is not permitted.
 - a. Comply with AW D1.3 requirements and procedures for welding, appearance and quality of welds, and methods used in correcting welding work.
 - b. Locate mechanical fasteners and install according to Shop Drawings, with screws penetrating jointed members by no fewer than three exposed screw threads.
 - 4. Fasten other materials to cold-formed steel framing by welding, bolting, pneumatic pin fastening, or screw fastening according to Shop Drawings.
- B. Reinforce, stiffen, and brace framing assemblies to withstand handling, delivery, and erection stresses. Lift fabricated assemblies by means that prevent damage or permanent distortion.
- C. Tolerances: Fabricate assemblies level, plumb, and true to line at a maximum allowable variation of 1/8-inch in 10 feet and as follows:
 - 1. Spacing: Space individual framing members no more than plus or minus 1/8-inch from plan location. Cumulative errors are not to exceed minimum fastening requirements of sheathing or other finishing materials.
 - 2. Squareness: Fabricate each cold-formed steel framing assembly to a maximum out-of-square tolerance of 1/8-inch.

PART 3 - EXECUTION

3.1 EXAMINATION

- A. Examine substrates, areas, conditions and butting structural framing for compliance with requirements for installation tolerances and other conditions affecting performance of Work.
- B. Proceed with installation only after unsatisfactory conditions have been corrected.

3.2 PREPARATION

- A. Install load-bearing shims or grout between the underside of load-bearing wall bottom track and the top of foundation wall or slab at locations with a gap larger than 1/4-inch to ensure a uniform bearing surface on supporting concrete or masonry construction.
- B. Install sill sealer gasket/termite barrier in accordance with manufacturer's written instructions at the underside of wall bottom track or rim track and at the top of foundation wall or slab at stud or joist locations.

3.3 INSTALLATION, GENERAL

- A. Cold-formed steel framing may be shop or field fabricated for installation or it may be field assembled.
- B. Install cold-formed steel framing according to AISI200, AISI S202, and manufacturer's written instructions unless more stringent requirements are indicated.
- C. Install shop- or field-fabricated, cold-formed framing and securely anchor to supporting structure.
 - 1. Screw bolt, or weld wall panels at horizontal and vertical junctures to produce flush, even, true-to-line joints with maximum variation in plane and true position between fabricated panels not exceeding 1/16-inch.
- D. Install cold-formed steel framing and accessories plumb, square, and true-to-line, and with connections securely fastened.
 - 1. Cut framing members by sawing or shearing; do not torch cut.
 - 2. Fasten, cold-formed steel framing members by welding, screw fastening, clinch fastening, or riveting. Wire tying of framing members is not permitted.
 - a. Comply with AWS D1.3 requirements and procedures for welding, appearance and quality of welds, and methods used in correcting welding Work.
 - b. Locate mechanical fastener, install according to Shop Drawings, and comply with requirements for spacing, edge distances, and screw penetration.
- E. Install temporary bracing and supports to secure framing and support loads equal to those for which structure was designed. Maintain braces and supports in place, undisturbed, until entire integrated supporting structure has been completed and permanent connections to framing are secured.
- F. Install insulation specified in Section 07 21 00 "Thermal Insulation," in framing-assembly members, such as headers, sills, boxed joists, and multiple studs at openings, that are inaccessible on completion of framing work
- G. Fasten hole-reinforcing plate over web penetrations that exceed size of manufacturer's approved or standard punched openings.

3.4 INSTALLATION OF LOAD-BEARING WALL FRAMING

- A. Install continuous top and bottom tracks sized to match studs. Align tracks accurately and securely anchor at corners and ends and at spacings as follows:
 - 1. Anchor Spacing: As shown on Shop Drawings.
- B. Squarely seat studs against top and bottom tracks with gap not exceeding 1/8-inch between the end of wall-framing member and the web of track.
 - 1. Fasten both flanges of studs to top and bottom tracks.
 - 2. Space studs as follows:
 - a. Stud Spacing: 16 inches.
- C. Set studs plumb, except as needed for diagonal bracing or required for nonplumb walls or warped surfaces and similar configurations.
- D. Align studs vertically where floor framing interrupts wall-framing continuity. Where studs cannot be aligned, continuously reinforce track to transfer loads.
- E. Align floor and roof framing over studs according to AISI S200, Section C1. Where framing cannot be aligned, continuously reinforce track to transfer loads.
- F. Anchor studs abutting structural columns or walls, including masonry walls, to supporting structure.

- G. Install headers over wall openings wider than stud spacing. Locate headers above openings. Fabricate headers of compound shapes indicated or required to transfer load to supporting studs, complete with clip-angle connectors, web stiffeners, or gusset plates.
 - 1. Frame wall openings with not less than a double stud at each jamb of frame. Fasten jamb members together to uniformly distribute loads.
 - 2. Install tracks and jack studs above and below wall openings. Anchor tracks to jamb studs with clip angles or by welding, and space jack studs same as full-height wall studs.
- H. Install supplementary framing, blocking, and bracing in stud framing indicated to support fixtures, equipment, services, casework, heavy trim, furnishings, and similar work requiring attachment to framing.
 - 1. If type of supplementary support is not indicated comply with stud manufacturer's written recommendations and industry standards in each case considering weight or load resulting from item supported.
- I. Install horizontal bridging in stud system, spaced vertically 48 inches. Fasten at each stud intersection.
 - 1. Channel Bridging: Cold-rolled steel channel, welded or mechanically fastened to webs of punched studs with a minimum of two screws into each flange of the clip angle for framing members up to 6 inches deep.
 - 2. Strap Bridging: Combination of flat, taut, steel sheet straps of width and thickness indicated and stud-track solid blocking of width and thickness to match studs. Fasten flat straps to stud flanges and secure solid blocking to stud webs or flanges.
 - 3. Bar Bridging: Proprietary bridging bars installed according to manufacturer's written instructions.
- J. Install miscellaneous framing and connections, including supplementary framing, web stiffeners, clip angles, continuous angles, anchors, and fasteners to provide a complete and stable wall-framing system.

3.5 INSTALLATION OF EXTERIOR NON-LOAD BEARING WALL FRAMING

- A. Install continuous tracks sized to match studs. Align tracks accurately and securely anchor to supporting structure.
- B. Fasten both flanges of studs to top and bottom tracks unless otherwise indicated. Space studs as follows:
 - 1. Stud Spacing: 16 inches.
- C. Set studs plumb except as needed for diagonal bracing or required for non-plumb walls or warped surfaces and similar requirements.
- D. Isolate non-load-bearing steel framing from building structure to prevent transfer to vertical loads while providing lateral support.
 - 1. Install single deep-leg deflection tracks and anchor to building structure.
 - 2. Install double deep-leg deflection tracks and anchor out track to building structure.
- E. Install horizontal bridging in wall studs, spaced vertically in rows indicated on Shop Drawings but no more than 48 inches apart. Fasten at each stud intersection.
 - 1. Channel Bridging: Cold-rolled steel channel, welded or mechanically fastened, to webs of punched studs.
 - 2. Strap Bridging: Combination of flat, taut, steel sheet straps of width and thickness indicated and stud-track solid blocking of width and thickness to match studs. Fasten flat straps to stud flanges and secure solid blocking to stud webs or flanges.
 - 3. Bar Bridging: Proprietary bridging bars installed according to manufacturer's written instructions.

- F. Top Bridging for Single Deflection Track: Install row of horizontal bridging within 12 inches of single deflection track. Install a combination of bridging and stud or stud-track solid blocking of width and thickness matching studs, secured to stud webs or flanges.
 - 1. Install solid blocking at 96-inch centers.
- G. Install miscellaneous framing and connections, including stud kickers, web stiffeners, clip angles, continuous angles, anchors, and fasteners to provide a complete and stable wall-framing system.

3.6 INSTALLATION OF INTERIOR NON-LOAD BEARING WALL FRAMING

- A. Install continuous tracks sized to match studs. Align tracks accurately and securely anchor to supporting structure.
- B. Fasten both flanges of studs to top and bottom tracks unless otherwise indicated. Space studs as follows:
 - 1. Stud Spacing: 16 inches.
- C. Set studs plumb, except as needed for diagonal bracing or required for non-plumb walls or warped surfaces and similar requirements.
- D. Isolate non-load bearing steel framing from building structure to prevent transfer of vertical loads while providing lateral support.
 - 1. Install single deep-leg deflection tracks and anchor to building structure.
 - 2. Install double deep-leg deflection tracks and anchor outer track to building structure.
- E. Install horizontal bridging in wall studs, spaced vertically in rows indicated on Shop Drawings but not more than 48 inches apart. Fasten at each stud intersection.
 - 1. Channel Bridging: Cold-rolled steel channel, welded or mechanically fastened, to webs of punched studs.
 - 2. Strap Bridging: Combination of flat, taut, steel sheet straps of width and thickness indicated and stud-track solid blocking of width and thickness to match studs. Fasten flat straps to stud flanges and secure solid blocking to stud webs or flanges.
 - 3. Bar Bridging: Proprietary bridging bars installed according to manufacturer's written instructions.
- F. Top Bridging for Single Deflection Track: Install row of horizontal bridging within 12 inches of single deflection track. Install a combination of bridging and stud or stud-track solid blocking of width and thickness matching studs, secured to stud webs or flanges.
 - 1. Install solid blocking at 96-inch centers.
- G. Install miscellaneous framing and connections, including stud kickers, web stiffeners, clip angles, continuous angles, anchors, and fasteners to provide a complete and stable wall-framing system.

3.7 INSTALLATION OF JOIST FRAMING

- A. Install continuous tracks sized to match studs. Align tracks accurately and securely anchor to supporting structure.
- B. Fasten both flanges of studs to top and bottom tracks unless otherwise indicated. Space studs as follows:
 - 1. Stud Spacing: 16 inches.
- C. Set studs plumb except as needed for diagonal bracing or required for non-plumb walls or warped surfaces and similar requirements.
- D. Isolate non-load-bearing steel framing from building structure to prevent transfer to vertical loads while providing lateral support.
 - 1. Install single deep-leg deflection tracks and anchor to building structure.

2. Install double deep-leg deflection tracks and anchor out track to building structure.
- E. Install horizontal bridging in wall studs, spaced vertically in rows indicated on Shop Drawings but no more than 48 inches apart. Fasten at each stud intersection.
 1. Channel Bridging: Cold-rolled steel channel, welded or mechanically fastened, to webs of punched studs.
 2. Strap Bridging: Combination of flat, taut, steel sheet straps of width and thickness indicated and stud-track solid blocking of width and thickness to match studs. Fasten flat straps to stud flanges and secure solid blocking to stud webs or flanges.
 3. Bar Bridging: Proprietary bridging bars installed according to manufacturer's written instructions.
- F. Top Bridging for Single Deflection Track: Install row of horizontal bridging within 12 inches of single deflection track. Install a combination of bridging and stud or stud-track solid blocking of width and thickness matching studs, secured to stud webs or flanges.
 1. Install solid blocking at 96-inch centers.
- G. Install miscellaneous framing and connections, including stud kickers, web stiffeners, clip angles, continuous angles, anchors, and fasteners to provide a complete and stable wall-framing system.

3.8 INSTALLATION OF INTERIOR NON-LOAD BEARING WALL FRAMING

- A. Install perimeter joist track sized to match joists. Align and securely anchor or fasten track to supporting structure at corners, ends, and spacing indicated on Shop Drawings.
- B. Install joists bearing on supporting frame, level, straight, and plumb; adjust to final position, brace, and reinforce. Fasten joists to both flanges of joist track.
 1. Install joists over supporting frame with a minimum end bearing of 1-1/2 inches.
 2. Reinforce ends and bearing points of joists with web stiffeners, end clips, joist hangers, steel clip angles, or steel-stud sections.
- C. Space joists not more than 2 inches from abutting walls and as follows:
 1. Joist Spacing: 24 inches.
- D. Frame openings with built-up joist headers, consisting of joist and joist track or another combination of connected joists if indicated.
- E. Install joist reinforcement at interior supports with single, short length of joist section located directly over interior support, with lapped joists of equal length to joist reinforcement.
 1. Install web stiffeners to transfer axial loads of walls above.
- F. Install bridging intervals indicated on Shop Drawings. Fasten at each joist intersection as follows:
 1. Joist-Track Bridging: Joist-track solid blocking of width and thickness indicated, secured to joist webs.
 2. Combination Bridging: Combination of flat, taut, steel sheet straps of width and thickness indicated and joist-track solid blocking of width and thickness indicated. Fasten flat straps to bottom flange and secure solid blocking to joist webs.
- G. Secure joists to load-bearing interior walls to prevent lateral movement of bottom flange.
- H. Install miscellaneous joist framing and connections, including web stiffeners, closure pieces, clip angles, continuous angles, hold-down angles, anchors, and fasteners to provide a complete and stable joist-framing assembly.

3.9 INSTALLATION TOLERANCES

- A. Install cold-formed steel framing level plumb and true-to-line to a maximum allowable tolerance variation of 1/8-inch in 10 feet and as follows:
 - 1. Space individual framing members no more than plus or minus 1/8-inch from plan location. Cumulative errors are not to exceed minimum fastening requirements of sheathing or other finishing materials.

3.10 REPAIR

- A. Galvanizing Repairs: Prepare and repair damaged galvanized coatings on fabricated and installed cold-formed steel framing with galvanized repair paint according to ASTM A780 and manufacturer's written instructions.

3.11 FIELD QUALITY CONTROL

- A. Testing: Owner will engage a qualified independent testing and inspecting agency to perform field tests and inspections and prepare test reports.
- B. Field and shop welds will be subject to testing and inspecting.
- C. Testing agency will report test results promptly and in writing to Contractor and Architect.
- D. Cold-formed steel framing will be considered defective if it does not pass tests and inspections.
- E. Additional testing and inspecting, at Contractor's expense, will be performed to determine compliance of replaced or additional work with specified requirements.

3.12 PROTECTION

- A. Provide final protection and maintain conditions, in a manner acceptable to manufacturer and Installer, that ensure that cold-formed steel framing is without damage or deterioration at time of Substantial Completion.

END OF SECTION

SECTION 06 16 13 – INSULATING SHEATHING (ZIP SYSTEM R SHEATHING)

PART 1 - GENERAL

1.1 SUMMARY

- A. Section includes insulating wall sheathing with integral water-resistive barrier and air barrier.
- B. Related Requirements:
 - 1. Division 01 Specification Sections apply to Work of this Section.

1.2 REFERENCES

- A. American Society of Mechanical Engineers (ASME): www.asme.org.
 - 1. ASME B18.6.1 - Wood Screws (Inch Series).
- B. ASTM International (ASTM): www.astm.org.
 - 1. ASTM A153 - Specification for Zinc Coating (Hot-Dip) on Iron and Steel Hardware.
 - 2. ASTM C1289 - Specification for Faced Rigid Cellular Polyisocyanurate Thermal Insulation Board.
 - 3. ASTM D779 - Test Method for Water Resistance of Paper, Paperboard, and Other Sheet Materials by the Dry Indicator Method.
 - 4. ASTM D1621 - Test Method for Compressive Properties Of Rigid Cellular Plastics.
 - 5. ASTM D2247 - Practice for Testing Water Resistance of Coatings in 100% Relative Humidity.
 - 6. ASTM E96 - Test Methods for Water Vapor Transmission of Materials.
 - 7. ASTM E331 - Test Method for Water Penetration of Exterior Windows, Skylights, Doors, and Curtain Walls by Uniform Static Air Pressure Difference.
 - 8. ASTM E2357 - Test Method for Determining Air Leakage of Air Barrier Assemblies.
 - 9. ASTM F1667 - Specification for Driven Fasteners: Nails, Spikes, and Staples.
 - 10. ASTM G154 - Practice for Operating Fluorescent Light Apparatus for UV Exposure of Nonmetallic Materials.
- C. US Department of Commerce (DOC): <http://gsi.nist.gov/global/index.cfm/L1-5/12-44/A-355>.
 - 1. DOC PS 2 - Performance Standard for Wood-Based Structural Panels.
- D. International Code Council (ICC): www.iccsafe.org.
 - 1. ICC IBC - International Building Code.
 - 2. ICC IRC - International Residential Code for One and Two-Family Dwellings.
- E. ICC Evaluation Service, Inc. (ICC-ES): www.icc-es.org.
 - 1. ICC-ES AC12 - Acceptance Criteria For Foam Plastic Insulation.
 - 2. ICC-ES AC38 - Acceptance Criteria for Water-Resistive Barriers.
 - 3. ICC-ES AC116 - Acceptance Criteria for Nails and Spikes.
 - 4. ICC-ES AC148 - Acceptance Criteria For Flexible Flashing Materials.
 - 5. ICC-ES AC201 - Acceptance Criteria for Staples.
 - 6. ICC-ES AC269 - Acceptance Criteria for Racking Shear Evaluation of Proprietary Sheathing Materials attached to Light-Frame Wall Construction or Code-Complying Sheathing Attached to Light-Framed Walls with Proprietary Fasteners.

7. ICC-ES AC310 - Acceptance Criteria for Water-Resistive Membranes Factory-bonded to Wood-based Structural Sheathing, Used as Water-Resistive Barriers.
 8. ICC-ES ESR-1539 - Power Driven Staples and Nails for Use in Engineered and Non-Engineered Connections.
 9. ICC-ES NER-272 - Power Driven Staples and Nails for Use in All Types of Building Construction.
- F. Sustainable Forestry Initiative (SFI): www.sfiprogram.org/
1. SFI 2010 - 2014 Standard.

1.3 ACTION SUBMITTALS

- A. Product Data: For each type of sheathing product specified.

1.4 INFORMATIONAL SUBMITTALS

- A. Evaluation Reports: From ICC-ES, for wood sheathing and seam tape.
- B. Product Certifications: From manufacturer, indicating that sheathing products comply with ICC-ES AC269 and ICC-ES AC310.

1.5 QUALITY ASSURANCE

- A. Manufacturer Qualifications: Provide wood products from manufacturer certified by SFI, FSC, or comparable sustainable forestry program acceptable to Engineer.
- B. Provide wall sheathing products meeting requirements for water-resistive barrier in accordance with ICC-ES AC310.
- C. Provide wall sheathing products meeting requirements of ICC-ES AC269.

1.6 DELIVERY, STORAGE, AND HANDLING

- A. Comply with manufacturer's written instructions for protection of sheathing products from weather prior to installation.

1.7 WARRANTY

- A. Special Manufacturer's Warranty: Manufacturer's standard form in which sheathing manufacturer agrees to repair or replace sheathing products that demonstrate deterioration or failure under normal use due to manufacturing defects within warranty period specified, when installed according to manufacturer's instructions.
1. Warranty Period for Sheathing Products: Thirty years following date of Substantial Completion.
 2. Warranty Conditions: Special warranties exclude deterioration or failure due to structural movement resulting in stresses on sheathing products exceeding manufacturer's written specifications, or due to air or moisture infiltration resulting from cladding failure or mechanical damage.

PART 2 - PRODUCTS

2.1 MANUFACTURERS

- A. Basis-of-Design Product: Provide sheathing products manufactured by Huber Engineered Woods LLC, Charlotte NC; Phone: 800.933.9220; Website: www.zipsystem.com.

2.2 PERFORMANCE REQUIREMENTS

- A. Air-Barrier Assembly Air Leakage: Less than 0.04 cubic feet per minute per square foot at 1.57 pound force per square foot, per ASTM E2375.
- B. Water-Vapor Permeance, Facer: Minimum 12 perms, ASTM E96.
- C. Weather Exposure: Manufacturer warranty applies for maximum allowable exposure period of 180 days.

2.3 MATERIALS

- A. Oriented Strand Board: DOC PS 2, made with binder containing no added urea formaldehyde.
- B. Rigid Foam Plastic Insulating Board: Rigid polyisocyanurate foam core complying with ASTM C1289 Type II, Class 2, and ICC-ES AC12, with coated glass fiber facers on both sides, with the following characteristics:
 - 1. Nominal Density: Two pounds per cubic foot.
 - 2. Compressive Strength, ASTM D1621: Not less than 20 psi.
 - 3. Vapor Permeance, ASTM E96: Less than 1.0 perm.
 - 4. Edge Configuration: Square finished.

2.4 COMPOSITE INSULATING WALL SHEATHING

- A. Composite Insulating Wall Sheathing: Oriented-strand-board Exposure one sheathing 7/16-inch thick, with factory-laminated water-resistive barrier exterior facer, and with rigid foam plastic insulating board laminated to interior face.
 - 1. Basis-of-Design Product: Provide Huber Engineered Woods LLC; ZIP System R Sheathing.
 - 2. Span Rating and Performance Category of Sheathing Layer: Not less than 24/16; 7/16 Performance Category.
 - 3. Thickness: One inch.
 - 4. Thermal Resistivity (R Value): 6.6 degrees F by h by square foot/BTU by inches at 75 degrees F.
 - 5. Edge Profile: Square edge.
 - 6. Exterior Facer: Medium-density, phenolic-impregnated polymer-modified sheet material meeting requirements for ASTM D779 Grade D weather-resistive barrier in accordance with ICC AC38 and AC310, with fastener spacing symbols on exterior facer for 16-inch and 24-inch on center spacing, with the following characteristics
 - a. Water Resistance of Coatings, ASTM D2247: Pass 14 day exposure test.
 - b. Moisture Vapor Transmission, ASTM E96: Not less than 12 perms.
 - c. Water Penetration, ASTM E331: Pass at 2.86 pound force per square foot.
 - d. Wind Driven Rain, TAS-100: Pass.
 - e. Accelerated Weathering, ASTM G154: Pass.

2.5 FASTENERS

- A. Fasteners, General: Size and type complying with manufacturer's written instructions for Project conditions and requirements of authorities having jurisdiction.
 - 1. Corrosion Resistance: Hot-dip zinc coating, ASTM A153.
- B. Nails, Brads, and Staples: ICC AC116 and ICC AC201.
- C. Power-Driven Fasteners: ICC-ES-1539 or NER-272.
- D. Wood Screws: ASME B18.6.1.

2.6 SHEATHING JOINT-AND-PENETRATION TREATMENT MATERIAL

- A. Self-Adhering Seam and Flashing Tape: Pressure-sensitive, self-adhering, cold-applied, seam tape consisting of polyolefin film with acrylic adhesive, meeting ICC AC148.
 - 1. Basis-of-Design Product: Provide Huber Engineered Woods; ZIP System Tape.
 - 2. Thickness: 0.012-inch

PART 3 - EXECUTION

3.1 EXAMINATION

- A. Examine framing spacing and alignment to determine if Work is ready to receive sheathing. Proceed with sheathing Work once conditions meet requirements.

3.2 SHEATHING INSTALLATION

- A. Install sheathing panels in accordance with manufacturer's written instructions, requirements of applicable Evaluation Reports, and requirements of authorities having jurisdiction.
- B. Air and Moisture Barrier: Coordinate sheathing installation with flashing and joint sealant installation and with adjacent building air and moisture barrier components to provide complete, continuous air- and moisture- barrier.
- C. Do not bridge expansion joints; allow joint spacing equal to spacing of structural supports.
- D. Install panels with laminated facer to exterior. Stagger end joints of adjacent panel runs.
 - 1. ICC-ES ESR-1539 OR ICC-NES NER-272 for power-drive fasteners.
 - 2. IBC: Table 2304.9.1 Fastening Schedule.
- E. Apply seam tape at all panel seams, penetrations, and facer defects or cracks to form continuous weathertight surface. Apply tape according to manufacturer's written instructions and requirements of ICC-ES applicable to tape application.

END OF SECTION

SECTION 06 41 16 - PLASTIC-LAMINATE-CLAD ARCHITECTURAL CABINETS

PART 1 - GENERAL

1.1 SUMMARY

- A. Section Includes:
 - 1. Plastic-laminate-clad architectural cabinets.
- B. Related Requirements:
 - 1. Division 01 Specification Sections apply to Work of this Section.
 - 2. Section 08 71 00 "Door Hardware."
 - 3. Section 08 80 00 "Glazing."

1.2 COORDINATION

- A. Hardware Coordination: Distribute copies of approved hardware schedule specified in Section 08 71 00 "Door Hardware" to manufacturer of architectural cabinets; coordinate Shop Drawings and fabrication with hardware requirements.

1.3 ACTION SUBMITTALS

- A. Shop Drawings:
 - 1. Include Plans, elevations, Sections, and attachment details.
 - 2. Show locations and sizes of furring, blocking, and hanging strips if used, including concealed blocking and reinforcement specified in other Sections.
 - 3. Show locations and sizes of cutouts and holes for items installed in plastic-laminate architectural cabinets.
- B. Samples for Verification: For the following:
 - 1. Plastic Laminates: In largest size available by manufacturer for each type, color, pattern, and surface finish required.

1.4 DELIVERY, STORAGE, AND HANDLING

- A. Do not deliver cabinets until painting and similar finish operations that might damage architectural cabinets have been completed in installation areas. Store cabinets in installation areas or in areas where environmental conditions comply with requirements specified in "Field Conditions" Article.

1.5 FIELD CONDITIONS

- A. Environmental Limitations: Do not deliver or install cabinets until building is enclosed, wet-work is complete, and HVAC system is operating and maintaining temperature between 60 and 90 degrees F and relative humidity between 25 and 55 percent during the remainder of the construction period.
- B. Field Measurements: Where cabinets are indicated to fit to other construction, verify dimensions of other construction by field measurements before fabrication, and indicate measurements on Shop Drawings. Coordinate fabrication schedule with construction progress to avoid delaying the Work.
 - 1. Locate concealed framing, blocking, and reinforcements that support cabinets by field measurements before being enclosed/concealed by construction, and indicate measurements on Shop Drawings.

PART 2 - PRODUCTS

2.1 PLASTIC-LAMINATE-CLAD ARCHITECTURAL CABINETS

- A. Quality Standard: Unless otherwise indicated, comply with the Engineerral Woodwork Standards for grades of cabinets indicated for construction, finishes, installation, and other requirements.

2.2 CABINET HARDWARE AND ACCESSORIES

- A. General: Provide cabinet hardware and accessory materials associated with architectural cabinets except for items specified in Section 08 71 00 "Door Hardware."
 - 1. Manufacturers: Subject to compliance with requirements, available manufacturers offering products that may be incorporated into the Work include, but are not limited to, the following:
 - a. Accuride International.
 - b. Blum, Julius & Co., Inc.
 - c. CompX International, Inc.
 - d. Grass America Inc.
 - e. Hettich America L.P.
 - f. Knappe & Vogt Manufacturing Company.
- B. Frameless Concealed Hinges (European Type): ANSI/BHMA A156.9, B01602, 100 degrees of opening, self-closing.
- C. Back-Mounted Pulls: ANSI/BHMA A156.9, B02011.
- D. Wire Pulls: Back mounted, solid metal, 5 inches long, 2-1/2 inches deep, and 5/16-inch in diameter.
- E. Adjustable Shelf Standards and Supports: ANSI/BHMA A156.9, B04071; with shelf rests, B04081.
- F. Shelf Rests: ANSI/BHMA A156.9, B04013; plastic two-pin plastic with shelf hold-down clip.

- G. Drawer Slides: ANSI/BHMA A156.9.
 - 1. Grade 1 and Grade 2: Side mounted and extending under bottom edge of drawer.
 - a. Type: Partial extension.
 - b. Material: Zinc-plated steel with polymer rollers.
 - 2. For drawers more than 6 inches high or more than 24 inches wide, provide Grade 1HD-200.
- H. Door and Drawer Silencers: ANSI/BHMA A156.16, L03011.
- I. Exposed Hardware Finishes: For exposed hardware, provide finish that complies with ANSI/BHMA A156.18 for ANSI/BHMA finish number indicated.
 - 1. Matte Black: US19; ANSI/BHMA 622 for brass or bronze base.
- J. For concealed hardware, provide manufacturer's standard finish that complies with product class requirements in ANSI/BHMA A156.9.

2.3 FABRICATION

- A. Fabricate architectural cabinets to dimensions, profiles, and details indicated.
- B. Complete fabrication, including assembly and hardware application, to maximum extent possible before shipment to Project Site. Disassemble components only as necessary for shipment and installation. Where necessary for fitting at Site, provide ample allowance for scribing, trimming, and fitting.
 - 1. Notify Engineer 7 days in advance of the dates and times architectural cabinet fabrication will be complete.
 - 2. Trial fit assemblies at manufacturer's shop that cannot be shipped completely assembled. Install dowels, screws, bolted connectors, and other fastening devices that can be removed after trial fitting. Verify that various parts fit as intended and check measurements of assemblies against field measurements before disassembling for shipment.
- C. Shop-cut openings to maximum extent possible to receive hardware, appliances, electrical work, and similar items. Locate openings accurately and use templates or roughing-in diagrams to produce accurately sized and shaped openings. Sand edges of cutouts to remove splinters and burrs.
- D. Install glass to comply with applicable requirements in Section 08 80 00 "Glazing" and in GANA's "Glazing Manual."
 - 1. For glass in frames, secure glass with removable stops.
 - 2. For exposed glass edges, polish and grind smooth.

PART 3 - EXECUTION

3.1 PREPARATION

- A. Before installation, condition cabinets to humidity conditions in installation areas for not less than 72 hours.

3.2 INSTALLATION

- A. Assemble cabinets and complete fabrication at Project Site to extent that it was not completed in the shop.
- B. Anchor cabinets to anchors or blocking built in or directly attached to substrates. Secure with wafer-head cabinet installation screws.

- C. Install cabinets level, plumb, and true in line to a tolerance of 1/8-inch in 96 inches using concealed shims.
 - 1. Scribe and cut cabinets to fit adjoining Work, refinish cut surfaces, and repair damaged finish at cuts.
 - 2. Install cabinets without distortion so doors and drawers fit openings and are accurately aligned. Adjust hardware to center doors and drawers in openings and to provide unencumbered operation. Complete installation of hardware and accessory items as indicated.

3.3 ADJUSTING AND CLEANING

- A. Repair damaged and defective cabinets, where possible, to eliminate functional and visual defects. Where not possible to repair, replace architectural cabinets. Adjust joinery for uniform appearance.
- B. Clean, lubricate, and adjust hardware.
- C. Clean cabinets on exposed and semi-exposed surfaces.

END OF SECTION

SECTION 06 64 00 - PLASTIC PANELING

PART 1 - GENERAL

1.1 SUMMARY

- A. Section Includes:
 - 1. Plastic sheet paneling.
- B. Related Requirements:
 - 1. Division 01 Specification Sections apply to Work of this Section.

1.2 PROJECT CONDITIONS

- A. Environmental Limitations: Do not deliver or install plastic paneling until spaces are enclosed and weathertight and temporary HVAC system is operating and maintaining ambient temperature and humidity conditions at occupancy levels during the remainder of the construction period.

PART 2 - PRODUCTS

2.1 SOURCE LIMITATIONS

- A. Obtain plastic paneling and trim accessories from single manufacturer.

2.2 PLASTIC SHEET PANELING

- A. Glass-Fiber-Reinforced Plastic Paneling: Gelcoat-finished, glass-fiber-reinforced plastic panels complying with ASTM D5319.
 - 1. Manufacturers: Subject to compliance with requirements, provide products by one of the following:
 - a. Crane Composites, Inc.
 - b. Glasteel.
 - c. Marlite.
 - d. Nudo Products, Inc.
- B. Plastic Sheet Paneling Type-A (FRP1): Basis of Design product is Standard FRP manufactured by Marlite, Inc., Arlington, Texas.
 - 1. Surface-Burning Characteristics: As follows when tested by a qualified testing agency in accordance with ASTM E84. Identify products with appropriate markings of applicable testing agency.
 - a. Flame-Spread Index: 200 or less.
 - b. Smoke-Developed Index: 450 or less.
 - 2. Nominal Thickness: Not less than 0.09-inch.
 - 3. Surface Finish: Molded pebble texture.
 - 4. Color: Medium Gray P 430N.

- C. Plastic Sheet Paneling Type-B (FRP2): Basis of Design product is Symetrix SmartSeam FRP Panels manufactured by Marlite, Inc., Arlington, Texas.
 - 1. Surface-Burning Characteristics: As follows when tested by a qualified testing agency in accordance with ASTM E84. Identify products with appropriate markings of applicable testing agency.
 - a. Flame-Spread Index: 200 or less.
 - b. Smoke-Developed Index: 450 or less.
 - 2. Nominal Thickness: Not less than 0.09-inch.
 - 3. Surface Configuration: Subway Vertical 3 inch by 6 inch tile configuration.
 - 4. Surface Finish: Satin.
 - 5. Color: Black with White Grout Lines, SS105-G63.

2.3 ACCESSORIES

- A. Trim Accessories: Manufacturer's standard one-piece vinyl extrusions designed to retain and cover edges of panels. Provide division bars, inside corners, and caps as needed to conceal edges.
 - 1. Color: Match panels.
- B. Adhesive: As recommended by plastic paneling manufacturer.
- C. Sealant: Mildew-resistant, single-component, neutral-curing silicone sealant recommended by plastic paneling manufacturer.
 - 1. Sealant shall comply with the testing and product requirements of the California Department of Public Health's "Standard Method for the Testing and Evaluation of Volatile Organic Chemical Emissions from Indoor Sources Using Environmental Chambers." The building concentration of formaldehyde shall not exceed half of the indoor recommended exposure limit, or 33 micrograms per cubic meter, and that of acetaldehyde shall not exceed 9 micrograms per cubic meter.

PART 3 - EXECUTION

3.1 EXAMINATION

- A. Examine substrates and conditions, with Installer present, for compliance with requirements for installation tolerances and other conditions affecting performance of the Work.
- B. Proceed with installation only after unsatisfactory conditions have been corrected.

3.2 PREPARATION

- A. Remove wallpaper, vinyl wall covering, loose or soluble paint, and other materials that might interfere with adhesive bond.
- B. Prepare substrate by sanding high spots and filling low spots as needed to provide flat, even surface for panel installation.
- C. Clean substrates of substances that could impair adhesive bond including oil, grease, dirt, and dust.
- D. Condition panels by unpacking and placing in installation space before installation according to manufacturer's written recommendations.

- E. Lay out paneling before installing. Locate panel joints to provide equal panels at ends of walls not less than half the width of full panels.
 - 1. Mark plumb lines on substrate at panel joint locations for accurate installation.
 - 2. Locate trim accessories or panel joints to allow clearance at panel edges according to manufacturer's written instructions.

3.3 INSTALLATION

- A. Install plastic paneling according to manufacturer's written instructions.
- B. Install panels in a full spread of adhesive.
- C. Install trim accessories with adhesive. Do not fasten through panels.
- D. Fill grooves in trim accessories with sealant before installing panels, and bed inside corner trim in a bead of sealant.
- E. Maintain uniform space between panels and wall fixtures. Fill space with sealant.
- F. Remove excess sealant and smears as paneling is installed. Clean with solvent recommended by sealant manufacturer and then wipe with clean dry cloths until no residue remains.

END OF SECTION

SECTION 07 21 00 - THERMAL INSULATION

PART 1 - GENERAL

1.1 SUMMARY

- A. Section Includes:
 - 1. Glass-fiber blanket insulation.
- B. Related Requirements:
 - 1. Division 01 Specification Sections apply to Work of this Section.
 - 2. Section 06 16 13 "Insulating Sheathing" for foam-plastic board sheathing installed directly over wood or steel framing.
 - 3. Section 09 29 00 "Gypsum Board" for sound attenuation blanket used as acoustic insulation.
 - 4. Section 13 34 19 "Metal Building Systems" for glass-fiber blanket insulation installed within metal building system.

1.2 ACTION SUBMITTALS

- A. Product Data: For the following:
 - 1. Glass-fiber blanket insulation.

1.3 INFORMATIONAL SUBMITTALS

- A. Installer's Certification: Listing type, manufacturer, and R-value of insulation installed in each element of the building thermal envelope.
 - 1. Sign, date, and post the certification in a conspicuous location on Project Site.
- B. Product Test Reports: For each product, for tests performed by a qualified testing agency.
- C. Research Reports: For foam-plastic insulation, from ICC-ES.

1.4 DELIVERY, STORAGE, AND HANDLING

- A. Protect insulation materials from physical damage and from deterioration due to moisture, soiling, and other sources. Store inside and in a dry location. Comply with manufacturer's written instructions for handling, storing, and protecting during installation.

PART 2 - PRODUCTS

2.1 GLASS-FIBER BLANKET INSULATION

- A. Glass-Fiber Blanket Insulation, Polypropylene-Scrim-Kraft Faced: ASTM C665, Type II (nonreflective faced), Class A (faced surface with a flame-spread index of 25 or less); Category 1 (membrane is a vapor barrier).
 - 1. Manufacturers: Subject to compliance with requirements, provide products by one of the following:
 - a. CertainTeed Corporation.
 - b. CertainTeed Insulation.
 - c. Johns Manville; a Berkshire Hathaway company.
 - d. Knauf Insulation.

- e. Owens Corning.
2. Labeling: Provide identification of mark indicating R-value of each piece of insulation 12 inches and wider in width.

2.2 ACCESSORIES

- A. Insulation for Miscellaneous Voids:
 1. Glass-Fiber Insulation: ASTM C764, Type II, loose fill; with maximum flame-spread and smoke-developed indexes of five, per ASTM E84.

PART 3 - EXECUTION

3.1 PREPARATION

- A. Clean substrates of substances that are harmful to insulation, including removing projections capable of puncturing insulation or vapor retarders, or that interfere with insulation attachment.

3.2 INSTALLATION, GENERAL

- A. Comply with insulation manufacturer's written instructions applicable to products and applications.
- B. Install insulation that is undamaged, dry, and unsoiled and that has not been left exposed to ice, rain, or snow at any time.
- C. Install insulation with manufacturer's R-value label exposed after insulation is installed.
- D. Extend insulation to envelop entire area to be insulated. Fit tightly around obstructions and fill voids with insulation. Remove projections that interfere with placement.
- E. Provide sizes to fit applications and selected from manufacturer's standard thicknesses, widths, and lengths. Apply single layer of insulation units unless multiple layers are otherwise shown or required to make up total thickness or to achieve R-value.

3.3 INSTALLATION OF INSULATION IN FRAMED CONSTRUCTION

- A. Blanket Insulation: Install in cavities formed by framing members according to the following requirements:
 1. Use insulation widths and lengths that fill the cavities formed by framing members. If more than one length is required to fill the cavities, provide lengths that will produce a snug fit between ends.
 2. Place insulation in cavities formed by framing members to produce a friction fit between edges of insulation and adjoining framing members.
 3. Maintain 3-inch clearance of insulation around recessed lighting fixtures not rated for or protected from contact with insulation.
 4. For metal-framed wall cavities where cavity heights exceed 96 inches, support unfaced blankets mechanically and support faced blankets by taping flanges of insulation to flanges of metal studs.
 5. Vapor-Retarder-Faced Blankets: Tape joints and ruptures in vapor-retarder facings, and seal each continuous area of insulation to ensure airtight installation.
 - a. Exterior Walls: Set units with facing placed toward exterior of construction.
 - b. Interior Walls: Set units with facing placed toward areas of high humidity.

- B. Miscellaneous Voids: Install insulation in miscellaneous voids and cavity spaces where required to prevent gaps in insulation using the following materials:
 - 1. Glass-Fiber Insulation: Compact to approximately 40 percent of normal maximum volume equaling a density of approximately 2.5 pounds per cubic feet.

3.4 PROTECTION

- A. Protect installed insulation from damage due to harmful weather exposures, physical abuse, and other causes.
- B. Provide temporary coverings or enclosures where insulation is subject to abuse and cannot be concealed and protected by permanent construction immediately after installation.

END OF SECTION

SECTION 07 62 00 - SHEET METAL FLASHING AND TRIM

PART 1 - GENERAL

1.1 SUMMARY

- A. Section Includes:
 - 1. Formed wall sheet metal fabrications.
- B. Related Requirements:
 - 1. Division 01 Specification Sections apply to Work of this Section.
 - 2. Section 13 34 19 "Metal Building Systems" for sheet metal flashing and trim integral with metal wall panels.

1.2 COORDINATION

- A. Coordinate sheet metal flashing and trim layout and seams with sizes and locations of penetrations to be flashed, and joints and seams in adjacent materials.
- B. Coordinate sheet metal flashing and trim installation with adjoining roofing and wall materials, joints, and seams to provide leakproof, secure, and noncorrosive installation.

1.3 ACTION SUBMITTALS

- A. Product Data: For each of the following:
 - 1. Underlayment materials.
 - 2. Elastomeric sealant.
 - 3. Butyl sealant.

1.4 CLOSEOUT SUBMITTALS

- A. Special warranty.

1.5 DELIVERY, STORAGE, AND HANDLING

- A. Do not store sheet metal flashing and trim materials in contact with other materials that might cause staining, denting, or other surface damage.
 - 1. Store sheet metal flashing and trim materials away from uncured concrete and masonry.
 - 2. Protect stored sheet metal flashing and trim from contact with water.
- B. Protect strippable protective covering on sheet metal flashing and trim from exposure to sunlight and high humidity, except to extent necessary for period of sheet metal flashing and trim installation.

PART 2 - PRODUCTS

2.1 PERFORMANCE REQUIREMENTS

- A. Sheet metal flashing and trim assemblies, including cleats, anchors, and fasteners, shall withstand wind loads, structural movement, thermally induced movement, and exposure to weather without failure due to defective manufacture, fabrication, installation, or other defects in construction. Completed sheet metal flashing and trim shall not rattle, leak, or loosen, and shall remain watertight.
- B. Sheet Metal Standard for Flashing and Trim: Comply with SMACNA's "Engineerural Sheet Metal Manual" requirements for dimensions and profiles shown unless more stringent requirements are indicated.
- C. Thermal Movements: Allow for thermal movements from ambient and surface temperature changes to prevent buckling, opening of joints, overstressing of components, failure of joint sealants, failure of connections, and other detrimental effects. Base calculations on surface temperatures of materials due to both solar heat gain and nighttime-sky heat loss.

2.2 SHEET METALS

- A. Protect mechanical and other finishes on exposed surfaces from damage by applying strippable, temporary protective film before shipping.
- B. Stainless Steel Sheet: ASTM A240, Type 316, dead soft, fully annealed; with smooth, flat surface.

2.3 MISCELLANEOUS MATERIALS

- A. Provide materials and types of fasteners, protective coatings, sealants, and other miscellaneous items as required for complete sheet metal flashing and trim installation and as recommended by manufacturer of primary sheet metal unless otherwise indicated.
- B. Fasteners: Wood screws, annular threaded nails, self-tapping screws, self-locking rivets and bolts, and other suitable fasteners designed to withstand design loads and recommended by manufacturer of primary sheet metal.
 - 1. Fasteners for Stainless Steel Sheet: Series 300 stainless steel.
- C. Bituminous Coating: Cold-applied asphalt emulsion in accordance with ASTM D1187.

2.4 WALL SHEET METAL FABRICATIONS

- A. Through-Wall Flashing: Fabricate continuous flashings in minimum 96-inch-long, but not exceeding 12-foot-long, sections, under copings, and at shelf angles. Fabricate discontinuous lintel, sill, and similar flashings to extend 6 inches beyond each side of wall openings; and form with 2-inch-high, end dams. Fabricate from the following materials:
 - 1. Stainless Steel: 0.0156-inch thick.
- B. Opening Flashings in Frame Construction: Fabricate head, sill, jamb, and similar flashings to extend beyond wall openings. Form head and sill flashing with 2-inch-high, end dams. Fabricate from the following materials:
 - 1. Stainless Steel: 0.0156-inch thick.
- C. Wall Expansion-Joint Cover: Fabricate from the following materials:
 - 1. Stainless Steel: 0.0188-inch thick.

PART 3 - EXECUTION

3.1 EXAMINATION

- A. Examine substrates, areas, and conditions, with installer present, for compliance with requirements for installation tolerances, substrate, and other conditions affecting performance of the Work.
 - 1. Verify compliance with requirements for installation tolerances of substrates.
 - 2. Verify that substrate is sound, dry, smooth, clean, sloped for drainage, and securely anchored.
 - 3. Verify that air- or water-resistant barriers have been installed over sheathing or backing substrate to prevent air infiltration or water penetration.
- B. Proceed with installation only after unsatisfactory conditions have been corrected.

3.2 INSTALLATION, GENERAL

- A. Install sheet metal flashing and trim to comply with details indicated and recommendations of cited sheet metal standard that apply to installation characteristics required unless otherwise indicated on Drawings.
 - 1. Install fasteners, protective coatings, separators, sealants, and other miscellaneous items as required to complete sheet metal flashing and trim system.
 - 2. Install sheet metal flashing and trim true to line, levels, and slopes. Provide uniform, neat seams with minimum exposure of sealant.
 - 3. Anchor sheet metal flashing and trim and other components of the Work securely in place with provisions for thermal and structural movement.
 - 4. Install sheet metal flashing and trim to fit substrates and to result in watertight performance.
 - 5. Space individual cleats not more than 12 inches apart. Attach each cleat with at least two fasteners. Bend tabs over fasteners.
 - 6. Install exposed sheet metal flashing and trim with limited oil-canning, and free of buckling and tool marks.
 - 7. Do not field cut sheet metal flashing and trim by torch.
- B. Metal Protection: Where dissimilar metals contact each other or where metal contacts pressure-treated wood or other corrosive substrates, protect against galvanic action or corrosion by painting contact surfaces with bituminous coating or by other permanent separation as recommended by sheet metal manufacturer or cited sheet metal standard.
 - 1. Coat concealed side of stainless steel sheet metal flashing and trim with bituminous coating where flashing and trim contact wood, ferrous metal, or cementitious construction.
 - 2. Underlayment: Where installing sheet metal flashing and trim directly on cementitious or wood substrates, install underlayment and cover with slip sheet.
- C. Expansion Provisions: Provide for thermal expansion of exposed flashing and trim.
 - 1. Space movement joints at maximum of 10 feet with no joints within 24 inches of corner or intersection.
 - 2. Use lapped expansion joints only where indicated on Drawings.
- D. Fasteners: Use fastener sizes that penetrate substrate not less than recommended by fastener manufacturer to achieve maximum pull-out resistance.

- E. Conceal fasteners and expansion provisions where possible in exposed Work and locate to minimize possibility of leakage. Cover and seal fasteners and anchors as required for a tight installation.
- F. Seal joints as required for watertight construction.
 - 1. Use sealant-filled joints unless otherwise indicated.

3.3 INSTALLATION OF WALL FLASHINGS

- A. Install sheet metal wall flashing to intercept and exclude penetrating moisture in accordance with cited sheet metal standard unless otherwise indicated. Coordinate installation of wall flashing with installation of wall-opening components such as windows, doors, and louvers.
- B. Opening Flashings in Frame Construction: Install continuous head, sill, jamb, and similar flashings to extend beyond wall openings.

3.4 CLEANING

- A. Clean exposed metal surfaces of substances that interfere with uniform oxidation and weathering.
- B. Clean off excess sealants.

3.5 PROTECTION

- A. Remove temporary protective coverings and strippable films as sheet metal flashing and trim are installed unless otherwise indicated in manufacturer's written installation instructions.
- B. On completion of sheet metal flashing and trim installation, remove unused materials and clean finished surfaces as recommended in writing by sheet metal flashing and trim manufacturer.
- C. Maintain sheet metal flashing and trim in clean condition during construction.
- D. Replace sheet metal flashing and trim that have been damaged or that have deteriorated beyond successful repair by finish touchup or similar minor repair procedures, as determined by Engineer.

END OF SECTION

SECTION 08 11 13 - HOLLOW METAL DOORS AND FRAMES

PART 1 - GENERAL

1.1 SUMMARY

- A. Section includes hollow-metal Work.
- B. Related Requirements:
 - 1. Division 01 Specification Sections apply to Work of this Section.
 - 2. Section 08 71 00 "Door Hardware" for door hardware for hollow-metal doors.

1.2 DEFINITIONS

- A. Minimum Thickness: Minimum thickness of base metal without coatings according to NAAMM-HMMA 803 or SDI A250.8.

1.3 COORDINATION

- A. Coordinate anchorage installation for hollow-metal frames. Furnish setting Drawings, templates, and directions for installing anchorages including sleeves, concrete inserts, anchor bolts, and items with integral anchors. Deliver such items to Project Site in time for installation.

1.4 ACTION SUBMITTALS

- A. Product Data: For each type of product.
 - 1. Include construction details, material descriptions, core descriptions, and finishes.
- B. Shop Drawings: Include the following:
 - 1. Elevations of each door type.
 - 2. Details of doors including vertical- and horizontal-edge details and metal thicknesses.
 - 3. Frame details for each frame type including dimensioned profiles and metal thicknesses.
 - 4. Locations of reinforcement and preparations for hardware.
 - 5. Details of each different wall opening condition.
 - 6. Details of anchorages, joints, field splices, and connections.
 - 7. Details of accessories.
 - 8. Details of moldings, removable stops, and glazing.
 - 9. Details of conduit and preparations for power, signal, and control systems.
- C. Schedule: Provide a schedule of hollow-metal Work prepared by or under the supervision of supplier, using same reference numbers for details and openings as those on Drawings. Coordinate with final Door Hardware Schedule.

1.5 DELIVERY, STORAGE, AND HANDLING

- A. Deliver hollow-metal Work palletized, packaged, or crated to provide protection during transit and Project Site storage. Do not use non-vented plastic.
 - 1. Provide additional protection to prevent damage to factory-finished units.

- B. Store hollow-metal work vertically under cover at Project Site with head up. Place on minimum 4-inch-high wood blocking. Provide minimum 1/4-inch space between each stacked door to permit air circulation.

PART 2 - PRODUCTS

2.1 MANUFACTURERS

- A. Source Limitations: Obtain hollow-metal Work from single source from single manufacturer.

2.2 INTERIOR DOORS AND FRAMES

- A. Construct interior doors and frames to comply with the standards indicated for materials, fabrication, hardware locations, hardware reinforcement, tolerances, and clearances and as specified.
- B. Heavy-Duty Doors and Frames: SDI A250.8, Level 2 at locations indicated in the Door and Frame Schedule.
 - 1. Physical Performance: Level B according to SDI A250.4.
 - 2. Doors:
 - a. Type: As indicated in the Door and Frame Schedule.
 - b. Thickness: One-and-three-fourth inches.
 - c. Core: Manufacturer's standard kraft-paper honeycomb, polystyrene, polyurethane, polyisocyanurate, mineral-board, or vertical steel-stiffener core at manufacturer's discretion.
 - 3. Frames:
 - a. Construction: Face welded.
 - 4. Exposed Finish: Prime.

2.3 EXTERIOR HOLLOW-METAL DOORS AND FRAMES

- A. Construct exterior doors and frames to comply with the standards indicated for materials, fabrication, hardware locations, hardware reinforcement, tolerances, and clearances and as specified.
- B. Extra-Heavy-Duty Doors and Frames: SDI A250.8, Level 3.
 - 1. Physical Performance: Level A according to SDI A250.4.
 - 2. Doors:
 - a. Type: As indicated in the Door and Frame Schedule.
 - b. Thickness: One-and-three-fourth inches.
 - c. Face: Metallic-coated steel sheet, minimum thickness of 0.053-inch, with minimum A40 coating.
 - 3. Frames:
 - a. Construction: Face welded.
 - 4. Exposed Finish: Prime.

2.4 BORROWED LITES

- A. Hollow-metal frames of uncoated steel sheet, minimum thickness of 0.053-inch.
- B. Construction: Face welded.

2.5 FRAME ANCHORS

- A. Jamb Anchors:
 - 1. Masonry Type: Adjustable strap-and-stirrup or T-shaped anchors to suit frame size, not less than 0.042-inch thick, with corrugated or perforated straps not less than 2 inches wide by 10 inches long; or wire anchors not less than 0.177-inch thick.
 - 2. Stud-Wall Type: Designed to engage stud, welded to back of frames; not less than 0.042-inch thick.
- B. Floor Anchors: Formed from same material as frames, minimum thickness of 0.042-inch, and as follows:
 - 1. Monolithic Concrete Slabs: Clip-type anchors, with two holes to receive fasteners.

2.6 MATERIALS

- A. Hot-Rolled Steel Sheet: ASTM A1011, Commercial Steel (CS), Type B; free of scale, pitting, or surface defects; pickled and oiled.
- B. Frame Anchors: ASTM A879, Commercial Steel (CS), 04Z coating designation; mill phosphatized.
- C. Inserts, Bolts, and Fasteners: Hot-dip galvanized according to ASTM A153.
- D. Grout: ASTM C476, except with a maximum slump of 4 inches, as measured according to ASTM C143.
- E. Mineral-Fiber Insulation: ASTM C665, Type I (blankets without membrane facing); consisting of fibers manufactured from slag or rock wool; with maximum flame-spread and smoke-developed indexes of 25 and 50, respectively; passing ASTM E136 for combustion characteristics.
- F. Glazing: Comply with requirements in Section 08 80 00 "Glazing."
- G. Bituminous Coating: Cold-applied asphalt mastic, compounded for 15 mil dry film thickness per coat. Provide inert-type noncorrosive compound free of asbestos fibers, sulfur components, and other deleterious impurities.

2.7 FABRICATION

- A. Fabricate hollow-metal work to be rigid and free of defects, warp, or buckle. Accurately form metal to required sizes and profiles, with minimum radius for metal thickness. Where practical, fit and assemble units in manufacturer's plant. To ensure proper assembly at Project Site, clearly identify Work that cannot be permanently factory assembled before shipment.
- B. Hollow-Metal Doors:
 - 1. Steel-Stiffened Door Cores: Provide minimum thickness 0.026-inch, steel vertical stiffeners of same material as face sheets extending full-door height, with vertical webs spaced not more than 6 inches apart. Spot weld to face sheets no more than 5 inches on center. Fill spaces between stiffeners with glass- or mineral-fiber insulation.
 - 2. Vertical Edges for Single-Acting Doors: Provide beveled or square edges at manufacturer's discretion.
 - 3. Bottom Edge Closures: Close bottom edges of doors with end closures or channels of same material as face sheets.
 - 4. Exterior Doors: Provide weep-hole openings in bottoms of exterior doors to permit moisture to escape. Seal joints in top edges of doors against water penetration.

- C. Hollow-Metal Frames: Where frames are fabricated in sections due to shipping or handling limitations, provide alignment plates or angles at each joint, fabricated of same thickness metal as frames.
 - 1. Frames: Provide closed tubular members with no visible face seams or joints, fabricated from same material as door frame. Fasten members at crossings and to jambs by butt welding.
 - 2. Provide countersunk, flat- or oval-head exposed screws and bolts for exposed fasteners unless otherwise indicated.
 - 3. Grout Guards: Weld guards to frame at back of hardware mortises in frames to be grouted.
 - 4. Floor Anchors: Weld anchors to bottoms of jambs with at least four spot welds per anchor; however, for slip-on drywall frames, provide anchor clips or countersunk holes at bottoms of jambs.
 - 5. Jamb Anchors: Provide number and spacing of anchors as follows:
 - a. Stud-Wall Type: Locate anchors not more than 18 inches from top and bottom of frame. Space anchors not more than 32 inches on center and as follows:
 - 1) Three anchors per jamb up to 60 inches high.
 - 2) Four anchors per jamb from 60 to 90 inches high.
 - 3) Five anchors per jamb from 90 to 96 inches high.
 - 4) Five anchors per jamb plus one additional anchor per jamb for each 24 inches or fraction thereof above 96 inches high.
 - b. Postinstalled Expansion Type: Locate anchors not more than 6 inches from top and bottom of frame. Space anchors not more than 26 inches on center.
 - 6. Head Anchors: Two anchors per head for frames more than 42 inches wide and mounted in metal-stud partitions.
 - 7. Door Silencers: Drill stops to receive door silencers where specified in Section 08 71 00 "Door Hardware." Keep holes clear during construction.
- D. Fabricate concealed stiffeners and edge channels from either cold- or hot-rolled steel sheet.
- E. Hardware Preparation: Factory prepare hollow-metal work to receive templated mortised hardware; include cutouts, reinforcement, mortising, drilling, and tapping according to SDI A250.6, the Door Hardware Schedule, and templates.
 - 1. Reinforce doors and frames to receive non-templated, mortised, and surface-mounted door hardware.
 - 2. Comply with applicable requirements in SDI A250.6 and BHMA A156.115 for preparation of hollow-metal work for hardware.

2.8 STEEL FINISHES

- A. Prime Finish: Clean, pretreat, and apply manufacturer's standard primer.
 - 1. Shop Primer: Manufacturer's standard, fast-curing, lead- and chromate-free primer complying with SDI A250.10; recommended by primer manufacturer for substrate; compatible with substrate and field-applied coatings despite prolonged exposure.

PART 3 - EXECUTION

3.1 EXAMINATION

- A. Examine substrates, areas, and conditions, with Installer present, for compliance with requirements for installation tolerances and other conditions affecting performance of the Work.
- B. Examine roughing-in for embedded and built-in anchors to verify actual locations before frame installation.
- C. Prepare written report, endorsed by Installer, listing conditions detrimental to performance of the Work.
- D. Proceed with installation only after unsatisfactory conditions have been corrected.

3.2 PREPARATION

- A. Drill and tap doors and frames to receive non-templated, mortised, and surface-mounted door hardware.

3.3 INSTALLATION

- A. General: Install hollow-metal work plumb, rigid, properly aligned, and securely fastened in place. Comply with Drawings and manufacturer's written instructions.
- B. Hollow-Metal Frames: Install hollow-metal frames for doors, transoms, sidelites, borrowed lites, and other openings, of size and profile indicated. Comply with SDI A250.11 or NAAMM-HMMA 840 as required by standards specified.
 - 1. Set frames accurately in position; plumbed, aligned, and braced securely until permanent anchors are set. After wall construction is complete, remove temporary braces, leaving surfaces smooth and undamaged.
 - a. Where frames are fabricated in sections because of shipping or handling limitations, field splice at approved locations by welding face joint continuously; grind, fill, dress, and make splice smooth, flush, and invisible on exposed faces.
 - b. Install frames with removable stops located on secure side of opening.
 - c. Install door silencers in frames before grouting.
 - d. Remove temporary braces necessary for installation only after frames have been properly set and secured.
 - e. Check plumb, square, and twist of frames as walls are constructed. Shim as necessary to comply with installation tolerances.
 - f. Field apply bituminous coating to backs of frames that will be filled with grout containing antifreezing agents.
 - 2. Floor Anchors: Provide floor anchors for each jamb and mullion that extends to floor, and secure with postinstalled expansion anchors.
 - 3. Metal-Stud Partitions: Solidly pack mineral-fiber insulation inside frames.
 - 4. In-Place Concrete or Masonry Construction: Secure frames in place with postinstalled expansion anchors. Countersink anchors, and fill and make smooth, flush, and invisible on exposed faces.

5. Installation Tolerances: Adjust hollow-metal door frames for squareness, alignment, twist, and plumb to the following tolerances:
 - a. Squareness: Plus or minus 1/16-inch, measured at door rabbet on a line 90 degrees from jamb perpendicular to frame head.
 - b. Alignment: Plus or minus 1/16-inch, measured at jambs on a horizontal line parallel to plane of wall.
 - c. Twist: Plus or minus 1/16-inch, measured at opposite face corners of jambs on parallel lines, and perpendicular to plane of wall.
 - d. Plumbness: Plus or minus 1/16-inch, measured at jambs at floor.
- C. Hollow-Metal Doors: Fit hollow-metal doors accurately in frames, within clearances specified below. Shim as necessary.
 1. Non-Fire-Rated Steel Doors:
 - a. Between Door and Frame Jambs and Head: One-eighth-inch plus or minus 1/32-inch.
 - b. Between Edges of Pairs of Doors: One-eighth-inch to 1/4-inch plus or minus 1/32-inch.
 - c. At Bottom of Door: Three-fourth-inch plus or minus 1/32-inch.
 - d. Between Door Face and Stop: One-sixteenth-inch to 1/8-inch plus or minus 1/32-inch.

3.4 ADJUSTING AND CLEANING

- A. Final Adjustments: Check and readjust operating hardware items immediately before final inspection. Leave Work in complete and proper operating condition. Remove and replace defective Work, including hollow-metal Work that is warped, bowed, or otherwise unacceptable.
- B. Remove grout and other bonding material from hollow-metal Work immediately after installation.
- C. Prime-Coat Touchup: Immediately after erection, sand smooth rusted or damaged areas of prime coat and apply touchup of compatible air-drying, rust-inhibitive primer.
- D. Metallic-Coated Surface Touchup: Clean abraded areas and repair with galvanizing repair paint according to manufacturer's written instructions.
- E. Touchup Painting: Cleaning and touchup painting of abraded areas of paint are specified in painting Sections.

END OF SECTION

SECTION 08 33 23 - OVERHEAD COILING DOORS

PART 1 - GENERAL

1.1 SUMMARY

- A. Section Includes:
 - 1. Insulated service doors.
- B. Related Requirements:
 - 1. Division 01 Specification Sections apply to Work of this Section.

1.2 ACTION SUBMITTALS

- A. Product Data: For each type and size of overhead coiling door and accessory.
 - 1. Include construction details, material descriptions, dimensions of individual components, profiles for slats, and finishes.
- B. Shop Drawings: For each installation and for special components not dimensioned or detailed in manufacturer's product data.
 - 1. Include points of attachment and their corresponding static and dynamic loads imposed on structure.
 - 2. Show locations of controls, locking devices, detectors or replaceable fusible links, and other accessories.
 - 3. Include diagrams for power, signal, and control wiring.

1.3 CLOSEOUT SUBMITTALS

- A. Maintenance data.

1.4 QUALITY ASSURANCE

- A. Installer Qualifications: An entity that employs installers and supervisors who are trained and approved by manufacturer for both installation and maintenance of units required for this Project.

1.5 WARRANTY

- A. Special Warranty: Manufacturer agrees to repair or replace components of doors that fail in materials or workmanship within specified warranty period.
 - 1. Warranty Period: Two years from date of Substantial Completion.

PART 2 - PRODUCTS

2.1 DOOR ASSEMBLY

- A. Door: Overhead coiling door formed with curtain of interlocking metal slats.
 - 1. Manufacturers: Subject to compliance with requirements, available manufacturers offering products that may be incorporated into the Work include, but are not limited to, the following:
 - a. Overhead Door Corporation.

- b. Raynor Garage Doors.
 - c. Windsor Door.
- B. Operation Cycles: Door components and operators capable of operating for not less than 20,000.
- C. Door Curtain Material: Galvanized steel.
- D. Door Curtain Slats: Curved profile slats of center-to-center height.
- E. Hood: Galvanized steel.
- F. Locking Devices: Equip door with slide bolt for padlock and chain lock keeper.
- G. Electric Door Operator:
 - 1. Usage Classification: Medium duty, up to 12 cycles per hour and up to 50 cycles per day.
 - 2. Safety: Listed according to UL 325 by a qualified testing agency for commercial or industrial use.
 - 3. Motor Exposure: Interior.
 - 4. Motor Electrical Characteristics:
 - a. Horsepower: One-half horse power.
 - b. Voltage: 115V AC, single phase, 60 Hz.
 - 5. Emergency Manual Operation: Crank type.
 - 6. Control Station(s): Interior mounted.
- H. Door Finish:
 - 1. Baked-Enamel or Powder-Coated Finish: Color as selected by Engineer from manufacturer's full range.
 - 2. Interior Curtain-Slat Facing: Match finish of exterior curtain-slat face.

2.2 MATERIALS, GENERAL

- A. Electrical Components, Devices, and Accessories: Listed and labeled as defined in NFPA 70, by a qualified testing agency, and marked for intended location and application.

2.3 HOODS

- A. General: Form sheet metal hood to entirely enclose coiled curtain and operating mechanism at opening head. Contour to fit end brackets to which hood is attached. Roll and reinforce top and bottom edges for stiffness. Form closed ends for surface-mounted hoods and fascia for any portion of between-jamb mounting that projects beyond wall face. Equip hood with intermediate support brackets as required to prevent sagging.
 - 1. Include automatic drop baffle on fire-rated doors to guard against passage of smoke or flame.
 - 2. Exterior-Mounted Doors: Fabricate hood to act as weather protection and with a perimeter sealant-joint-bead profile for applying joint sealant.

2.4 LOCKING DEVICES

- A. Slide Bolt: Fabricate with side-locking bolts to engage through slots in tracks for locking by padlock, located on both left and right jamb sides, operable from coil side.
- B. Safety Interlock Switch: Equip power-operated doors with safety interlock switch to disengage power supply when door is locked.

2.5 MANUAL DOOR OPERATORS

- A. General: Equip door with manual door operator by door manufacturer.
- B. Crank Operator: Consisting of crank and crank gearbox, steel crank drive shaft, and gear-reduction unit, of type indicated. Size gears to require not more than force to turn crank. Fabricate gearbox to be oiltight and to completely enclose operating mechanism. Provide manufacturer's standard crank-locking device.

2.6 ELECTRIC DOOR OPERATORS

- A. General: Electric door operator assembly of size and capacity recommended and provided by door manufacturer for door and operation-cycles requirement specified, with electric motor and factory-prewired motor controls, starter, gear-reduction unit, solenoid-operated brake, clutch, control stations, control devices, integral gearing for locking door, and accessories required for proper operation.
 - 1. Comply with NFPA 70.
 - 2. Control equipment complying with NEMA ICS 1, NEMA ICS 2, and NEMA ICS 6, with NFPA 70 Class 2 control circuit, maximum 24V AC or DC.
- B. Motors: Reversible-type motor with controller (disconnect switch) for motor exposure indicated for each door assembly.
- C. Control Station: Three-button control station in fixed location with momentary-contact push-button controls labeled "Open" and "Stop" and sustained- or constant-pressure push-button control labeled "Close."
- D. Emergency Manual Operation: Equip each electrically powered door with capability for emergency manual operation. Design manual mechanism so required force for door operation does not exceed 30 pound force.
- E. Emergency Operation Disconnect Device: Equip operator with hand-operated disconnect mechanism for automatically engaging manual operator and releasing brake for emergency manual operation while disconnecting motor without affecting timing of limit switch. Mount mechanism so it is accessible from floor level. Include interlock device to automatically prevent motor from operating when emergency operator is engaged.

PART 3 - EXECUTION

3.1 INSTALLATION, GENERAL

- A. Install overhead coiling doors and operating equipment complete with necessary hardware, anchors, inserts, hangers, and equipment supports; according to manufacturer's written instructions and as specified.
- B. Power-Operated Doors: Install automatic garage doors openers according to UL 325.

END OF SECTION

SECTION 08 41 13 - ALUMINUM-FRAMED ENTRANCES AND STOREFRONTS

PART 1 - GENERAL

1.1 SUMMARY

- A. Section Includes:
 - 1. Aluminum-framed storefront systems.
 - 2. Aluminum-framed entrance door systems.
- B. Related Requirements:
 - 1. Division 01 Specification Sections apply to Work of this Section.

1.2 PREINSTALLATION MEETINGS

- A. Preinstallation Conference: Conduct conference at Project Site.

1.3 ACTION SUBMITTALS

- A. Product Data: For each type of product.
 - 1. Include construction details, material descriptions, dimensions of individual components and profiles, and finishes.
- B. Shop Drawings: For aluminum-framed entrances and storefronts. Include plans, elevations, Sections, full-size details, and attachments to other Work.
 - 1. Include details of provisions for assembly expansion and contraction and for draining moisture occurring within the assembly to the exterior.
 - 2. Include full-size isometric details of each type of vertical-to-horizontal intersection of aluminum-framed entrances and storefronts, showing the following:
 - a. Joinery, including concealed welds.
 - b. Anchorage.
 - c. Expansion provisions.
 - d. Glazing.
 - e. Flashing and drainage.
 - 3. Show connection to and continuity with adjacent thermal, weather, air, and vapor barriers.
 - 4. Include point-to-point wiring diagrams showing the following:
 - a. Power requirements for each electrically operated door hardware.
 - b. Location and types of switches, signal device, conduit sizes, and number and size of wires.
- C. Samples for Verification: For each type of exposed finish required, in manufacturer's standard sizes.

1.4 INFORMATIONAL SUBMITTALS

- A. Certificates:
 - 1. Energy Performance Certificates: For aluminum-framed entrances and storefronts, accessories, and components, from manufacturer.
 - a. Basis for Certification: NFRC-certified energy performance values for each aluminum-framed entrance and storefront.

1.5 CLOSEOUT SUBMITTALS

- A. Operation and Maintenance Data: For aluminum-framed entrances and storefronts.

1.6 QUALITY ASSURANCE

A. Qualifications:

1. Installers: An entity that employs installers and supervisors who are trained and approved by manufacturer and that employs a qualified glazing Contractor for this Project who is certified under the North American Contractor Certification Program (NACC) for Architectural Glass & Metal (AG&M) contractors and that employs glazing technicians certified under the Architectural Glass and Metal Technician (AGMT) certification program.
2. Delegated Design Engineer: A professional Engineer who is legally qualified to practice in state where Project is located and who is experienced in providing engineering services of the type indicated.
3. Laboratory Mockup Testing Agency: Qualified in accordance with ASTM E699 for testing indicated.
4. Testing Agency: Qualified in accordance with ASTM E699 for testing indicated and accredited by IAS or ILAC Mutual Recognition Arrangement as complying with ISO/IEC 17025 and acceptable to Owner and Engineer.
5. Egress Door Inspector: Inspector for field quality-control inspections of egress door assemblies shall comply with qualifications set forth in NFPA 101, Section 7.2.1.15.4 and the following:
 - a. DHI's Fire and Egress Door Assembly Inspector (FDAI) certification.

1.7 WARRANTY

- A. Special Warranty: Manufacturer agrees to repair or replace components of aluminum-framed entrances and storefronts that do not comply with requirements or that fail in materials or workmanship within specified warranty period.
1. Failures include, but are not limited to, the following:
 - a. Structural failures including, but not limited to, excessive deflection.
 - b. Noise or vibration created by wind and thermal and structural movements.
 - c. Deterioration of metals, metal finishes, and other materials beyond normal weathering.
 - d. Water penetration through fixed glazing and framing areas.
 - e. Failure of operating components.
 2. Warranty Period: Two years from date of Substantial Completion.
- B. Special Finish Warranty, Anodized Finishes: Standard form in which manufacturer agrees to repair finishes or replace aluminum that shows evidence of deterioration of anodized finishes within specified warranty period.
1. Deterioration includes, but is not limited to, the following:
 - a. Color fading more than 5 Delta E units when tested in accordance with ASTM D 2244.
 - b. Chalking in excess of a No. 8 rating when tested in accordance with ASTM D 4214.
 - c. Cracking, peeling, or chipping.
 2. Warranty Period: Two years from date of Substantial Completion.

PART 2 - PRODUCTS

2.1 MANUFACTURERS

- A. Manufacturers: Subject to compliance with requirements, provide products by one of the following:
 - 1. Commercial Architectural Products, Inc.
 - 2. EFCO Corporation.
 - 3. Kawneer North America, an Arconic company.
 - 4. Oldcastle BuildingEnvelope (OBE); CRH Americas.
 - 5. Trulite Glass & Aluminum Solutions, LLC.
 - 6. Tubelite Inc.
 - 7. U.S. Aluminum; a brand of C.R. Laurence.
- B. Source Limitations: Obtain all components of aluminum-framed entrance and storefront system, including framing and accessories, from single manufacturer.

2.2 PERFORMANCE REQUIREMENTS

- A. General Performance: Comply with performance requirements specified, as determined by testing of aluminum-framed entrances and storefronts representing those indicated for this Project without failure due to defective manufacture, fabrication, installation, or other defects in construction.
 - 1. Aluminum-framed entrances and storefronts shall withstand movements of supporting structure including, but not limited to, twist, column shortening, long-term creep, and deflection from uniformly distributed and concentrated live loads.
 - 2. Failure also includes the following:
 - a. Thermal stresses transferring to building structure.
 - b. Glass breakage.
 - c. Noise or vibration created by wind and thermal and structural movements.
 - d. Loosening or weakening of fasteners, attachments, and other components.
 - e. Failure of operating units.
- B. Structural Loads:
 - 1. Wind Loads: As indicated on Drawings.
 - 2. Other Design Loads: As indicated on Drawings.
- C. Deflection of Framing Members Supporting Glass: At design wind load, as follows:
 - 1. Deflection Normal to Wall Plane: Limited to 1/175 of clear span for spans of up to 13 feet 6 inches and to 1/240 of clear span plus 1/4-inch for spans greater than 13 feet 6 inches.
 - 2. Deflection Parallel to Glazing Plane: Limited to amount not exceeding that which reduces glazing bite to less than 75 percent of design dimension and that which reduces edge clearance between framing members and glazing or other fixed components to less than 1/8-inch.
- D. Structural: Test in accordance with ASTM E330/E330M as follows:
 - 1. When tested at positive and negative wind-load design pressures, storefront assemblies, including entrance doors, do not evidence deflection exceeding specified limits.

2. When tested at 150 percent of positive and negative wind-load design pressures, storefront assemblies, including entrance doors and anchorage, do not evidence material failures, structural distress, or permanent deformation of main framing members exceeding 0.2 percent of span.
3. Test Durations: As required by design wind velocity, but not less than 10 seconds.
- E. Water Penetration under Static Pressure: Test in accordance with ASTM E331 as follows:
 1. No evidence of water penetration through fixed glazing and framing areas, including entrance doors, when tested in accordance with a minimum static-air-pressure differential of 20 percent of positive wind-load design pressure, but not less than 10 pound force per square foot.
 2. Maximum Water Leakage: In accordance with AAMA 501.1. Water leakage does not include water controlled by flashing and gutters, or water that is drained to exterior.
- F. Energy Performance: Certified and labeled by manufacturer for energy performance as follows:
 1. Thermal Transmittance (U-factor):
 - a. Fixed Glazing and Framing Areas: U-factor for the system of not more than 0.45 Btu per square foot by h by degrees F as determined in accordance with NFRC 100.
 - b. Entrance Doors: U-factor of not more than 0.77 Btu per square foot by h by degrees F as determined in accordance with NFRC 100.
 2. Solar Heat-Gain Coefficient (SHGC):
 - a. Fixed Glazing and Framing Areas: SHGC for the system of not more than 0.35 as determined in accordance with NFRC 200.
 - b. Entrance Doors: SHGC of not more than 0.25 as determined in accordance with NFRC 200.
 3. Air Leakage:
 - a. Fixed Glazing and Framing Areas: Air leakage for the system of not more than 0.06-cubic foot per minute per square foot at a static-air-pressure differential of 1.57 pounds of force per square foot when tested in accordance with ASTM E283.
 - b. Entrance Doors: Air leakage of not more than 1.0 cubic foot per minute per square foot at a static-air-pressure differential of 1.57 pounds of force per square foot.
 4. Condensation Resistance Factor (CRF):
 - a. Fixed Glazing and Framing Areas: CRF for the system of not less than 55 as determined in accordance with AAMA 1503.
 - b. Entrance Doors: CRF of not less than 63 as determined in accordance with AAMA 1503.
- G. Thermal Movements: Allow for thermal movements resulting from ambient and surface temperature changes.
 1. Temperature Change: 120 degrees F, ambient; 180 degrees F, material surfaces.
 2. Thermal Cycling: No buckling; stress on glass; sealant failure; excess stress on framing, anchors, and fasteners; or reduction of performance when tested in accordance with AAMA 501.5.
 - a. High Exterior Ambient-Air Temperature: That which produces an exterior metal-surface temperature of 180 degrees F.
 - b. Low Exterior Ambient-Air Temperature: Zero degrees F.
 - c. Interior Ambient-Air Temperature: 75 degrees F.

2.3 STOREFRONT SYSTEMS

- A. Framing Members: Manufacturer's extruded- or formed-aluminum framing members of thickness required and reinforced as required to support imposed loads.
 - 1. Exterior Framing Construction: Thermally broken.
 - 2. Fabrication Method: Field-fabricated stick system.
 - 3. Aluminum: Alloy and temper recommended by manufacturer for type of use and finish indicated.
 - 4. Steel Reinforcement: As required by manufacturer.
- B. Backer Plates: Manufacturer's standard, continuous backer plates for framing members, if not integral, where framing abuts adjacent construction.
- C. Brackets and Reinforcements: Manufacturer's standard high-strength aluminum with nonstaining, nonferrous shims for aligning system components.

2.4 ENTRANCE DOOR SYSTEMS

- A. Entrance Doors: Manufacturer's standard glazed entrance doors for manual-swing or automatic operation.
 - 1. Door Construction: One-and-three-fourths-inch overall thickness, with minimum 0.125-inch-thick, extruded-aluminum tubular rail and stile members. Mechanically fasten corners with reinforcing brackets that are deeply penetrated and fillet welded or that incorporate concealed tie rods.
 - 2. Door Design: Wide stile; 5-inch nominal width.
 - 3. Glazing Stops and Gaskets: Beveled, snap-on, extruded-aluminum stops and preformed gaskets.
 - a. Provide nonremovable glazing stops on outside of door.
 - 4. Finish: Match adjacent storefront framing finish.

2.5 ENTRANCE DOOR HARDWARE

- A. General:
 - 1. Door Hardware: Hardware not specified in this Section is specified in Section 08 71 00 "Door Hardware."
 - 2. Cylinders: As specified in Section 08 71 00 "Door Hardware."
 - 3. References to BHMA Standards: Provide products complying with these standards and requirements for description, quality, and function.
- B. Hardware sets for aluminum doors located in Section 08 71 00.10 "Door Hardware Schedule."
 - 1. Weather Stripping: Manufacturer's standard replaceable components.
 - 2. Weather Sweeps: Manufacturer's standard exterior-door bottom sweep with concealed fasteners on mounting strip.
 - 3. Thresholds: BHMA A156.21 raised thresholds beveled with a slope of not more than 1:2, with maximum height of 1/2-inch.

2.6 GLAZING

- A. Glazing: Comply with Section 08 80 00 "Glazing."Glazing."
- B. Glazing Gaskets: Manufacturer's standard sealed-corner pressure-glazing system of black, resilient elastomeric glazing gaskets, setting blocks, and shims or spacers.
- C. Glazing Sealants: As recommended by manufacturer.

- D. Structural Glazing Sealants: ASTM C1184 chemically curing silicone formulation that is compatible with system components with which it comes in contact; specifically formulated and tested for use as structural sealant and approved by structural-sealant manufacturer for use in storefront system indicated.
 - 1. Color: Black.
 - 2. Weatherseal Sealants: ASTM C920 for Type S; Grade NS; Class 25; Uses NT, G, A, and O; chemically curing silicone formulation that is compatible with structural sealant and other system components with which it comes in contact; recommended by structural-sealant, weatherseal-sealant, and structural-sealant-glazed storefront manufacturers for this use.
 - a. Color: Match structural sealant.

2.7 MATERIALS

- A. Sheet and Plate: ASTM B209.
- B. Extruded Bars, Rods, Profiles, and Tubes: ASTM B221.
- C. Structural Profiles: ASTM B308/B308M.

2.8 ACCESSORIES

- A. Fasteners and Accessories: Manufacturer's standard corrosion-resistant, nonstaining, nonbleeding fasteners and accessories compatible with adjacent materials.
 - 1. Use self-locking devices where fasteners are subject to loosening or turning out from thermal and structural movements, wind loads, or vibration.
 - 2. Reinforce members as required to receive fastener threads.
 - 3. Use exposed fasteners with countersunk Phillips screw heads, finished to match framing system.
- B. Concealed Flashing: Manufacturer's standard corrosion-resistant, nonstaining, nonbleeding flashing compatible with adjacent materials.
- C. Bituminous Paint: Cold-applied asphalt-mastic paint containing no asbestos, formulated for 30-mil thickness per coat.
- D. Rigid PVC filler.

2.9 FABRICATION

- A. Form or extrude aluminum shapes before finishing.
- B. Fabricate components that, when assembled, have the following characteristics:
 - 1. Profiles that are sharp, straight, and free of defects or deformations.
 - 2. Accurately fitted joints with ends coped or mitered.
 - 3. Physical and thermal isolation of glazing from framing members.
 - 4. Accommodations for thermal and mechanical movements of glazing and framing to maintain required glazing edge clearances.
 - 5. Provisions for field replacement of glazing from exterior.
 - 6. Fasteners, anchors, and connection devices that are concealed from view to greatest extent possible.
- C. Mechanically Glazed Framing Members: Fabricate for flush glazing without projecting stops.
- D. Storefront Framing: Fabricate components for assembly using screw-spline system.

- E. Entrance Door Frames: Reinforce as required to support loads imposed by door operation and for installing entrance door hardware.
 - 1. At interior and exterior doors, provide compression weather stripping at fixed stops.
- F. Entrance Doors: Reinforce doors as required for installing entrance door hardware.
 - 1. At pairs of exterior doors, provide sliding-type weather stripping retained in adjustable strip and mortised into door edge.
 - 2. At exterior doors, provide weather sweeps applied to door bottoms.
- G. Entrance Door Hardware Installation: Factory install entrance door hardware to the greatest extent possible. Cut, drill, and tap for factory-installed entrance door hardware before applying finishes.
- H. After fabrication, clearly mark components to identify their locations in Project in accordance with Shop Drawings.

2.10 ALUMINUM FINISHES

- A. Color Anodic Finish: AAMA 611, AA-M12C22A42/A44, Class I, 0.018-millimeter or thicker.
 - 1. Color: black.

PART 3 - EXECUTION

3.1 EXAMINATION

- A. Examine areas, with Installer present, for compliance with requirements for installation tolerances and other conditions affecting performance of the Work.
- B. Proceed with installation only after unsatisfactory conditions have been corrected.

3.2 INSTALLATION, GENERAL

- A. Comply with manufacturer's written instructions.
- B. Do not install damaged components.
- C. Fit joints to produce hairline joints free of burrs and distortion.
- D. Rigidly secure nonmovement joints.
- E. Install anchors with separators and isolators to prevent metal corrosion and electrolytic deterioration and to prevent impeding movement of moving joints.
- F. Seal perimeter and other joints watertight unless otherwise indicated.
- G. Metal Protection:
 - 1. Where aluminum is in contact with dissimilar metals, protect against galvanic action by painting contact surfaces with materials recommended by manufacturer for this purpose or by installing nonconductive spacers.
 - 2. Where aluminum is in contact with concrete or masonry, protect against corrosion by painting contact surfaces with bituminous paint.
- H. Set continuous sill members and flashing in full sealant bed, as specified in Section 07 92 00 "Joint Sealants," to produce weathertight installation.
- I. Install joint filler behind sealant as recommended by sealant manufacturer.
- J. Install components plumb and true in alignment with established lines and grades.

3.3 INSTALLATION OF GLAZING

- A. Install glazing as specified in Section 08 80 00 "Glazing."

3.4 INSTALLATION OF STRUCTURAL GLAZING

- A. Prepare surfaces that will contact structural sealant in accordance with sealant manufacturer's written instructions, to ensure compatibility and adhesion. Preparation includes, but is not limited to, cleaning and priming surfaces.
- B. Set glazing into framing in accordance with sealant manufacturer and framing manufacturer's written instructions and standard practice. Use a spacer or backer as recommended by manufacturer.
- C. Set glazing with proper orientation so that coatings face exterior or interior as specified.
- D. Hold glazing in place using temporary retainers of type and spacing recommended by manufacturer until structural sealant joint has cured.
- E. Apply structural sealant to completely fill cavity in accordance with sealant manufacturer and framing manufacturer's written instructions and in compliance with local codes.
- F. Apply structural sealant at temperatures indicated by sealant manufacturer for type of sealant.
- G. Allow structural sealant to cure in accordance with manufacturer's written instructions.
- H. Clean and protect glass as indicated in Section 08 80 00 "Glazing."

3.5 INSTALLATION OF WEATHERSEAL SEALANT

- A. After structural sealant has completely cured, remove temporary retainers and insert backer rod between lites of glass as recommended by sealant manufacturer.
- B. Install weatherseal sealant to completely fill cavity, in accordance with sealant manufacturer's written instructions, to produce weatherproof joints.

3.6 INSTALLATION OF ALUMINUM-FRAMED ENTRANCE DOORS

- A. Install entrance doors to produce smooth operation and tight fit at contact points.
 - 1. Exterior Doors: Install to produce weathertight enclosure and tight fit at weather stripping.
 - 2. Field-Installed Entrance Door Hardware: Install surface-mounted entrance door hardware in accordance with entrance door hardware manufacturers' written instructions using concealed fasteners to greatest extent possible.

3.7 ERECTION TOLERANCES

- A. Install aluminum-framed entrances and storefronts to comply with the following maximum tolerances:
 - 1. Plumb: 1/8-inch in 10 feet; 1/4 inch in 40 feet.
 - 2. Level: 1/8-inch in 20 feet; 1/4-inch in 40 feet.
 - 3. Alignment:
 - a. Where surfaces abut in line or are separated by reveal or protruding element up to 1/2-inch wide, limit offset from true alignment to 1/16 inch.
 - b. Where surfaces are separated by reveal or protruding element from 1/2-inch to 1 inch wide, limit offset from true alignment to 1/8-inch.

- c. Where surfaces are separated by reveal or protruding element of 1 inch wide or more, limit offset from true alignment to 1/4-inch.
- 4. Location: Limit variation from plane to 1/8-inch in 12 feet; 1/2-inch over total length.

END OF SECTION

SECTION 08 71 00 - DOOR HARDWARE

PART 1 - GENERAL

1.1 SUMMARY

- A. This Section includes commercial door hardware for the following:
 - 1. Swinging doors.
 - 2. Other doors to the extent indicated.
- B. Door hardware includes, but is not necessarily limited to, the following:
 - 1. Mechanical door hardware.
 - 2. Electromechanical door hardware.
 - 3. Cylinders specified for doors in other sections.
- C. Related Requirements:
 - 1. Section 08 11 13 "Hollow Metal Doors and Frames."
 - 2. Section 08 41 13 "Aluminum-Framed Entrances and Storefronts."
- D. Codes and References: Comply with the version year adopted by the Authority Having Jurisdiction.
 - 1. ANSI A117.1 - Accessible and Usable Buildings and Facilities.
 - 2. ICC/IBC - International Building Code.
 - 3. NFPA 70 - National Electrical Code.
 - 4. NFPA 80 - Fire Doors and Windows.
 - 5. NFPA 101 - Life Safety Code.
 - 6. NFPA 105 - Installation of Smoke Door Assemblies.
 - 7. State Building Codes, Local Amendments.
- E. Standards: All hardware specified herein shall comply with the following industry standards as applicable. Any undated reference to a standard shall be interpreted as referring to the latest edition of that standard:
 - 1. ANSI/BHMA Certified Product Standards - A156 Series.
 - 2. UL10C - Positive Pressure Fire Tests of Door Assemblies.
 - 3. ANSI/UL 294 - Access Control System Units.

1.2 SUBMITTALS

- A. Product Data: Manufacturer's product data sheets including installation details, material descriptions, dimensions of individual components and profiles, operational descriptions, and finishes.
- B. Door Hardware Schedule: Prepared by or under the supervision of supplier, detailing fabrication, and assembly of door hardware, as well as procedures and diagrams. Coordinate the final Door Hardware Schedule with doors, frames, and related work to ensure proper size, thickness, hand, function, and finish of door hardware.
 - 1. Format: Comply with scheduling sequence and vertical format in DHI's "Sequence and Format for the Hardware Schedule."
 - 2. Organization: Organize the Door Hardware Schedule into Door Hardware Sets indicating complete designations of every item required for each door or opening. Organize door hardware sets in same order as in the Door Hardware Sets at the end of Part 3. Submittals that do not follow the same format and order as the Door Hardware Sets will be rejected and subject to resubmission.

3. Content: Include the following information:
 - a. Type, style, function, size, label, hand, and finish of each door hardware item.
 - b. Manufacturer of each item.
 - c. Fastenings and other pertinent information.
 - d. Location of Door Hardware Set, cross-referenced to Drawings, both on floor plans and in Door and Frame Schedule.
 - e. Explanation of abbreviations, symbols, and codes contained in Schedule.
 - f. Mounting locations for door hardware.
 - g. Door and frame sizes and materials.
 - h. Warranty information for each product.
 4. Submittal Sequence: Submit the final Door Hardware Schedule at earliest possible date, particularly where approval of the Door Hardware Schedule must precede fabrication of other Work that is critical in the Project construction schedule. Include Product Data, Samples, Shop Drawings of other work affected by door hardware, and other information essential to the coordinated review of the Door Hardware Schedule.
- C. Shop Drawings: Details of electrified access control hardware indicating the following:
1. Wiring Diagrams: Upon receipt of approved schedules, submit detailed system wiring diagrams for power, signaling, monitoring, communication, and control of the access control system electrified hardware. Differentiate between manufacturer-installed and field-installed wiring. Include the following:
 - a. Elevation diagram of each unique access controlled opening showing location and interconnection of major system components with respect to their placement in the respective door openings.
 - b. Complete (risers, point-to-point) access control system block wiring diagrams.
 - c. Wiring instructions for each electronic component scheduled herein.
 2. Electrical Coordination: Coordinate with related Sections the voltages and wiring details required at electrically controlled and operated hardware openings.
- D. Keying Schedule: After a keying meeting with the Owner has taken place prepare a separate keying schedule detailing final instructions. Submit the keying schedule in electronic format. Include keying system explanation, door numbers, key set symbols, hardware set numbers and special instructions. Owner must approve submitted keying schedule prior to the ordering of permanent cylinders/cores.
- E. Informational Submittals:
1. Product Test Reports: Indicating compliance with cycle testing requirements, based on evaluation of comprehensive tests performed by manufacturer and witnessed by a qualified independent testing agency.
- F. Operating and Maintenance Manuals: Provide manufacturers operating and maintenance manuals for each item comprising the complete door hardware installation in quantity as required in Section 01 70 00 "Execution and Closeout Requirements."

1.3 QUALITY ASSURANCE

- A. Manufacturers Qualifications: Engage qualified manufacturers with a minimum 5 years of documented experience in producing hardware and equipment similar to that indicated for this Project and that have a proven record of successful in-service performance.
- B. Certified Products: Where specified, products must maintain a current listing in the Builders Hardware Manufacturers Association (BHMA) Certified Products Directory (CPD).

- C. Installer Qualifications: A minimum 3 years' documented experience installing both standard and electrified door hardware similar in material, design, and extent to that indicated for this Project and whose work has resulted in construction with a record of successful in-service performance.
- D. Door Hardware Supplier Qualifications: Experienced commercial door hardware distributors with a minimum 5 years' documented experience supplying both mechanical and electromechanical hardware installations comparable in material, design, and extent to that indicated for this Project. Supplier recognized as a factory direct distributor by the manufacturers of the primary materials with a warehousing facility in Project's vicinity. Supplier to have on staff a certified Architectural Hardware Consultant (AHC) available during the course of the Work to consult with Contractor, Engineer, and Owner concerning both standard and electromechanical door hardware and keying.
- E. Source Limitations: Obtain each type and variety of door hardware specified in this Section from a single source unless otherwise indicated.
 - 1. Electrified modifications or enhancements made to a source manufacturer's product line by a secondary or third-party source will not be accepted.
 - 2. Provide electromechanical door hardware from the same manufacturer as mechanical door hardware, unless otherwise indicated.
- F. Each unit to bear third-party permanent label indicating compliance with the referenced testing standards.
- G. Keying Conference: Conduct conference to comply with requirements in Division 01 Section "Project Meetings." Keying conference to incorporate the following criteria into the final keying schedule document:
 - 1. Function of building, purpose of each area and degree of security required.
 - 2. Plans for existing and future key system expansion.
 - 3. Requirements for key control storage and software.
 - 4. Installation of permanent keys, cylinder cores and software.
 - 5. Address and requirements for delivery of keys.
- H. Pre-Submittal Conference: Conduct coordination conference in compliance with requirements in Division 01 Section "Project Meetings" with attendance by representatives of Supplier(s), Installer(s), and Contractor(s) to review proper methods and the procedures for receiving, handling, and installing door hardware.
 - 1. Prior to installation of door hardware, conduct a Project specific training meeting to instruct the installing contractors' personnel on the proper installation and adjustment of their respective products. Product training to be attended by installers of door hardware (including electromechanical hardware) for aluminum, hollow metal and wood doors. Training will include the use of installation manuals, hardware schedules, templates, and physical product samples as required.
 - 2. Inspect and discuss electrical roughing-in, power supply connections, and other preparatory work performed by other trades.
 - 3. Review sequence of operation narratives for each unique access controlled opening.
 - 4. Review and finalize construction schedule and verify availability of materials.
 - 5. Review the required inspecting, testing, commissioning, and demonstration procedures
- I. At completion of installation, provide written documentation that components were applied according to manufacturer's instructions and recommendations and according to approved schedule.

1.4 DELIVERY, STORAGE, AND HANDLING

- A. Inventory door hardware on receipt and provide secure lock-up and shelving for door hardware delivered to Project site. Do not store electronic access control hardware, software or accessories at Project site without prior authorization.
- B. Tag each item or package separately with identification related to the final Door Hardware Schedule, and include basic installation instructions with each item or package.
- C. Deliver, as applicable, permanent keys, cylinders, cores, access control credentials, software and related accessories directly to Owner via registered mail or overnight package service. Instructions for delivery to the Owner shall be established at the "Keying Conference."

1.5 COORDINATION

- A. Templates: Obtain and distribute to the parties involved templates for doors, frames, and other Work specified to be factory prepared for installing standard and electrified hardware. Check Shop Drawings of other Work to confirm that adequate provisions are made for locating and installing hardware to comply with indicated requirements.
- B. Door Hardware and Electrical Connections: Coordinate the layout and installation of scheduled electrified door hardware and related access control equipment with required connections to source power junction boxes, low voltage power supplies, detection and monitoring hardware, and fire and detection alarm systems.
- C. Door and Frame Preparation: Doors and corresponding frames are to be prepared, reinforced and pre-wired (if applicable) to receive the installation of the specified electrified, monitoring, signaling and access control system hardware without additional in-field modifications.

1.6 WARRANTY

- A. General Warranty: Reference Division 01, General Requirements. Special warranties specified in this Article shall not deprive Owner of other rights Owner may have under other provisions of the Contract Documents and shall be in addition to, and run concurrent with, other warranties made by Contractor under requirements of the Contract Documents.
- B. Warranty Period: Written warranty, executed by manufacturer(s), agreeing to repair or replace components of standard and electrified door hardware that fails in materials or workmanship within specified warranty period after final acceptance by the Owner. Failures include, but are not limited to, the following:
 - 1. Structural failures including excessive deflection, cracking, or breakage.
 - 2. Faulty operation of the hardware.
 - 3. Deterioration of metals, metal finishes, and other materials beyond normal weathering.
 - 4. Electrical component defects and failures within the systems operation.
- C. Warranty Period: Unless otherwise indicated, warranty shall be one year from date of Substantial Completion.

PART 2 - PRODUCTS

2.1 SCHEDULED DOOR HARDWARE

- A. General: Provide door hardware for each door to comply with requirements in Door Hardware Sets and each referenced Section that products are to be supplied under.
- B. Designations: Requirements for quantity, item, size, finish or color, grade, function, and other distinctive qualities of each type of door hardware are indicated in the Door Hardware Sets at the end of Part 3. Products are identified by using door hardware designations, as follows:
 - 1. Named Manufacturer's Products: Product designation and manufacturer are listed for each door hardware type required for the purpose of establishing requirements. Manufacturers' names are abbreviated in the Door Hardware Schedule.
- C. Please note that ASSA ABLOY is transitioning the Yale Commercial brand to Arrow. This affects only the brand name; the products and product numbers will remain unchanged. The brand transition is expected to be complete in or about May of 2024, and products shipping after that time will be branded Arrow.
- D. Substitutions: Requests for substitution and product approval for inclusive mechanical and electromechanical door hardware in compliance with the Specifications must be submitted in writing and in accordance with the procedures and time frames outlined in Division 01, General Requirements. Approval of requests is at the discretion of the Engineer, Owner, and their designated consultants.

2.2 HANGING DEVICES

- A. Hinges: ANSI/BHMA A156.1 butt hinges with number of hinge knuckles and other options as specified in the Door Hardware Sets.
 - 1. Quantity: Provide the following hinge quantity:
 - a. Two Hinges: For doors with heights up to 60 inches.
 - b. Three Hinges: For doors with heights 61 to 90 inches.
 - c. Four Hinges: For doors with heights 91 to 120 inches.
 - d. For doors with heights more than 120 inches, provide 4 hinges, plus 1 hinge for every 30 inches of door height greater than 120 inches.
 - 2. Hinge Size: Provide the following, unless otherwise indicated, with hinge widths sized for door thickness and clearances required:
 - a. Widths up to 3 Feet: Four-and-one-half-inch standard or heavy weight as specified.
 - b. Sizes from 3 Feet 1 Inch to 4 Feet: Five-foot standard or heavy weight as specified.
 - 3. Hinge Weight and Base Material: Unless otherwise indicated, provide the following:
 - a. Exterior Doors: Heavy weight, non-ferrous, ball bearing or oil impregnated bearing hinges unless Hardware Sets indicate standard weight.
 - b. Interior Doors: Standard weight, steel, ball bearing or oil impregnated bearing hinges unless Hardware Sets indicate heavy weight.
 - 4. Hinge Options: Comply with the following:
 - a. Non-Removable Pins: With the exception of electric through wire hinges, provide set screw in hinge barrel that, when tightened into a groove in hinge pin, prevents removal of pin while door is closed; for the all out-swinging lockable doors.

5. Manufacturers:
 - a. McKinney (MK) - TA/T4A Series, 5 knuckle.
- B. Continuous Geared Hinges: ANSI/BHMA A156.26 Grade 1-600 continuous geared hinge with minimum 0.120-inch-thick extruded 6063-T6 aluminum alloy hinge leaves and a minimum overall width of 4 inches. Hinges are non-handed, reversible, and fabricated to template screw locations. Factory trim hinges to suit door height and prepare for electrical cut-outs.
 1. Manufacturers:
 - a. Pemko (PE).

2.3 DOOR OPERATING TRIM

- A. Door Push Plates and Pulls: ANSI/BHMA A156.6 door pushes and pull units of type and design specified in the Hardware Sets. Coordinate and provide proper width and height as required where conflicting hardware dictates.
 1. Push/Pull Plates: Minimum .050-inch-thick, size as indicated in Hardware Sets, with beveled edges, secured with exposed screws unless otherwise indicated.
 2. Door Pull and Push Bar Design: Size, shape, and material as indicated in the hardware sets. Minimum clearance of 2-1/2 inches from face of door unless otherwise indicated.
 3. Offset Pull Design: Size, shape, and material as indicated in the Hardware Sets. Minimum clearance of 2-1/2 inches from face of door and offset of 90 degrees unless otherwise indicated.
 4. Pulls, where applicable, shall be provided with a 10-inch clearance from the finished floor on the push side to accommodate wheelchair accessibility.
 5. Fasteners: Provide manufacturer's designated fastener type as indicated in Hardware Sets.
 6. Manufacturers:
 - a. Rockwood (RO).

2.4 CYLINDERS AND KEYING

- A. General: Cylinder manufacturer to have minimum 10 years' experience designing secured master key systems and have on record a published security keying system policy.
 1. Manufacturers:
 - a. Sargent Manufacturing (SA).
 - b. Match Existing, Field Verify.
- B. Cylinder Types: Original manufacturer cylinders able to supply the following cylinder formats and types:
 1. Threaded mortise cylinders with rings and cams to suit hardware application.
 2. Rim cylinders with back plate, flat-type vertical or horizontal tailpiece, and raised trim ring.
 3. Bored or cylindrical lock cylinders with tailpieces as required to suit locks.
 4. Tubular deadlocks and other auxiliary locks.
 5. Mortise and rim cylinder collars to be solid and recessed to allow the cylinder face to be flush and be free spinning with matching finishes.
 6. Keyway: Match Facility Standard.
- C. Small Format Interchangeable Cores: Provide small format interchangeable cores (SFIC) as specified, core insert, removable by use of a special key; usable with other manufacturers' cylinders.

- D. Keying System: Each type of lock and cylinders to be factory keyed.
 - 1. Supplier shall conduct a "Keying Conference" to define and document keying system instructions and requirements.
 - 2. Furnish factory cut, nickel-silver large bow permanently inscribed with a visual key control number as directed by Owner.
 - 3. New System: Key locks to a new key system as directed by the Owner.
- E. Key Quantity: Provide the following minimum number of keys:
 - 1. Change Keys per Cylinder: Two.
 - 2. Master Keys (per Master Key Level/Group): Five.
 - 3. Construction Keys (where required): Ten.
 - 4. Construction Control Keys (where required): Two.
 - 5. Permanent Control Keys (where required): Two.
- F. Construction Keying: Provide temporary keyed construction cores.
- G. Key Registration List (Bitting List):
 - 1. Provide keying transcript list to Owner's representative in the proper format for importing into key control software.
 - 2. Provide transcript list in writing or electronic file as directed by the Owner.

2.5 KEY CONTROL

- A. Key Control Cabinet: Provide a key control system including envelopes, labels, and tags with self-locking key clips, receipt forms, 3-way visible card index, temporary markers, permanent markers, and standard metal cabinet. Key control cabinet shall have expansion capacity of 150 percent of the number of locks required for the Project.
 - 1. Manufacturers:
 - a. Lund Equipment (LU).
 - a. MMF Industries (MM).
 - b. Telkee (TK).

2.6 MECHANICAL LOCKS AND LATCHING DEVICES

- A. Mortise Locksets, Grade 1 (Heavy Duty): ANSI/BHMA A156.13, Series 1000, Operational Grade 1 Certified Products Directory (CPD) listed. Locksets are to be manufactured with a corrosion resistant steel case and be field-reversible for handing without disassembly of the lock body.
 - 1. Heavy duty mortise locks shall have a ten-year warranty.
 - 2. Where specified, provide status indicators with highly reflective color and wording for "locked/unlocked" or "vacant/occupied" with custom wording options if required. Indicator to be located above the cylinder with the inside thumb-turn not blocking the visibility of the indicator status. Indicator window size to be a minimum of 2.1 inches by 0.6-inch with a curved design allowing a 180-degree viewing angle with protective covering to prevent tampering.
 - 3. Manufacturers:
 - a. Sargent Manufacturing (SA) - 8200 Series.

2.7 LOCK AND LATCH STRIKES

- A. Strikes: Provide manufacturer's standard strike with strike box for each latch or lock bolt, with curved lip extended to protect frame, finished to match door hardware set, unless otherwise indicated, and as follows:
 - 1. Flat-Lip Strikes: For locks with three-piece antifriction latchbolts, as recommended by manufacturer.
 - 2. Extra-Long-Lip Strikes: For locks used on frames with applied wood casing trim.
 - 3. Aluminum-Frame Strike Box: Provide manufacturer's special strike box fabricated for aluminum framing.
 - 4. Double-lipped strikes: For locks at double acting doors. Furnish with retractable stop for rescue hardware applications.
- B. Standards: Comply with the following:
 - 1. Strikes for Mortise Locks and Latches: BHMA A156.13.
 - 2. Strikes for Bored Locks and Latches: BHMA A156.2.
 - 3. Strikes for Auxiliary Deadlocks: BHMA A156.36.
 - 4. Dustproof Strikes: BHMA A156.16.

2.8 DOOR CLOSERS

- A. All door closers specified herein shall meet or exceed the following criteria:
 - 1. General: Door closers to be from one manufacturer, matching in design and style, with the same type door preparations and templates regardless of application or spring size. Closers to be non-handed with full sized covers.
 - 2. Standards: Closers to comply with UL-10C for Positive Pressure Fire Test and be U.L. listed for use of fire rated doors.
 - 3. Size of Units: Comply with manufacturer's written recommendations for sizing of door closers depending on size of door, exposure to weather, and anticipated frequency of use. Where closers are indicated for doors required to be accessible to the Americans with Disabilities Act, provide units complying with ANSI ICC/A117.1.
 - 4. Closer Arms: Provide heavy duty, forged steel closer arms unless otherwise indicated in Hardware Sets.
 - 5. Closers shall not be installed on exterior or corridor side of doors; where possible install closers on door for optimum aesthetics.
 - 6. Closer Accessories: Provide door closer accessories including custom templates, special mounting brackets, spacers and drop plates as required for proper installation. Provide through-bolt and security type fasteners as specified in the Hardware Sets.
- B. Door Closers, Surface Mounted (Large Body Cast Iron): ANSI/BHMA A156.4, Grade 1 Certified Products Directory (CPD) listed surface mounted, heavy duty door closers with complete spring power adjustment, sizes 1 thru 6; and fully operational adjustable according to door size, frequency of use, and opening force. Closers to be rack and pinion type, one piece cast iron body construction, with adjustable backcheck and separate non-critical valves for closing sweep and latch speed control.
 - 1. Large body cast iron surface mounted door closers shall have a 30-year warranty.
 - 2. Manufacturers:
 - a. Sargent Manufacturing (SA) - 281 Series.
- C. Door Closers, Surface Mounted (Heavy Duty): ANSI/BHMA A156.4, Grade 1 Certified Products Directory (CPD) listed surface mounted, heavy duty door closers with complete spring power adjustment, sizes 1 thru 6; and fully operational adjustable according to door

size, frequency of use, and opening force. Closers to be rack and pinion type, one piece cast iron or aluminum alloy body construction, with adjustable backcheck and separate non-critical valves for closing sweep and latch speed control. Provide non-handed units standard.

1. Heavy duty surface mounted door closers shall have a 30-year warranty.
2. Manufacturers:
 - a. Sargent Manufacturing (SA) - 351 Series.

2.9 ENGINEERURAL TRIM

A. Door Protective Trim

1. General: Door protective trim units to be of type and design as specified below or in the Hardware Sets.
2. Size: Fabricate protection plates (kick, armor, or mop) not more than 2 inches less than door width (LDW) on stop side of single doors and 1-inch LDW on stop side of pairs of doors, and not more than 1 inch less than door width on pull side. Coordinate and provide proper width and height as required where conflicting hardware dictates. Height to be as specified in the Hardware Sets.
3. Where plates are applied to fire rated doors with the top of the plate more than 16 inches above the bottom of the door, provide plates complying with NFPA 80. Consult manufacturer's catalog and template book for specific requirements for size and applications.
4. Protection Plates: ANSI/BHMA A156.6 protection plates (kick, armor, or mop), fabricated from the following:
 - a. Stainless Steel: 300 grade, .050-inch thick.
5. Options and fasteners: Provide manufacturer's designated fastener type as specified in the Hardware Sets. Provide countersunk screw holes.
6. Manufacturers:
 - a. Rockwood (RO).

2.10 DOOR STOPS AND HOLDERS

- A. General: Door stops and holders to be of type and design as specified below or in the Hardware Sets.
- B. Door Stops and Bumpers: ANSI/BHMA A156.16, Grade 1 door stops and wall bumpers. Provide wall bumpers, either convex or concave types with anchorage as indicated, unless floor or other types of door stops are specified in Hardware Sets. Do not mount floor stops where they will impede traffic. Where floor or wall bumpers are not appropriate, provide overhead type stops and holders.
 1. Manufacturers:
 - a. Rockwood (RO).

- C. Overhead Door Stops and Holders: ANSI/BHMA A156.8, Grade 1 Certified Products Directory (CPD) listed overhead stops and holders to be surface or concealed types as indicated in Hardware Sets. Track, slide, arm, and jamb bracket to be constructed of extruded bronze and shock absorber spring of heavy tempered steel. Provide non-handed design with mounting brackets as required for proper operation and function.
 - 1. Manufacturers:
 - a. Norton Rixson (RF).
 - b. Sargent Manufacturing (SA).

2.11 ENGINEERURAL SEALS

- A. General: Thresholds, weatherstripping, and gasket seals to be of type and design as specified below or in the Hardware Sets. Provide continuous weatherstrip gasketing on exterior doors and provide smoke, light, or sound gasketing on interior doors where indicated. At exterior applications provide non-corrosive fasteners and elsewhere where indicated.
- B. Smoke Labeled Gasketing: Assemblies complying with NFPA 105 that are listed and labeled by a testing and inspecting agency acceptable to authorities having jurisdiction, for smoke control ratings indicated, based on testing according to UL 1784.
 - 1. Provide smoke labeled perimeter gasketing at all smoke labeled openings.
- C. Fire Labeled Gasketing: Assemblies complying with NFPA 80 that are listed and labeled by a testing and inspecting agency acceptable to authorities having jurisdiction, for fire ratings indicated, based on testing according to UL-10C.
 - 1. Provide intumescent seals as indicated to meet UL10C Standard for Positive Pressure Fire Tests of Door Assemblies, and NPFA 252, Standard Methods of Fire Tests of Door Assemblies.
- D. Sound-Rated Gasketing: Assemblies that are listed and labeled by a testing and inspecting agency, for sound ratings indicated.
- E. Replaceable Seal Strips: Provide only those units where resilient or flexible seal strips are easily replaceable and readily available from stocks maintained by manufacturer.
- F. Manufacturers:
 - 1. Pemko (PE).

2.12 FABRICATION

- A. Fasteners: Provide door hardware manufactured to comply with published templates generally prepared for machine, wood, and sheet metal screws. Provide screws according to manufacturers recognized installation standards for application intended.

2.13 FINISHES

- A. Standard: Designations used in the Hardware Sets and elsewhere indicate hardware finishes complying with ANSI/BHMA A156.18, including coordination with traditional U.S. finishes indicated by certain manufacturers for their products.
- B. Provide quality of finish, including thickness of plating or coating (if any), composition, hardness, and other qualities complying with manufacturer's standards, but in no case less than specified by referenced standards for the applicable units of hardware.
- C. Protect mechanical finishes on exposed surfaces from damage by applying a strippable, temporary protective covering before shipping.

PART 3 - EXECUTION

3.1 EXAMINATION

- A. Examine scheduled openings, with Installer present, for compliance with requirements for installation tolerances, labeled fire door assembly construction, wall and floor construction, and other conditions affecting performance.
- B. Notify Engineer of any discrepancies or conflicts between the Door Schedule, door types, Drawings, and scheduled hardware. Proceed only after such discrepancies or conflicts have been resolved in writing.

3.2 PREPARATION

- A. Hollow Metal Doors and Frames: Comply with ANSI/DHI A115 series.
- B. Wood Doors: Comply with ANSI/DHI A115-W series.

3.3 INSTALLATION

- A. Install each item of mechanical and electromechanical hardware and access control equipment to comply with manufacturer's written instructions and according to specifications.
 - 1. Installers are to be trained and certified by the manufacturer on the proper installation and adjustment of fire, life safety, and security products including: hanging devices; locking devices; closing devices; and seals.
- B. Mounting Heights: Mount door hardware units at heights indicated in following applicable publications, unless specifically indicated or required to comply with governing regulations:
 - 1. Standard Steel Doors and Frames: DHI's "Recommended Locations for Engineerural Hardware for Standard Steel Doors and Frames."
 - 2. DHI TDH-007-20: Installation Guide for Doors and Hardware.
 - 3. Where indicated to comply with accessibility requirements, comply with ANSI A117.1 "Accessibility Guidelines for Buildings and Facilities."
 - 4. Provide blocking in drywall partitions where wall stops or other wall mounted hardware is located.
- C. Retrofitting: Install door hardware to comply with manufacturer's published templates and written instructions. Where cutting and fitting are required to install door hardware onto or into surfaces that are later to be painted or finished in another way, coordinate removal, storage, and reinstallation of surface protective trim units with finishing work specified in Division 09 Sections. Do not install surface-mounted items until finishes have been completed on substrates involved.
- D. Thresholds: Set thresholds for exterior and acoustical doors in full bed of sealant.
- E. Storage: Provide a secure lock up for hardware delivered to the Project but not yet installed. Control the handling and installation of hardware items so that the completion of the work will not be delayed by hardware losses before and after installation.

3.4 FIELD QUALITY CONTROL

- A. Field Inspection (Punch Report): Reference Section 01 70 00 "Execution and Closeout Requirements." Produce Project punch report for each installed door opening indicating compliance with approved submittals and verification hardware is properly installed, operating, and adjusted. Include list of items to be completed and corrected, indicating the reasons or deficiencies causing the Work to be incomplete or rejected.
 - 1. Organization of List: Include separate Door Opening and Deficiencies and Corrective Action Lists organized by Mark, Opening Remarks and Comments, and related Opening Images and Video Recordings.

3.5 ADJUSTING

- A. Initial Adjustment: Adjust and check each operating item of door hardware and each door to ensure proper operation or function of every unit. Replace units that cannot be adjusted to operate as intended. Adjust door control devices to compensate for final operation of heating and ventilating equipment and to comply with referenced accessibility requirements.

3.6 CLEANING AND PROTECTION

- A. Protect all hardware stored on construction site in a covered and dry place. Protect exposed hardware installed on doors during the construction phase. Install any and all hardware at the latest possible time frame.
- B. Clean adjacent surfaces soiled by door hardware installation.
- C. Clean operating items as necessary to restore proper finish. Provide final protection and maintain conditions that ensure door hardware is without damage or deterioration at time of Owner occupancy.

3.7 DEMONSTRATION

- A. Instruct Owner's maintenance personnel to adjust, operate, and maintain mechanical and electromechanical door hardware.

3.8 DOOR HARDWARE SETS

- A. The Hardware Sets represent the design intent and direction of the Owner and Engineer. They are a guideline only and should not be considered a detailed hardware schedule. Discrepancies, conflicting hardware and missing items should be brought to the attention of the Engineer with corrections made prior to the Bidding process. Omitted items not included in a Hardware Set should be scheduled with the appropriate additional hardware required for proper application and functionality.
 - 1. Quantities listed are for each pair of doors, or for each single door.
 - 2. The supplier is responsible for handing and sizing all products.
 - 3. Where multiple options for a piece of hardware are given in a single line item, the supplier shall provide the appropriate application for the opening.

B. Manufacturer's Abbreviations:

1. MK - McKinney
2. PE - Pemko
3. AD - Adams Rite
4. SA - SARGENT
5. RO - Rockwood
6. RF - Rixson

Hardware Sets

Set: 1.0

Doors: 108

1 Continuous Hinge	BSPFM__SLF-HD1		PE
1 Access Control Cyl	72 IN100-10G77-BIPS	BSP	SA ⚡
1 Lock (By Div 28)	LL		
1 SFIC Cylinder	as required	BSP	SA
1 Door Closer w Stop	281 CPS	BSP	SA
1 Drop Plate &	as required	BSP	SA
1 Mounting Hardware			
1 Threshold	2005BSPT x Width		PE
1 Perimeter Seal	by door / frame mfg		
1 Sweep	315BSPN x Width		PE
1 Antenna (By Div 28)	EXT-10-ANT		SA ⚡
1 Hub (By Div 28)	AH (coordinate hardware version w Owner)		SA ⚡

Notes: Door is normally closed, latched, and secured. Valid credential for ingress, free egress at all times. Coordinate with security and electrical.

Access control locking device to be furnished by Authorized Channel Partner (ACP) and installed by Certified Integrator (CI).

Set: 2.0

Doors: 112

1	Continuous Hinge	BSPFM__SLF-HD1		PE
1	Mortise Deadlock	MS1850S x 4066 01	335	AD
1	SFIC Cylinder	as required	BSP	SA
2	Offset Door Pull	RM3311-12	BSP	RO
1	Door Closer w Stop	281 CPS	BSP	SA
1	Drop Plate & Mounting Hardware	as required	BSP	SA
1	Threshold	2005BSPT x Width		PE
1	Perimeter Seal	by door / frame mfg		
1	Sweep	315BSPN x Width		PE

Set: 3.0

Doors: 105A, 105B, 105D

1	Continuous Hinge	BSPFM__HD1		PE	
1	Access Control Cyl Lock (By Div 28)	72 IN100-10G77-BIPS LL	BSP	SA	⚡
1	SFIC Cylinder	as required	BSP	SA	
1	Door Closer w Stop	281 CPS	BSP	SA	
1	Kick Plate	K1050 10" High x LDW CSK	BSP	RO	
1	Threshold	2005BSPT x Width		PE	
1	Gasketing	2891BSPPK (Head & Jambs)		PE	
1	Rain Guard	346BSP x LAR		PE	
1	Sweep	3452BSPV x Width		PE	
1	Antenna (By Div 28)	EXT-10-ANT		SA	⚡
1	Hub (By Div 28)	AH (coordinate hardware version w Owner)		SA	⚡

Notes: Door is normally closed, latched, and secured. Valid credential for ingress, free egress at all times. Coordinate with security and electrical.

Access control locking device to be furnished by Authorized Channel Partner (ACP) and installed by Certified Integrator (CI).

Set: 4.0

Doors: 105E, 106, 107

3 Hinge, Full Mortise	TA2714	BSP	MK	
1 Access Control Cyl Lock (By Div 28)	72 IN100-10G77-BIPS LL	BSP	SA	⚡
1 SFIC Cylinder	as required	BSP	SA	
1 Surface Closer	351 Reg / PA	BSP	SA	
1 Kick Plate	K1050 10" High x LDW CSK	BSP	RO	
1 Door Stop	406 / 409 / 446 as required	BSP	RO	
3 Silencer	As req'd		RO	
1 Antenna (By Div 28)	EXT-10-ANT		SA	⚡
1 Hub (By Div 28)	AH (coordinate hardware version w Owner)		SA	⚡

Set: 5.0

Doors: 111A, 113, 114

3 Hinge, Full Mortise	TA2714	BSP	MK	
1 Access Control Cyl Lock (By Div 28)	72 IN100-10G77-BIPS LL	BSP	SA	⚡
1 SFIC Cylinder	as required	BSP	SA	
1 Surface Closer w Positive Stop	351 PS	BSP	SA	
1 Kick Plate	K1050 10" High x LDW CSK	BSP	RO	
3 Silencer	As req'd		RO	
1 Antenna (By Div 28)	EXT-10-ANT		SA	⚡
1 Hub (By Div 28)	AH (coordinate hardware version w Owner)		SA	⚡

Notes: Door is normally closed, latched, and secured. Valid credential for ingress, free egress at all times. Coordinate with security and electrical.

Access control locking device to be furnished by Authorized Channel Partner (ACP) and installed by Certified Integrator (CI).

Set: 6.0

Doors: 109, 110

3 Hinge, Full Mortise	TA2714	BSP	MK
1 Privacy Lock	V20 8265 LNL	BSP	SA
1 Surface Closer	351 Reg / PA	BSP	SA
1 Kick Plate	K1050 10" High x LDW CSK	BSP	RO
1 Door Stop	406 / 409 / 446 as required	BSP	RO
1 Gasketing	S88BL (Head & Jambs)		PE

Set: 7.0

Doors: 111B

3 Hinge, Full Mortise	TA2714	BSP	MK
1 Office Lock	72 10XG05 LL	BSP	SA
1 SFIC Cylinder	as required	BSP	SA
1 Surf Overhead Stop	9-X36	BSP	RF
3 Silencer	As req'd		RO

Set: 8.0

Doors: 105C

1 Note	All hardware By door mfr
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Notes: Coordinate cylinder requirements.

END OF SECTION

SECTION 08 80 00 - GLAZING

PART 1 - GENERAL

1.1 SUMMARY

- A. Section Includes:
 - 1. Glass products.
 - 2. Insulating glass.
 - 3. Glazing tapes.
 - 4. Miscellaneous glazing materials.
- B. Related Requirements:
 - 1. Division 01 Specification Sections apply to Work of this Section.

1.2 DEFINITIONS

- A. Glass Manufacturers: Firms that produce primary glass, fabricated glass, or both, as defined in referenced glazing publications.
- B. Glass Thicknesses: Indicated by thickness designations in millimeters in accordance with ASTM C1036.
- C. IBC: International Building Code.
- D. Interspace: Space between lites of an insulating-glass unit.

1.3 COORDINATION

- A. Coordinate glazing channel dimensions to provide necessary bite on glass, minimum edge and face clearances, and adequate sealant thicknesses with reasonable tolerances to achieve proper safety margins for glazing retention under each design load case, load case combination, and service condition.

1.4 ACTION SUBMITTALS

- A. Product Data: For each type of product.
- B. Glass Samples: For each type of glass product other than clear monolithic vision glass; 12 inches square.
- C. Glazing Schedule: List glass types and thicknesses for each size opening and location. Use same designations indicated on Drawings.

1.5 DELIVERY, STORAGE, AND HANDLING

- A. Protect glazing materials in accordance with manufacturer's written instructions. Prevent damage to glass and glazing materials from condensation, temperature changes, direct exposure to sun, or other causes.
- B. Comply with insulating-glass manufacturer's written instructions for venting and sealing units to avoid hermetic seal ruptures due to altitude change.

1.6 FIELD CONDITIONS

- A. Environmental Limitations: Do not proceed with glazing when ambient and substrate temperature conditions are outside limits permitted by glazing material manufacturers and when glazing channel substrates are wet from rain, frost, condensation, or other causes.
 - 1. Do not install glazing sealants when ambient and substrate temperature conditions are outside limits permitted by sealant manufacturer or are below 40 degrees F.

PART 2 - PRODUCTS

2.1 MANUFACTURERS

- A. General Glass Manufactures: Unless specified otherwise and subject to compliance with requirements, provide products by the following:
 - 1. AGC Glass Company North America, Inc.
 - 2. Guardian Glass; SunGuard.
 - 3. Pilkington North America.
 - 4. Viracon, Inc.
 - 5. Vitro Architectural Glass.

2.2 PERFORMANCE REQUIREMENTS

- A. General: Installed glazing systems shall withstand normal thermal movement and wind and impact loads (where applicable) without failure, including loss or glass breakage attributable to defective manufacture, fabrication, or installation; failure of sealants or gaskets to remain watertight and airtight; deterioration of glazing materials; or other defects in construction.
- B. Structural Performance: Glazing shall withstand the following design loads within limits and under conditions indicated determined in accordance with the IBC and ASTM E1300:
 - 1. Design Wind Pressures: As indicated on Drawings.
 - a. Wind Design Data: As indicated on Drawings.
 - 2. Thermal Loads: Design glazing to resist thermal stress breakage induced by differential temperature conditions and limited air circulation within individual glass lites and insulated glazing units.
- C. Safety Glazing: Where safety glazing is indicated or required by IBC or other code, provide glazing that complies with 16 CFR 1201, Category II.
- D. Thermal and Optical Performance Properties: Provide glass with performance properties specified, as indicated in manufacturer's published test data, based on procedures indicated below:
 - 1. For insulating-glass units, properties are based on units of thickness indicated for overall unit and for each lite.
 - 2. U-Factors: Center-of-glazing values, in accordance with NFRC 100 and based on most current non-beta version of LBL's WINDOW computer program, expressed as Btu per square feet by hour by degrees F.

2.3 GLASS PRODUCTS, GENERAL

- A. Glazing Publications: Comply with published recommendations of glass product manufacturers and organizations below unless more stringent requirements are indicated. See these publications for glazing terms not otherwise defined in this Section or in referenced standards.
 - 1. NGA Publications: "Glazing Manual."
 - 2. AAMA Publications: AAMA GDSG-1, "Glass Design for Sloped Glazing," and AAMA TIR A7, "Sloped Glazing Guidelines."
 - 3. IGMA Publication for Sloped Glazing: IGMA TB-3001, "Guidelines for Sloped Glazing."
 - 4. IGMA Publication for Insulating Glass: SIGMA TM-3000, "North American Glazing Guidelines for Sealed Insulating Glass Units for Commercial and Residential Use."
- B. Safety Glazing Labeling: Where safety glazing is indicated, permanently mark glazing with certification label of the SGCC or another certification agency acceptable to authorities having jurisdiction or manufacturer. Label shall indicate manufacturer's name, type of glass, thickness, and safety glazing standard with which glass complies.
- C. Thickness: Where glass thickness is indicated, it is a minimum. Provide glass that complies with performance requirements and is not less than thickness indicated.
 - 1. Thickness of Tinted Glass: Provide same thickness for each tint color indicated throughout Project.
- D. Strength: Where annealed float glass is indicated, provide annealed float glass, heat-strengthened float glass, or fully tempered float glass as needed to comply with "Performance Requirements" Article. Where heat-strengthened float glass is indicated, provide heat-strengthened float glass or fully tempered float glass as needed to comply with "Performance Requirements" Article. Where fully tempered float glass is indicated, provide fully tempered float glass.

2.4 GLASS PRODUCTS

- A. Reflective- and Low-E-Coated Vision Glass: ASTM C1376.
 - 1. Manufacturers: Subject to compliance with requirements, available manufacturers offering products that may be incorporated into the Work include, but are not limited to, the following:
 - a. Cardinal Glass Industries.
 - b. Guardian Glass; SunGuard.
 - c. Saint-Gobain Glass Exprover NA.
 - d. Vitro Architectural Glass.

2.5 INSULATING GLASS

- A. Insulating-Glass Units: Factory-assembled units consisting of sealed lites of glass separated by a dehydrated interspace, qualified in accordance with ASTM E2190.
 - 1. Sealing System: Dual seal, with manufacturer's standard primary and secondary sealants.
 - 2. Desiccant: Molecular sieve, silica gel, or a blend of both.

2.6 GLAZING TAPES

- A. Back-Bedding Mastic Glazing Tapes: Preformed, butyl-based, 100 percent solids elastomeric tape; nonstaining and nonmigrating in contact with nonporous surfaces; with or without spacer rod as recommended in writing by tape and glass manufacturers for application indicated; and complying with ASTM C1281 and AAMA 800 for products indicated below:
 - 1. AAMA 806.3 tape, for glazing applications in which tape is subject to continuous pressure.
 - 2. AAMA 807.3 tape, for glazing applications in which tape is not subject to continuous pressure.

2.7 MISCELLANEOUS GLAZING MATERIALS

- A. General: Provide products of material, size, and shape complying with referenced glazing standard, recommended in writing by manufacturers of glass and other glazing materials for application indicated, and with a proven record of compatibility with surfaces contacted in installation.
- B. Cleaners, Primers, and Sealers: Types recommended by sealant or gasket manufacturer.
- C. Setting Blocks:
 - 1. Type recommended in writing by sealant or glass manufacturer.
- D. Spacers:
 - 1. Type recommended in writing by sealant or glass manufacturer.
- E. Edge Blocks:
 - 1. Type recommended in writing by sealant or glass manufacturer.

2.8 FABRICATION OF GLAZING UNITS

- A. Fabricate glazing units in sizes required to fit openings indicated for Project, with edge and face clearances, edge and surface conditions, and bite complying with written instructions of product manufacturer and referenced glazing publications, to comply with system performance requirements.
 - 1. Allow for thermal movements from ambient and surface temperature changes acting on glass framing members and glazing components.
 - a. Temperature Change: 120 degrees F, ambient; 180 degrees F, material surfaces.

PART 3 - EXECUTION

3.1 EXAMINATION

- A. Examine framing, glazing channels, and stops, with Installer present, for compliance with the following:
 - 1. Manufacturing and installation tolerances, including those for size, squareness, and offsets at corners.
 - 2. Presence and functioning of weep systems.
 - 3. Minimum required face and edge clearances.
 - 4. Effective sealing between joints of glass-framing members.
- B. Proceed with installation only after unsatisfactory conditions have been corrected.

3.2 PREPARATION

- A. Clean glazing channels and other framing members receiving glass immediately before glazing. Remove coatings not firmly bonded to substrates.
- B. Examine glazing units to locate exterior and interior surfaces. Label or mark units as needed so that exterior and interior surfaces are readily identifiable. Do not use materials that leave visible marks in the completed Work.

3.3 GLAZING, GENERAL

- A. Comply with combined written instructions of manufacturers of glass, sealants, gaskets, and other glazing materials, unless more stringent requirements are indicated, including those in referenced glazing publications.
- B. Protect glass edges from damage during handling and installation. Remove damaged glass from Project Site and legally dispose off Project Site. Damaged glass includes glass with edge damage or other imperfections that, when installed, could weaken glass, impair performance, or impair appearance.
- C. Apply primers to joint surfaces where required for adhesion of sealants, as determined by preconstruction testing.
- D. Install setting blocks in sill rabbets, sized and located to comply with referenced glazing publications, unless otherwise required by glass manufacturer. Set blocks in thin course of compatible sealant suitable for heel bead.
- E. Do not exceed edge pressures stipulated by glass manufacturers for installing glass lites.
- F. Provide spacers for glass lites where length plus width is larger than 50 inches.
 - 1. Locate spacers directly opposite each other on both inside and outside faces of glass. Install correct size and spacing to preserve required face clearances, unless gaskets and glazing tapes are used that have demonstrated ability to maintain required face clearances and to comply with system performance requirements.
 - 2. Provide 1/8-inch-minimum bite of spacers on glass and use thickness equal to sealant width. With glazing tape, use thickness slightly less than final compressed thickness of tape.
- G. Provide edge blocking where indicated or needed to prevent glass lites from moving sideways in glazing channel, as recommended in writing by glass manufacturer and in accordance with requirements in referenced glazing publications.
- H. Set glass lites in each series with uniform pattern, draw, bow, and similar characteristics.
- I. Set glass lites with proper orientation so that coatings face exterior or interior as specified.

3.4 TAPE GLAZING

- A. Position tapes on fixed stops so that, when compressed by glass, their exposed edges are flush with or protrude slightly above sightline of stops.
- B. Install tapes continuously but not necessarily in one continuous length. Do not stretch tapes to make them fit opening.
- C. Cover vertical framing joints by applying tapes to heads and sills first, then to jambs. Cover horizontal framing joints by applying tapes to jambs, then to heads and sills.
- D. Place joints in tapes at corners of opening with adjoining lengths butted together, not lapped. Seal joints in tapes with compatible sealant approved by tape manufacturer.
- E. Do not remove release paper from tape until right before each glazing unit is installed.
- F. Apply heel bead of elastomeric sealant.

- G. Center glass lites in openings on setting blocks, and press firmly against tape by inserting dense compression gaskets formed and installed to lock in place against faces of removable stops. Start gasket applications at corners and work toward centers of openings.
- H. Apply cap bead of elastomeric sealant over exposed edge of tape.

3.5 CLEANING AND PROTECTION

- A. Immediately after installation, remove non-permanent labels and clean surfaces.
- B. Protect glass from contact with contaminating substances resulting from construction operations. Examine glass surfaces adjacent to or below exterior concrete and other masonry surfaces at frequent intervals during construction, but not less than once a month, for buildup of dirt, scum, alkaline deposits, or stains.
 - 1. If, despite such protection, contaminating substances do contact with glass, remove substances immediately as recommended in writing by glass manufacturer. Remove and replace glass that cannot be cleaned without damage to coatings.
- C. Remove and replace glass that is damaged during construction period.
- D. Wash glass on both exposed surfaces not more than 4 days before date scheduled for inspections that establish date of Substantial Completion. Wash glass as recommended in writing by glass manufacturer.
 - 1. Safety glazing required.

3.6 INSULATING GLASS SCHEDULE

- A. Low-E-Coated, Tinted Insulating Glass Type G12:
 - 1. Overall Unit Thickness: 1 inch.
 - 2. Minimum Thickness of Each Glass Lite: 6 millimeters.
 - 3. Outdoor Lite: Tinted float glass.
 - 4. Tint Color: Gray.
 - 5. Interspace Content: Air.
 - 6. Indoor Lite: Clear float glass.
 - 7. Low-E Coating: Sputtered on second surface.
 - 8. Summer Daytime U-Factor: 0.22 maximum.
 - 9. SGHC: .25 maximum.

END OF SECTION

SECTION 09 22 16 - NON-STRUCTURAL METAL FRAMING

PART 1 - GENERAL

1.1 SUMMARY

- A. Section Includes:
 - 1. Non-load-bearing steel framing systems for interior partitions.
 - 2. Suspension systems for interior ceilings and soffits.
- B. Related Requirements:
 - 1. Division 01 Specification Sections apply to Work of this Section.

1.2 ACTION SUBMITTALS

- A. Product Data: For each type of product.

1.3 INFORMATIONAL SUBMITTALS

- A. Product Certificates: For each type of code-compliance certification for studs and tracks.

1.4 QUALITY ASSURANCE

- A. Code-Compliance Certification of Studs and Tracks: Provide documentation that framing members are certified according to the product-certification program of the Certified Steel Stud Association, the Steel Framing Industry Association, the Steel Stud Manufacturers Association, or the Supreme Steel Framing System Association.

1.5 DELIVERY, STORAGE, AND HANDLING

- A. Notify manufacturer of damaged materials received prior to installation.
- B. Deliver materials in manufacturer's original, unopened, undamaged containers with identification labels intact.
- C. Protect cold-formed metal framing from corrosion, deformation, and other damage during delivery, storage, and handling as required by AISI S202, "Code of Standard Practice for Cold-Formed Steel Structural Framing."

PART 2 - PRODUCTS

2.1 PERFORMANCE REQUIREMENTS

- A. Horizontal Deflection: For composite and non-composite wall assemblies, limited to following ratios of the wall height based on horizontal loading of 5 pounds of force per square foot.
 - 1. Plaster: 1/360.
 - 2. Gypsum Board and Other Finishes: 1/240.
- B. Design Loads: As indicated on architectural Drawings or 5 pounds of force per square foot minimum as required by the IBC.

2.2 FRAMING SYSTEMS

- A. Framing Members, General: Comply with AISI S220 for conditions indicated.
 - 1. Steel Sheet Components: Comply with AISI S220 requirements for metal unless otherwise indicated
 - 2. Protective Coating: Comply with AISI S220; ASTM A653, G40; or coating with equivalent corrosion resistance. Galvannealed products are unacceptable.
 - a. Coating demonstrates equivalent corrosion resistance with an evaluation report acceptable to authorities having jurisdiction.
- B. Studs and Track: AISI S220.
 - 1. Manufacturers: Subject to compliance with requirements, available manufacturers offering products that may be incorporated into the Work include, but are not limited to, the following:
 - a. CEMCO; California Expanded Metal Products Co.
 - b. ClarkDietrich.
 - c. Jaimes Industries.
 - 2. Minimum Base-Steel Thickness: As required by performance requirements for horizontal deflection.
 - 3. Depth: As indicated on Drawings.

2.3 SUSPENSION SYSTEMS

- A. Tie Wire: ASTM A641, Class 1 zinc coating, soft temper, 0.062-inch-diameter wire, or double strand of 0.048-inch-diameter wire.
- B. Wire Hangers: ASTM A641, Class 1 zinc coating, soft temper, 0.16-inch in diameter.

2.4 AUXILIARY MATERIALS

- A. General: Provide auxiliary materials that comply with referenced installation standards.
 - 1. Fasteners for Steel Framing: Of type, material, size, corrosion resistance, holding power, and other properties required to fasten steel members to substrates.

PART 3 - EXECUTION

3.1 EXAMINATION

- A. Examine areas and substrates, with Installer present, and including welded hollow-metal frames, cast-in anchors, and structural framing, for compliance with requirements and other conditions affecting performance of the Work.
- B. Proceed with installation only after unsatisfactory conditions have been corrected.

3.2 PREPARATION

- A. Suspended Assemblies: Coordinate installation of suspension systems with installation of overhead structure to ensure that inserts and other provisions for anchorages to building structure have been installed to receive hangers at spacing required to support the Work and that hangers will develop their full strength.
 - 1. Furnish concrete inserts and other devices indicated to other trades for installation in advance of time needed for coordination and construction.

3.3 INSTALLATION, GENERAL

- A. Installation Standard: ASTM C754.
 - 1. Gypsum Board Assemblies: Also comply with requirements in ASTM C840 that apply to framing installation.
- B. Install framing and accessories plumb, square, and true to line, with connections securely fastened.
- C. Install supplementary framing, and blocking to support fixtures, equipment services, heavy trim, grab bars, toilet accessories, furnishings, or similar construction.
- D. Install bracing at terminations in assemblies.
- E. Do not bridge building control and expansion joints with non-load-bearing steel framing members. Frame both sides of joints independently.

3.4 INSTALLING FRAMED ASSEMBLIES

- A. Install framing system components according to spacings indicated, but not greater than spacings required by referenced installation standards for assembly types.
- B. Where studs are installed directly against exterior masonry walls or dissimilar metals at exterior walls, install isolation strip between studs and exterior wall.
- C. Install studs so flanges within framing system point in same direction.
- D. Install tracks at floors and overhead supports. Extend framing full height to structural supports or substrates above suspended ceilings except where partitions are indicated to terminate at suspended ceilings. Continue framing around ducts that penetrate partitions above ceiling.
 - 1. Door Openings: Screw vertical studs at jambs to jamb anchor clips on door frames; install track section (for cripple studs) at head and secure to jamb studs.
 - a. Install two studs at each jamb unless otherwise indicated.
 - b. Install cripple studs at head adjacent to each jamb stud, with a minimum 1/2-inch clearance from jamb stud to allow for installation of control joint in finished assembly.
 - c. Extend jamb studs through suspended ceilings and attach to underside of overhead structure.
 - 2. Other Framed Openings: Frame openings other than door openings the same as required for door openings unless otherwise indicated. Install framing below sills of openings to match framing required above door heads.
- E. Direct Furring:
 - 1. Screw to wood framing.
 - 2. Attach to concrete or masonry with stub nails, screws designed for masonry attachment, or powder-driven fasteners spaced 24 inches on center.
- F. Installation Tolerance: Install each framing member so fastening surfaces vary not more than 1/8-inch from the plane formed by faces of adjacent framing.

3.5 INSTALLING CEILING SUSPENSION SYSTEMS

- A. Install suspension system components according to spacings indicated, but not greater than spacings required by referenced installation standards for assembly types.
 - 1. Hangers: 48 inches on center.
- B. Isolate suspension systems from building structure where they abut or are penetrated by building structure to prevent transfer of loading imposed by structural movement.

- C. Suspend hangers from building structure as follows:
 - 1. Install hangers plumb and free from contact with insulation or other objects within ceiling plenum that are not part of supporting structural or suspension system.
 - a. Splay hangers only where required to miss obstructions and offset resulting horizontal forces by bracing, countersplaying, or other equally effective means.
 - 2. Where width of ducts and other construction within ceiling plenum produces hanger spacings that interfere with locations of hangers required to support standard suspension system members, install supplemental suspension members and hangers in the form of trapezes or equivalent devices.
 - a. Size supplemental suspension members and hangers to support ceiling loads within performance limits established by referenced installation standards.
 - 3. Wire Hangers: Secure by looping and wire tying, either directly to structures or to inserts, eye screws, or other devices and fasteners that are secure and appropriate for substrate, and in a manner that will not cause hangers to deteriorate or otherwise fail.
 - 4. Do not attach hangers to steel roof deck.
 - 5. Do not attach hangers to permanent metal forms. Furnish cast-in-place hanger inserts that extend through forms.
 - 6. Do not attach hangers to rolled-in hanger tabs of composite steel floor deck.
 - 7. Do not connect or suspend steel framing from ducts, pipes, or conduit.
- D. Installation Tolerances: Install suspension systems that are level to within 1/8-inch in 12 feet measured lengthwise on each member that will receive finishes and transversely between parallel members that will receive finishes.

END OF SECTION

SECTION 09 29 00 - GYPSUM BOARD

PART 1 - GENERAL

1.1 SUMMARY

- A. Section Includes:
 - 1. Interior gypsum board.
- B. Related Requirements:
 - 1. Division 01 Specification Sections apply to Work of this Section.
 - 2. Section 09 22 16 "Non-Structural Metal Framing" for non-structural steel framing and suspension systems that support gypsum board panels.

1.2 ACTION SUBMITTALS

- A. Product Data: For the following:
 - 1. Gypsum wallboard.
 - 2. Gypsum board, Type X.
 - 3. Interior trim.
 - 4. Joint treatment materials.
 - 5. Laminating adhesive.

1.3 DELIVERY, STORAGE AND HANDLING

- A. Store materials inside under cover and keep them dry and protected against weather, condensation, direct sunlight, construction traffic, and other potential causes of damage. Stack panels flat and supported on risers on a flat platform to prevent sagging.

1.4 FIELD CONDITIONS

- A. Environmental Limitations: Comply with ASTM C840 requirements or gypsum board manufacturer's written instructions, whichever are more stringent.
- B. Do not install paper-faced gypsum panels until installation areas are enclosed and conditioned.
- C. Do not install panels that are wet, moisture damaged, and mold damaged.
 - 1. Indications that panels are wet or moisture damaged include, but are not limited to, discoloration, sagging, or irregular shape.
 - 2. Indications that panels are mold damaged include, but are not limited to, fuzzy or splotchy surface contamination and discoloration.

PART 2 - PRODUCTS

2.1 GYPSUM BOARD, GENERAL

- A. Manufacturers: Unless noted otherwise and subject to compliance with requirements, provide products by the following:
 - 1. Georgia-Pacific Gypsum LLC.
 - 2. National Gypsum Company.
 - 3. USG Corporation.

- B. Size: Provide maximum lengths and widths available that will minimize joints in each area and that correspond with support system indicated.

2.2 INTERIOR GYPSUM BOARD

- A. Gypsum Wallboard: ASTM C1396.
 - 1. Thickness: Five-eighths-inch.
 - 2. Long Edges: Tapered.
- B. Gypsum Board, Type X: ASTM C1396.
 - 1. Thickness: Five-eighths-inch.
 - 2. Long Edges: Tapered.

2.3 TRIM ACCESSORIES

- A. Interior Trim: ASTM C1047.
 - 1. Material: Galvanized or aluminum-coated steel sheet, rolled zinc, plastic, or paper-faced galvanized-steel sheet.
 - 2. Shapes:
 - a. Cornerbead.
 - b. U-Bead: J-shaped; exposed short flange does not receive joint compound.
 - c. Expansion (control) joint.
 - d. Base-of-Wall Moisture Barrier Trim: Galvanized-steel sheet, 2 inches high to extruded PVC, 1/2-inch high.
 - 1) Manufacturers: Subject to compliance with requirements, provide products by the following:
 - a) VersaDry, LLC.
 - b) Watertguard.

2.4 JOINT TREATMENT MATERIALS

- A. General: Comply with ASTM C475.
- B. Joint Tape:
 - 1. Interior Gypsum Board: Paper.
- C. Joint Compound for Interior Gypsum Board: For each coat, use formulation that is compatible with other compounds applied on previous or for successive coats.
 - 1. Prefilling: At open joints, rounded or beveled panel edges, and damaged surface areas, use setting-type taping compound.
 - 2. Embedding and First Coat: For embedding tape and first coat on joints, fasteners, and trim flanges, use setting-type taping compound.
 - a. Use setting-type compound for installing paper-faced metal trim accessories.
 - 3. Fill Coat: For second coat, use setting-type, sandable topping compound.
 - 4. Finish Coat: For third coat, use drying-type, all-purpose compound.

2.5 AUXILIARY MATERIALS

- A. Provide auxiliary materials that comply with referenced installation standards and manufacturer's written instructions.
- B. Steel Drill Screws: ASTM C1002 unless otherwise indicated.
 - 1. Use screws complying with ASTM C954 for fastening panels to steel members from 0.033- to 0.112-inch thick.

- C. Thermal Insulation: As specified in Section 07 21 00 "Thermal Insulation."

PART 3 - EXECUTION

3.1 EXAMINATION

- A. Examine areas and substrates including welded hollow-metal frames and support framing, with Installer present, for compliance with requirements and other conditions affecting performance of the Work.
- B. Examine panels before installation. Reject panels that are wet, moisture damaged, and mold damaged.
- C. Proceed with installation only after unsatisfactory conditions have been corrected.

3.2 INSTALLATION AND FINISHING OF PANELS, GENERAL

- A. Comply with ASTM C840.
- B. Install panels with face side out. Butt panels together for a light contact at edges and ends with not more than 1/16-inch of open space between panels. Do not force into place.
- C. Locate edge and end joints over supports, except in ceiling applications where intermediate supports or gypsum board back-blocking is provided behind end joints. Do not place tapered edges against cut edges or ends. Stagger vertical joints on opposite sides of partitions. Do not make joints other than control joints at corners of framed openings.
- D. Form control and expansion joints with space between edges of adjoining gypsum panels.
- E. Cover both faces of support framing with gypsum panels in concealed spaces (above ceilings, etc.) except in chases braced internally.
 - 1. Unless concealed application is indicated or required for sound, fire, air, or smoke ratings, coverage may be accomplished with scraps of not less than 8 square feet in area.
 - 2. Fit gypsum panels around ducts, pipes, and conduits.
 - 3. Where partitions intersect structural members projecting below underside of floor/roof slabs and decks, cut gypsum panels to fit profile formed by structural members; allow 1/4- to 3/8-inch-wide joints to install sealant.
- F. Isolate perimeter of gypsum board applied to non-load-bearing partitions at structural abutments. Provide 1/4- to 1/2-inch-wide spaces at these locations and trim edges with edge trim where edges of panels are exposed. Seal joints between edges and abutting structural surfaces with acoustical sealant.
- G. Attachment to Steel Framing: Attach panels so leading edge or end of each panel is attached to open (unsupported) edges of stud flanges first.

3.3 INSTALLATION OF INTERIOR GYPSUM BOARD

- A. Install interior gypsum board in the following locations:
 - 1. Wallboard Type: As indicated on Drawings.
- B. Single-Layer Application:
 - 1. On partitions/walls, apply gypsum panels horizontally (perpendicular to framing) unless otherwise indicated or required by fire-resistance-rated assembly, and minimize end joints.
 - a. Stagger abutting end joints not less than one framing member in alternate courses of panels.

2. On Z-shaped furring members, apply gypsum panels vertically (parallel to framing) with no end joints. Locate edge joints over furring members.
 3. Fastening Methods: Apply gypsum panels to supports with steel drill screws.
- C. Multilayer Application:
1. On partitions/walls, apply gypsum board indicated for base layers and face layers vertically (parallel to framing) with joints of base layers located over stud or furring member and face-layer joints offset at least one stud or furring member with base-layer joints unless otherwise indicated or required by fire-resistance-rated assembly. Stagger joints on opposite sides of partitions.
 2. On Z-shaped furring members, apply base layer vertically (parallel to framing) and face layer either vertically (parallel to framing) or horizontally (perpendicular to framing) with vertical joints offset at least one furring member. Locate edge joints of base layer over furring members.
 3. Fastening Methods: Fasten base layers and face layers separately to supports with screws.

3.4 INSTALLATION OF TRIM ACCESSORIES

- A. General: For trim with back flanges intended for fasteners, attach to framing with same fasteners used for panels. Otherwise, attach trim according to manufacturer's written instructions.
- B. Control Joints: Install control joints according to ASTM C840 and in specific locations approved by Engineer for visual effect.
- C. Interior Trim: Install in the following locations:
 1. Cornerbead: Use at outside corners unless otherwise indicated.
 2. U-Bead: Use at exposed panel edges.
 3. Base-of-Wall Moisture Barrier Trim: Install per manufacture's instructions. At restroom walls and walls within 4 feet of plumbing, provide PVC base-of-wall moisture barrier trim with sealant between trim and floor.

3.5 FINISHING GYPSUM BOARD

- A. General: Treat gypsum board joints, interior angles, edge trim, control joints, penetrations, fastener heads, surface defects, and elsewhere as required to prepare gypsum board surfaces for decoration. Promptly remove residual joint compound from adjacent surfaces.
- B. Prefill open joints and damaged surface areas.
- C. Apply joint tape over gypsum board joints, except for trim products specifically indicated as not intended to receive tape.
- D. Gypsum Board Finish Levels: Finish panels to levels indicated below and according to ASTM C840:
 1. Level 4: At panel surfaces that will be exposed to view unless otherwise indicated.
 - a. Primer and its application to surfaces are specified in Section 09 91 23 "Interior Painting."

3.6 PROTECTION

- A. Protect adjacent surfaces from drywall compound and promptly remove from floors and other non-drywall surfaces. Repair surfaces stained, marred, or otherwise damaged during drywall application.
- B. Protect installed products from damage from weather, condensation, direct sunlight, construction, and other causes during remainder of the construction period.

- C. Remove and replace panels that are wet, moisture damaged, and mold damaged.
 - 1. Indications that panels are wet or moisture damaged include, but are not limited to, discoloration, sagging, or irregular shape.
 - 2. Indications that panels are mold damaged include, but are not limited to, fuzzy or splotchy surface contamination and discoloration.

END OF SECTION

SECTION 09 51 13 - ACOUSTICAL PANEL CEILINGS

PART 1 - GENERAL

1.1 SUMMARY

- A. Section includes acoustical panels and exposed suspension systems for interior ceilings.
- B. Related Requirements:
 - 1. Division 01 Specification Sections apply to Work of this Section.
- C. Products furnished, but not installed under this Section, include anchors, clips, and other ceiling attachment devices to be cast in concrete.

1.2 INFORMATIONAL SUBMITTALS

- A. Field quality-control reports.

1.3 DELIVERY, STORAGE, AND HANDLING

- A. Deliver acoustical panels, suspension-system components, and accessories to Project Site and store them in a fully enclosed, conditioned space where they will be protected against damage from moisture, humidity, temperature extremes, direct sunlight, surface contamination, and other causes.
- B. Before installing acoustical panels, permit them to reach room temperature and a stabilized moisture content.

1.4 FIELD CONDITIONS

- A. Environmental Limitations: Do not install acoustical panel ceilings until spaces are enclosed and weathertight, wet-work in spaces is complete and dry, work above ceilings is complete, and ambient temperature and humidity conditions are maintained at the levels indicated for Project when occupied for its intended use.
 - 1. Pressurized Plenums: Operate ventilation system for not less than 48 hours before beginning acoustical panel ceiling installation.

PART 2 - PRODUCTS

2.1 ACOUSTICAL PANELS

- A. Manufacturers: Subject to compliance with requirements, available manufacturers offering products that may be incorporated into the Work include, but are not limited to, the following:
 - 1. Armstrong World Industries, Inc.
 - 2. CertainTeed Corporation.
 - 3. United States Gypsum Company.
- B. Basis of Design product is Dune manufactured by Armstrong World Industries, Inc.
 - 1. Size: 24 inches by 24 inches by 5/8-inch, item number 1772.
 - 2. Edge/Joint Detail: Square.
 - 3. Material: Mineral Fiber.
 - 4. Color: White.

2.2 METAL SUSPENSION SYSTEM

- A. Manufacturers: Subject to compliance with requirements, available manufacturers offering products that may be incorporated into the Work include, but are not limited to, the following:
 - 1. Armstrong World Industries, Inc.
 - 2. CertainTeed Corporation.
 - 3. United States Gypsum Company.
- B. Basis of Design product is Prelude XL 15/16-inch Exposed Tee System manufactured by Armstrong World Industries, Inc.
 - 1. Material: Hot-dipped Galvanized Steel.
 - 2. Color: White.

2.3 ACCESSORIES

- A. Wire Hangers, Braces, and Ties: Provide wires as follows:
 - 1. Zinc-Coated, Carbon-Steel Wire: ASTM A641, Class 1 zinc coating, soft temper.
- B. Hanger Rods: Mild steel, zinc coated or protected with rust-inhibitive paint.
- C. Angle Hangers: Angles with legs not less than 7/8-inch wide; formed with 0.04-inch-thick, galvanized-steel sheet complying with ASTM A653, G90 coating designation; with bolted connections and 5/16-inch-diameter bolts.

PART 3 - EXECUTION

3.1 EXAMINATION

- A. Examine substrates, areas, and conditions, including structural framing to which acoustical panel ceilings attach or abut, with Installer present, for compliance with requirements specified in this and other Sections that affect ceiling installation and anchorage and with requirements for installation tolerances and other conditions affecting performance of acoustical panel ceilings.
- B. Examine acoustical panels before installation. Reject acoustical panels that are wet, moisture damaged, or mold damaged.
- C. Proceed with installation only after unsatisfactory conditions have been corrected.

3.2 PREPARATION

- A. Measure each ceiling area and establish layout of acoustical panels to balance border widths at opposite edges of each ceiling. Avoid using less-than-half-width panels at borders unless otherwise indicated, and comply with layout shown on reflected ceiling plans.
- B. Layout openings for penetrations centered on the penetrating items.

3.3 INSTALLATION

- A. Install acoustical panel ceilings according to ASTM C636 and manufacturer's written instructions.
- B. Suspend ceiling hangers from building's structural members and as follows:
 - 1. Install hangers plumb and free from contact with insulation or other objects within ceiling plenum that are not part of supporting structure or of ceiling suspension system.
 - 2. Splay hangers only where required to miss obstructions; offset resulting horizontal forces by bracing, countersplaying, or other equally effective means.
 - 3. Where width of ducts and other construction within ceiling plenum produces hanger spacings that interfere with location of hangers at spacings required to support standard suspension-system members, install supplemental suspension members and hangers in form of trapezes or equivalent devices.
 - 4. Secure wire hangers to ceiling-suspension members and to supports above with a minimum of three tight turns. Connect hangers directly to structure or to inserts, eye screws, or other devices that are secure and appropriate for substrate and that will not deteriorate or otherwise fail due to age, corrosion, or elevated temperatures.
 - 5. Secure flat, angle, channel, and rod hangers to structure, including intermediate framing members, by attaching to inserts, eye screws, or other devices that are secure and appropriate for both the structure to which hangers are attached and the type of hanger involved. Install hangers in a manner that will not cause them to deteriorate or fail due to age, corrosion, or elevated temperatures.
 - 6. Do not support ceilings directly from permanent metal forms or floor deck. Fasten hangers to cast-in-place hanger inserts, postinstalled mechanical or adhesive anchors, or power-actuated fasteners that extend through forms into concrete.
 - 7. When steel framing does not permit installation of hanger wires at spacing required, install carrying channels or other supplemental support for attachment of hanger wires.
 - 8. Do not attach hangers to steel deck tabs.
 - 9. Do not attach hangers to steel roof deck. Attach hangers to structural members.
 - 10. Space hangers not more than 48 inches on center along each member supported directly from hangers unless otherwise indicated; provide hangers not more than 8 inches from ends of each member.
 - 11. Size supplemental suspension members and hangers to support ceiling loads within performance limits established by referenced standards.
- C. Secure bracing wires to ceiling suspension members and to supports with a minimum of four tight turns. Suspend bracing from building's structural members as required for hangers, without attaching to permanent metal forms, steel deck, or steel deck tabs. Fasten bracing wires into concrete with cast-in-place or postinstalled anchors.
- D. Install edge moldings and trim of type indicated at perimeter of acoustical ceiling area and where necessary to conceal edges of acoustical panels.
 - 1. Apply acoustical sealant in a continuous ribbon concealed on back of vertical legs of moldings before they are installed.
 - 2. Screw attach moldings to substrate at intervals not more than 16 inches on center and not more than 3 inches from ends. Miter corners accurately and connect securely.
 - 3. Do not use exposed fasteners, including pop rivets, on moldings and trim.
- E. Install suspension-system runners so they are square and securely interlocked with one another. Remove and replace dented, bent, or kinked members.

- F. Install acoustical panels with undamaged edges and fit accurately into suspension-system runners and edge moldings. Scribe and cut panels at borders and penetrations to provide precise fit.
1. Arrange directionally patterned acoustical panels as follows:
 - a. As indicated on reflected ceiling plans.
 - b. Install panels with pattern running in one direction parallel to long axis of space.
 - c. Install panels in a basket-weave pattern.
 2. For square-edged panels, install panels with edges fully hidden from view by flanges of suspension-system runners and moldings.
 3. For reveal-edged panels on suspension-system runners, install panels with bottom of reveal in firm contact with top surface of runner flanges.
 4. For reveal-edged panels on suspension-system members with box-shaped flanges, install panels with reveal surfaces in firm contact with suspension-system surfaces and panel faces flush with bottom face of runners.
 5. Paint cut edges of panel remaining exposed after installation; match color of exposed panel surfaces using coating recommended in writing for this purpose by acoustical panel manufacturer.
 6. Install hold-down clips in areas indicated; space according to panel manufacturer's written instructions unless otherwise indicated.
 7. Install clean-room gasket system in areas indicated, sealing each panel and fixture as recommended by panel manufacturer's written instructions.
 8. Protect lighting fixtures and air ducts according to requirements indicated for fire-resistance-rated assembly.

3.4 ERECTION TOLERANCES

- A. Suspended Ceilings: Install main and cross runners level to a tolerance of 1/8-inch in 12 feet, non-cumulative.
- B. Moldings and Trim: Install moldings and trim to substrate and level with ceiling suspension system to a tolerance of 1/8-inch in 12 feet, non-cumulative.

3.5 CLEANING

- A. Clean exposed surfaces of acoustical panel ceilings, including trim, edge moldings, and suspension-system members. Comply with manufacturer's written instructions for cleaning and touchup of minor finish damage.
- B. Remove and replace ceiling components that cannot be successfully cleaned and repaired to permanently eliminate evidence of damage.

END OF SECTION

SECTION 09 91 23 - INTERIOR PAINTING

PART 1 - GENERAL

1.1 SUMMARY

- A. Section Includes:
 - 1. Surface preparation and the application of paint systems on:
 - a. Concrete.
 - b. Steel.
 - c. Galvanized metal.
 - d. Aluminum (not anodized or otherwise coated).
 - e. Gypsum board.
 - f. Plywood.
- B. Related Requirements:
 - 1. Division 01 Specification Sections apply to Work of this Section.
 - 2. Section 09 91 13 "Exterior Painting" for surface preparation and the application of paint systems on exterior substrates.

1.2 DEFINITIONS

- A. Gloss Level 1: Not more than 5 units at 60 degrees and 10 units at 85 degrees, according to ASTM D523, a matte flat finish.
- B. Gloss Level 2: Not more than 10 units at 60 degrees and 10 to 35 units at 85 degrees, according to ASTM D523, a high-side sheen flat, velvet-like finish.
- C. Gloss Level 3: 10 to 25 units at 60 degrees and 10 to 35 units at 85 degrees, according to ASTM D523, an eggshell finish.
- D. Gloss Level 4: 20 to 35 units at 60 degrees and not less than 35 units at 85 degrees, according to ASTM D523, a satin-like finish.
- E. Gloss Level 5: 35 to 70 units at 60 degrees, according to ASTM D 523, a semi-gloss finish.
- F. Gloss Level 6: 70 to 85 units at 60 degrees, according to ASTM D523, a gloss finish.

1.3 ACTION SUBMITTALS

- A. Product Data: For each type of product. Include preparation requirements and application instructions.
- B. Product List: For each product indicated, include the following:
 - 1. Cross-reference to paint system and locations of application areas. Use same designations indicated on Drawings and in schedules.
 - 2. VOC content.

1.4 DELIVERY, STORAGE, AND HANDLING

- A. Delivery and Handling: Deliver products to Project Site in an undamaged condition in manufacturer's original sealed containers, complete with labels and instructions for handling, storing, unpacking, protecting, and installing. Packaging shall bear the manufacturer's label with the following information:
 - 1. Product name and type (description).
 - 2. Batch date.

3. Color number.
4. VOC content.
5. Environmental handling requirements.
6. Surface preparation requirements.
7. Application instructions.
- B. Store materials not in use in tightly covered containers in well-ventilated areas with ambient temperatures continuously maintained at not less than 45 degrees F.
 1. Maintain containers in clean condition, free of foreign materials and residue.
 2. Remove rags and waste from storage areas daily.

1.5 FIELD CONDITIONS

- A. Apply paints only when temperature of surfaces to be painted and ambient air temperatures are between 50 and 95 degrees F.
- B. Do not apply paints when relative humidity exceeds 85 percent; at temperatures less than 5 degrees F above the dew point; or to damp or wet surfaces.
- C. Lead Paint: It is not expected that lead paint will be encountered in the Work.
 1. If suspected lead paint is encountered, do not disturb; immediately notify Engineer and Owner.

PART 2 - PRODUCTS

2.1 MANUFACTURERS

- A. Basis-of-Design Product: Subject to compliance with requirements, provide Sherwin-Williams Company products indicated or comparable product from one of the following:
 1. Benjamin Moore & Co.
 2. Kwal, Division of Sherwin-Williams.
 3. PPG Engineerrural Finishes, Inc.
 4. Kelly Moore.
 5. Dunn Edwards.
- B. Source Limitations: Obtain paint materials from single source from single listed manufacturer.
 1. Manufacturer's designations listed on a separate color schedule are for color reference only and do not indicate prior approval.

2.2 PAINT, GENERAL

- A. Standards: Provide products that comply with manufacturer's premium first quality standards indicated and like VOC limits.
- B. Material Compatibility:
 1. Provide materials for use within each paint system that are compatible with one another and substrates indicated, under conditions of service and application as demonstrated by manufacturer, based on testing and field experience.
 2. For each coat in a paint system, provide products recommended in writing by manufacturers of topcoat for use in paint system and on substrate indicated.
- C. Colors: As selected by Engineer from manufacturer's full range.

PART 3 - EXECUTION

3.1 EXAMINATION

- A. Examine substrates and conditions, with Applicator present, for compliance with requirements for maximum moisture content and other conditions affecting performance of the Work. Verify suitability of substrates, including surface conditions and compatibility with existing finishes and primers. Where acceptability of substrate conditions is in question, apply samples and perform in-situ testing to verify compatibility, adhesion, and film integrity of new paint application.
 - 1. Report, in writing, conditions that may affect application, appearance, or performance of paint.
- B. Substrate Conditions:
 - 1. Maximum Moisture Content of Substrates: When measured with an electronic moisture meter as follows:
 - a. Concrete: Twelve percent.
 - b. Masonry (Clay and CMU): Twelve percent.
 - c. Wood: Fifteen percent.
 - d. Gypsum Board: Twelve percent.
 - e. Plaster: Twelve percent.
 - 2. Gypsum Board Substrates: Verify that finishing compound is sanded smooth.
 - 3. Plaster Substrates: Verify that plaster is fully cured.
 - 4. Spray-Textured Ceiling Substrates: Verify that surfaces are dry.
- C. Proceed with coating application only after unsatisfactory conditions have been corrected; application of coating indicates acceptance of surfaces and conditions.

3.2 PREPARATION

- A. Comply with manufacturer's written instructions and recommendations in "MPI Manual" applicable to substrates indicated.
- B. Remove hardware, covers, plates, and similar items already in place that are removable and are not to be painted. If removal is impractical or impossible because of size or weight of item, provide surface-applied protection before surface preparation and painting.
 - 1. After completing painting operations, use workers skilled in the trades involved to reinstall items that were removed. Remove surface-applied protection if any.
- C. Clean substrates of substances that could impair bond of paints, including dust, dirt, oil, grease, and incompatible paints and encapsulants.
 - 1. Remove incompatible primers and re-prime substrate with compatible primers or apply tie coat as required to produce paint systems indicated.
- D. Steel Substrates: Remove rust, loose mill scale, and shop primer, if any. Clean using methods recommended in writing by paint manufacturer but not less than the following:
 - 1. SSPC-SP 2, "Hand Tool Cleaning."
 - 2. SSPC-SP 3, "Power Tool Cleaning."
 - 3. SSPC-SP 7/NACE No. 4, "Brush-off Blast Cleaning."
 - 4. SSPC-SP 11, "Power Tool Cleaning to Bare Metal."
- E. Shop-Primed Steel Substrates: Clean field welds, bolted connections, and abraded areas of shop paint, and paint exposed areas with the same material as used for shop priming to comply with SSPC-PA 1 for touching up shop-primed surfaces.

- F. Galvanized-Metal Substrates: Remove grease and oil residue from galvanized sheet metal fabricated from coil stock by mechanical methods to produce clean, lightly etched surfaces that promote adhesion of subsequently applied paints.
- G. Aluminum Substrates: Remove loose surface oxidation.

3.3 APPLICATION

- A. Apply paints according to manufacturer's written instructions and to recommendations in "MPI Manual."
 - 1. Use applicators and techniques suited for paint and substrate indicated.
 - 2. Paint surfaces behind movable equipment and furniture same as similar exposed surfaces. Before final installation, paint surfaces behind permanently fixed equipment or furniture with prime coat only.
 - 3. Paint front and backsides of access panels, removable or hinged covers, and similar hinged items to match exposed surfaces.
 - 4. Do not paint over labels of independent testing agencies or equipment name, identification, performance rating, or nomenclature plates.
 - 5. Primers specified in painting schedules may be omitted on items that are factory primed or factory finished if acceptable to topcoat manufacturers.
- B. Tint each undercoat a lighter shade to facilitate identification of each coat if multiple coats of same material are to be applied. Tint undercoats to match color of topcoat, but provide sufficient difference in shade of undercoats to distinguish each separate coat.
- C. If undercoats or other conditions show through topcoat, apply additional coats until cured film has a uniform paint finish, color, and appearance.
- D. Apply paints to produce surface films without cloudiness, spotting, holidays, laps, brush marks, roller tracking, runs, sags, ropiness, or other surface imperfections. Cut in sharp lines and color breaks.
- E. Painting Fire Suppression, Plumbing, HVAC, Electrical, Communication, and Electronic Safety and Security Work:
 - 1. Paint the following Work where exposed in equipment rooms:
 - a. Equipment, including panelboards.
 - b. Uninsulated metal piping.
 - c. Uninsulated plastic piping.
 - d. Pipe hangers and supports.
 - e. Metal conduit.
 - f. Plastic conduit.
 - g. Tanks that do not have factory-applied final finishes.
 - 2. Paint the following Work where exposed in occupied spaces:
 - a. Equipment, including panel boards.
 - b. Uninsulated metal piping.
 - c. Uninsulated plastic piping.
 - d. Pipe hangers and supports.
 - e. Metal conduit.
 - f. Plastic conduit.
 - g. Other items as directed by Engineer.
 - 3. Paint portions of internal surfaces of metal ducts, without liner, behind air inlets and outlets that are visible from occupied spaces.

3.4 FIELD QUALITY CONTROL

- A. Dry Film Thickness Testing: Owner may engage the services of a qualified testing and inspecting agency to inspect and test paint for dry film thickness.
 - 1. Contractor shall touch up and restore painted surfaces damaged by testing.
 - 2. If test results show that dry film thickness of applied paint does not comply with paint manufacturer's written recommendations, Contractor shall pay for testing and apply additional coats as needed to provide dry film thickness that complies with paint manufacturer's written recommendations.

3.5 CLEANING AND PROTECTION

- A. At end of each workday, remove rubbish, empty cans, rags, and other discarded materials from Project Site.
- B. After completing paint application, clean spattered surfaces. Remove spattered paints by washing, scraping, or other methods. Do not scratch or damage adjacent finished surfaces.
- C. Protect Work of other trades against damage from paint application. Correct damage to Work of other trades by cleaning, repairing, replacing, and refinishing, as approved by Engineer, and leave in an undamaged condition.
- D. At completion of construction activities of other trades, touch up and restore damaged or defaced painted surfaces.

3.6 INTERIOR PAINTING SCHEDULE

- A. Concrete: Walls and Ceilings, Poured Concrete, Precast Concrete, Unglazed Brick, Cement Board, Tilt-Up, Cast-in-Place including Plaster Walls and Ceilings.
 - 1. Latex Systems:
 - a. Eg-Shel / Satin Finish:
 - 1) First Coat: S-W Loxon Concrete and Masonry Primer Sealer, LX02W50 (8 mils wet, 3.2 mils dry).
 - 2) Second Coat: S-W ProMar 200 Zero VOC Latex Eg-Shel B20-2600 Series.
 - 3) Third Coat: S-W ProMar 200 Zero VOC Latex Eg-Shel B20-2600 Series (4 mils wet, 1.7 mils dry per coat).
- B. Wood: Walls, Ceilings, Doors, and Trim.
 - 1. Latex Systems:
 - a. Eg-Shel / Satin Finish:
 - 1) First Coat: S-W Premium Wall and Wood Primer, B28W8111 (4 mils wet, 1.8 mils dry).
 - 2) Second Coat: S-W ProClassic Waterborne Acrylic Satin, B20 Series.
 - 3) Third Coat: S-W ProClassic Waterborne Acrylic Satin, B20 Series (4 mils wet, 1.2 mils dry per coat).
- C. Drywall: Walls, Ceilings, Gypsum Board, and similar items.
 - 1. Latex Systems:
 - a. Eg-Shel / Satin Finish:
 - 1) First Coat: S-W ProMar 200 Zero VOC Interior Latex Primer, B28W2600 (4 mils wet, 1.5 mils dry).
 - 2) Second Coat: S-W ProMar 200 Zero VOC Latex Eg-Shel, B20-2600 Series.

- 3) Third: Coat: S-W ProMar 200 Zero VOC Latex Eg-Shel, B20-2600 Series (4 mils wet, 1.7 mils dry per coat).

END OF SECTION

SECTION 10 28 13 - TOILET ACCESSORIES

PART 1 - GENERAL

1.1 SUMMARY

- A. Section Includes:
 - 1. Public-use washroom accessories.
 - 2. Custodial accessories.
- B. Related Requirements:
 - 1. Division 01 Specification Sections apply to Work of this Section.

1.2 COORDINATION

- A. Coordinate accessory locations with other work to prevent interference with clearances required for access by people with disabilities, and for proper installation, adjustment, operation, cleaning, and servicing of accessories.
- B. Deliver inserts and anchoring devices set into concrete or masonry as required to prevent delaying the Work.

1.3 ACTION SUBMITTALS

- A. Product Data: For each type of product.
 - 1. Include construction details, material descriptions, dimensions of individual components and profiles, and finishes.
 - 2. Include anchoring and mounting requirements, including requirements for cutouts in other work and substrate preparation.
 - 3. Include electrical characteristics.

PART 2 - PRODUCTS

2.1 PERFORMANCE REQUIREMENTS

- A. Electrical Components, Devices, and Accessories: Listed and labeled as defined in NFPA 70, by a qualified testing agency, and marked for intended location and application.
- B. Structural Performance: Design accessories and fasteners to comply with the following requirements:
 - 1. Grab Bars: Installed units are able to resist 250 pounds of force concentrated load applied in any direction and at any point.

2.2 PUBLIC-USE WASHROOM ACCESSORIES

- A. Source Limitations: Obtain public-use washroom accessories from single source from single manufacturer.
- B. Toilet Tissue (Roll) Dispenser (TTD-1):
 - 1. Manufacturers: Subject to compliance with requirements, provide products by one of the following:
 - a. American Specialties, Inc.
 - b. Bobrick Washroom Equipment, Inc.
 - c. Bradley Corporation.
 - 2. Description: Double-roll dispenser.
 - 3. Mounting: Surface mounted.
 - 4. Operation: Noncontrol delivery with standard spindle.
 - 5. Capacity: Designed for 4-1/2- or 5-inch-diameter tissue rolls.
 - 6. Material and Finish: Stainless steel, ASTM A480 No. 4 finish (satin).
 - 7. Basis of Design: Bradley model 5263.
- C. Paper Towel (Folded) Dispenser/12 Gallon Waste (PTDWR):
 - 1. Manufacturers: Subject to compliance with requirements, provide products by one of the following:
 - a. American Specialties, Inc.
 - b. Bobrick Washroom Equipment, Inc.
 - c. Bradley Corporation.
 - 2. Mounting: Surface mounted.
 - 3. Minimum Capacity: 600 C-fold or 800 multifold towels.
 - 4. Material and Finish: Stainless steel, ASTM A480 No. 4 finish (satin).
 - 5. Lockset: Tumbler type.
 - 6. Refill Indicator: None.
 - 7. Basis of Design: Bradley model 234-11.
- D. Soap Dispenser (SD):
 - 1. Manufacturers: Subject to compliance with requirements, provide products by one of the following:
 - a. American Specialties, Inc.
 - b. Bobrick Washroom Equipment, Inc.
 - c. Bradley Corporation.
 - 2. Mounting: Surface mounted.
 - 3. Description: Designed for manual operation and dispensing soap in liquid form.
 - 4. Mounting: Vertically oriented, surface mounted.
 - 5. Lockset: Tumbler type.
 - 6. Refill Indicator: Window type.
 - 7. Basis of Design: Bradley model 6562.
- E. Grab Bar:
 - 1. Manufacturers: Subject to compliance with requirements, provide products by one of the following:
 - a. American Specialties, Inc.
 - b. Bobrick Washroom Equipment, Inc.
 - c. Bradley Corporation.
 - 2. Mounting: Flanges with concealed fasteners.
 - 3. Material: Stainless steel, 0.05-inch-thick.
 - a. Finish: Smooth, ASTM A480 No. 4 finish (satin) on ends and slip-resistant texture in grip area.

4. Outside Diameter: One-and-one-fourth inches.
 5. Configuration and Length: As indicated on Drawings.
 6. Basis of Design product: Bradley model 832.
- F. Mirror Unit (M1):
1. Manufacturers: Subject to compliance with requirements, provide products by one of the following:
 - a. American Specialties, Inc.
 - b. Bobrick Washroom Equipment, Inc.
 - c. Bradley Corporation.
 2. Frame: Stainless steel channel.
 - a. Corners: Manufacturer's standard.
 3. Mounting: Surface mounted.
 4. Size: 18 inches by 36 inches.
 5. Basis of Design product: Bradley model 780-1836.
- G. Hook:
1. Description: Double-prong unit.
 2. Mounting: Concealed.
 3. Material and Finish: Stainless steel, ASTM A480 No. 4 finish (satin).
 4. Basis of Design product: Bradley model 9124.

2.3 CUSTODIAL ACCESSORIES

- A. Custodial Utility Shelf:
1. Manufacturers: Subject to compliance with requirements, provide products by one of the following:
 - a. American Specialties, Inc.
 - b. Bobrick Washroom Equipment, Inc.
 - c. Bradley Corporation.
 2. Description: With exposed edges turned down not less than 1/2-inch and supported by two triangular brackets welded to shelf underside.
 3. Size: 30 inches long by 8 inches deep.
 4. Material and Finish: Not less than nominal 0.05-inch-thick stainless steel, ASTM A480 No. 4 finish (satin).
 5. Basis of Design product: Bradley model 9983.
- B. Custodial Mop and Broom Holder:
1. Manufacturers: Subject to compliance with requirements, provide products by one of the following:
 - a. American Specialties, Inc.
 - b. Bobrick Washroom Equipment, Inc.
 - c. Bradley Corporation.
 2. Description: Unit with holders,.
 3. Mop/Broom Holders: Three, spring-loaded, rubber hat, cam type.
 4. Material and Finish: Stainless steel, ASTM A480 No. 4 finish (satin).
 5. Basis of Design product: Bradley 9953.
- C. Custodial Paper Towel (Folded) Dispenser:
1. Manufacturers: Subject to compliance with requirements, provide products by one of the following:
 - a. American Specialties, Inc.
 - b. Bobrick Washroom Equipment, Inc.
 - c. Bradley Corporation.
 2. Mounting: Surface mounted.

3. Minimum Capacity: 400 C-fold or 525 multifold towels.
4. Material and Finish: Stainless steel, ASTM A480 No. 4 finish (satin).
5. Lockset: Tumbler type.
6. Refill Indicator: Pierced slots at sides or front.
7. Basis of Design product: Bradley model 250-15.

2.4 MATERIALS

- A. Steel Sheet: ASTM A1008, Designation CS (cold rolled, commercial steel), 0.036-inch-minimum nominal thickness.
- B. Galvanized-Steel Sheet: ASTM A653, with G60 hot-dip zinc coating.
- C. Galvanized-Steel Mounting Devices: ASTM A153, hot-dip galvanized after fabrication.
- D. Fasteners: Screws, bolts, and other devices of same material as accessory unit, unless otherwise recommended by manufacturer or specified in this Section, and tamper and theft resistant where exposed, and of stainless or galvanized steel where concealed.
- E. Mirrors: ASTM C1503, Mirror Glazing Quality, clear-glass mirrors, nominal 6.0 millimeters thick.

2.5 FABRICATION

- A. General: Fabricate units with tight seams and joints, and exposed edges rolled. Hang doors and access panels with full-length, continuous hinges. Equip units for concealed anchorage and with corrosion-resistant backing plates.
- B. Keys: Provide universal keys for internal access to accessories for servicing and resupplying. Provide minimum of two Insert number keys to Owner's representative.

PART 3 - EXECUTION

3.1 INSTALLATION

- A. Install accessories according to manufacturer's written instructions, using fasteners appropriate to substrate indicated and recommended by unit manufacturer. Install units level, plumb, and firmly anchored in locations and at heights indicated.
 1. Remove temporary labels and protective coatings.
- B. Grab Bars: Install to comply with specified structural-performance requirements.
- C. Shower Seats: Install to comply with specified structural-performance requirements.

3.2 ADJUSTING AND CLEANING

- A. Adjust accessories for unencumbered, smooth operation. Replace damaged or defective items.
- B. Clean and polish exposed surfaces according to manufacturer's written instructions.

END OF SECTION

SECTION 10 44 16 - FIRE EXTINGUISHERS

PART 1 - GENERAL

1.1 SUMMARY

- A. Section includes portable, hand-carried fire extinguishers and mounting brackets for fire extinguishers.
- B. Related Requirements:
 - 1. Divisions 01 Specification Sections apply to Work of this Section.

1.2 ACTION SUBMITTALS

- A. Product Data: For each type of product. Include rating and classification, material descriptions, dimensions of individual components and profiles, and finishes for fire extinguisher and mounting brackets.

1.3 CLOSEOUT SUBMITTALS

- A. Operation and Maintenance Data: For fire extinguishers to include in maintenance manuals.

PART 2 - PRODUCTS

2.1 PERFORMANCE REQUIREMENTS

- A. NFPA Compliance: Fabricate and label fire extinguishers to comply with NFPA 10, "Portable Fire Extinguishers."
- B. Fire Extinguishers: Listed and labeled for type, rating, and classification by an independent testing agency acceptable to authorities having jurisdiction.

2.2 PORTABLE, HAND-CARRIED FIRE EXTINGUISHERS

- A. Fire Extinguishers: Type, size, and capacity for each mounting bracket (FEB) indicated.
 - 1. Manufacturers: Subject to compliance with requirements, provide products by one of the following:
 - a. JL Industries, Inc.; a division of the Activar Construction Products Group.
 - b. Larsens Manufacturing Company.
 - c. Potter Roemer LLC.
 - 2. Handles and Levers: Manufacturer's standard.
 - 3. Instruction Labels: Include pictorial marking system complying with NFPA 10, Appendix B.
- B. Multipurpose Dry-Chemical Type in Steel Container: UL-rated 4-A:60-B:C, 10-pound nominal capacity with monoammonium phosphate-based dry chemical in enameled-steel container.

2.3 MOUNTING BRACKETS (FEB)

- A. Mounting Brackets: Manufacturer's standard steel, designed to secure fire extinguisher to wall or structure, of sizes required for types and capacities of fire extinguishers indicated, with red baked-enamel finish.
 - 1. Manufacturers: Subject to compliance with requirements provide products from the Fire Extinguisher manufacturer or one of the following:
 - a. JL Industries, Inc: a division of Activar Construction Products Group.
 - b. Larsens Manufacturing Company.
 - c. Potter Roemer LLC.
 - 2. Identification: Letter complying with authorities have jurisdiction for letter style, size, spacing, and location. Locate as indicated by Architect/Engineer.
 - a. Identify bracket-mounted fire extinguishers with the words "FIRE EXTINGUISHER" in red letter decals applied to mounting surface.

PART 3 - EXECUTION

3.1 EXAMINATION

- A. Examine fire extinguishers for proper charging and tagging.
 - 1. Remove and replace damaged, defective, or undercharged fire extinguishers.
- B. Proceed with installation only after unsatisfactory conditions have been corrected.

3.2 INSTALLATION

- A. General: Install fire extinguishers in locations indicated and in compliance with requirements of authorities having jurisdiction.
- B. Mounting Brackets: Fasten mounting brackets to surfaces, square and plumb, at locations indicated.

END OF SECTION

SECTION 11 40 00 - FOODSERVICE EQUIPMENT

PART 1 - GENERAL

1.1 SUMMARY

- A. Owner-Furnished Equipment: Where indicated, Owner will furnish equipment for installation by Contractor.
- B. Related Requirements:
 - 1. Division 01 Specification Sections, apply to this Section.

1.2 COORDINATION

- A. Coordinate foodservice equipment layout and installation with other Work, including layout and installation of lighting fixtures, HVAC equipment, and fire-suppression system components.
- B. Coordinate locations and requirements of utility service connections.

PART 2 - PRODUCTS (Not Used)

PART 3 - EXECUTION

3.1 INSTALLATION

- A. Install foodservice equipment level and plumb, according to manufacturer's written instructions.
 - 1. Connect equipment to utilities.
 - 2. Provide cutouts in equipment, neatly formed, where required to run service lines through equipment to make final connections.
- B. Complete equipment assembly where field assembly is required.
- C. Install equipment with access and maintenance clearances that comply with manufacturer's written installation instructions and with requirements of authorities having jurisdiction.
- D. Install cabinets and similar equipment on bases in a bed of sealant.
- E. Install closure-trim strips and similar items requiring fasteners in a bed of sealant.
- F. Install joint sealant in joints between equipment and abutting surfaces with continuous joint backing unless otherwise indicated. Produce airtight, watertight, vermin-proof, sanitary joints.

3.2 CLEANING AND PROTECTING

- A. After completing installation of equipment, repair damaged finishes.
- B. Clean and adjust equipment as required to produce ready-for-use condition.
- C. Protect equipment from damage during remainder of the construction period.

END OF SECTION

SECTION 13 34 19 - METAL BUILDING SYSTEMS

PART 1 - GENERAL

1.1 SUMMARY

- A. Section Includes:
 - 1. Structural-steel framing.
 - 2. Metal roof panels.
 - 3. Metal wall panels.
 - 4. Thermal insulation.
 - 5. Accessories.
- B. Related Requirements:
 - 1. Division 01 Specification Sections apply to Work of this Section.

1.2 PREINSTALLATION MEETINGS

- A. Preinstallation Conference: Conduct conference at Project Site.

1.3 ACTION SUBMITTALS

- A. Product Data: For each type of metal building system component, including insulation systems.
- B. Shop Drawings: Indicate components by others. Include full building plan, elevations, Sections, details, and attachments to other Work, and insulation systems.
- C. Delegated Design Submittals: For metal building systems.
 - 1. Include analysis data indicating compliance with performance requirements and design data signed and sealed by the qualified professional engineer responsible for their preparation.

1.4 WARRANTY

- A. Special Warranty on Metal Panel Finishes: Manufacturer agrees to repair finish or replace metal panels that show evidence of deterioration of factory-applied finishes within specified warranty period.
 - 1. Finish Warranty Period: Twenty years from date of Substantial Completion.
- B. Special Weathertightness Warranty for Standing-Seam Metal Roof Panels: Manufacturer agrees to repair or replace standing-seam metal roof panel assemblies that leak or otherwise fail to remain weathertight within specified warranty period.
 - 1. Warranty Period: Twenty years from date of Substantial Completion.
- C. Insulation: Manufacturer agrees to repair or replace system where evidence of degradation or performance is seen within the warranty period.
 - 1. Warranty Period: Ten years from date of Substantial Completion.

PART 2 - PRODUCTS

2.1 MANUFACTURERS

- A. Manufacturers: Subject to compliance with requirements, available manufacturers offering products that may be incorporated into the Work include, but are not limited to, the following:
 - 1. ACI Building Systems, Inc.
 - 2. Nucor Corporation, Nucor Buildings Group.
 - 3. Standard Structures, Inc. (SSI).

2.2 PERFORMANCE REQUIREMENTS

- A. Delegated Design: Engage a qualified professional engineer, as defined in Section 01 40 00 "Quality Requirements," to design metal building system.
- B. Structural Performance: Metal building systems to withstand the effects of gravity loads and the following loads and stresses within limits and under conditions indicated according to procedures in MBMA's "Metal Building Systems Manual."
 - 1. Design Loads: As indicated on Drawings.
 - 2. Deflection and Drift Limits:
 - a. Design metal building system assemblies to withstand serviceability design loads without exceeding deflections and drift limits recommended in AISC Steel Design Guide No. 3 "Serviceability Design Considerations for Steel Buildings."
- C. Thermal Movements: Allow for thermal movements from ambient and surface temperature changes by preventing buckling, opening of joints, overstressing of components, failure of joint sealants, failure of connections, and other detrimental effects. Base calculations on surface temperatures of materials due to both solar heat gain and nighttime-sky heat loss.
 - 1. Temperature Change: 120 degrees F, ambient; 180 degrees F, material surfaces.
- D. Structural Performance for Metal Roof and Wall Panels: Provide metal panel systems capable of withstanding the effects of the following loads, based on testing according to ASTM E1592:
 - 1. Wind Loads: As indicated on Drawings.
- E. Air Infiltration for Metal Roof Panels: Air leakage of not more than 0.06 cubic feet per minute per square feet when tested according to ASTM E1680 or ASTM E283 at the following test-pressure difference:
 - 1. Test-Pressure Difference: 1.57 pound force per square feet.
- F. Air Infiltration for Metal Wall Panels: Air leakage of not more than 0.06 cubic feet per minutes per square feet when tested according to ASTM E283 at the following test-pressure difference:
 - 1. Test-Pressure Difference: 1.57 pounds of force per square feet.
- G. Water Penetration for Metal Roof Panels: No water penetration when tested according to ASTM E1646 or ASTM E331 at the following test-pressure difference:
 - 1. Test-Pressure Difference: 2.86 pounds of force per square feet.
- H. Water Penetration for Metal Wall Panels: No water penetration when tested according to ASTM E331 at the following test-pressure difference:
 - 1. Test-Pressure Difference: 2.86 pounds of force per square feet.

- I. Thermal Performance for Opaque Elements: Provide the following maximum U-factors and minimum R-values when tested according to ASTM C1363 or ASTM C518:
 - 1. Roof:
 - a. R-Value: Minimum R-19+R-11 LS.
 - 2. Walls:
 - a. R-Value: Minimum R-13+R6.5ci.

2.3 METAL ROOF PANELS

- A. Basis of Design product is Zee-Lock Panel manufactured by Berridge Manufacturing Co., San Antonio, Texas. Standing Seam Concealed Fastener, Metal Roof Panels: Formed with smooth panel between standing mechanically seamed side lap; designed to be installed by lapping side edges of adjacent panels and mechanically seaming panels to supports with extruded vinyl weatherseal on all continuous ribs.
 - 1. Material: Zinc-coated (galvanized) or aluminum-zinc alloy-coated steel sheet, nominal uncoated steel thickness. Prepainted by the coil-coating process to comply with ASTM A755.
 - a. Exterior Finish: Kynar 500/Hynar 5000.
 - b. Color: Cityscape.
 - 2. Panel Coverage: Sixteen inches.
 - 3. Panel Height: Two inches.

2.4 METAL WALL PANELS

- A. Metal Wall Panel Type-A: Basis of Design product is "M" Panel manufactured by Berridge Manufacturing Co., San Antonio, Texas. Exposed-Fastener, Tapered-Rib, Metal Wall Panels: Formed with raised, trapezoidal major ribs; designed to be installed vertically by lapping side edges of adjacent panels and mechanically attaching panels to supports using exposed fasteners in side laps.
 - 1. Material: Zinc-coated (galvanized) or aluminum-zinc alloy-coated steel sheet, nominal uncoated steel thickness. Prepainted by the coil-coating process to comply with ASTM A755.
 - a. Exterior Finish: Kynar 500/Hynar 5000.
 - b. Color: Cityscape.
 - 2. Major-Rib Spacing: Six inches on center
 - 3. Panel Coverage: 36 inches.
 - 4. Panel Height: 0.75 inches.
 - 5. Panel Thickness: 22 gauge.
- B. Metal Wall Panel Type-B: Basis of Design product is Thin-Line panel manufactured by Berridge Manufacturing Co., San Antonio, Texas. Concealed-Fastener Metal Wall Panels: Formed with smooth finish; designed to be installed vertically by lapping side edges of adjacent panels to supports or solid sheathing using concealed fasteners inside side laps.
 - 1. Material: Zinc-coated (galvanized) or aluminum-zinc alloy-coated steel sheet, nominal uncoated steel thickness. Prepainted by the coil-coating process to comply with ASTM A755.
 - a. Exterior Finish: Kynar 500/Hynar 5000.
 - b. Color: Charcoal Gray.
 - 2. Panel Coverage: Three and five-eighths inches.
 - 3. Panel Height: Three-eighths inch.

4. Panel Thickness: 24 gauge.

2.5 THERMAL INSULATION

- A. Roof Liner Systems: Basis of Design product is the Simple Saver insulation system (with OSHA compliant through fall protection) manufactured by Thermal Design with an installed total roof insulation R-value as listed above and an average installed thickness of 12 inches. Roof system shall be a multi-layer system. A thermal break shall be applied where there is no existing thermal break between metal panel and metal structure.
- B. Wall Liner System: Basis of Design product is the Simple Saver insulation system manufactured by Thermal Design with an installed total R-value as listed above and an installed thickness of 8 inches, completely filling cavity between girts. A thermal break shall be applied where there is no existing thermal break between metal panel and metal structure.

2.6 ACCESSORIES

- A. General: Provide accessories as standard with metal building system manufacturer and as specified. Fabricate and finish accessories at the factory to greatest extent possible, by manufacturer's standard procedures and processes. Comply with indicated profiles and with dimensional and structural requirements.
 - 1. Form exposed sheet metal accessories that are without excessive oil-canning, buckling, and tool marks and that are true to line and levels indicated, with exposed edges folded back to form hems.
- B. Roof Panel Accessories: Provide components required for a complete metal roof panel assembly including copings, fasciae, corner units, ridge closures, clips, sealants, gaskets, fillers, closure strips, and similar items. Match material and finish of metal roof panels unless otherwise indicated.
- C. Wall Panel Accessories: Provide components required for a complete metal wall panel assembly including copings, fasciae, mullions, sills, corner units, clips, sealants, gaskets, fillers, closure strips, and similar items. Match material and finish of metal wall panels unless otherwise indicated.
- D. Flashing and Trim: Zinc-coated (galvanized) or aluminum-zinc alloy-coated steel sheet, 0.018-inch nominal uncoated steel thickness, prepainted with coil coating; finished to match adjacent metal panels.
- E. Gutters: Zinc-coated (galvanized) or aluminum-zinc alloy-coated steel sheet, 0.018-inch nominal uncoated steel thickness, prepainted with coil coating; finished to match roof fascia and rake trim. Match profile of gable trim, complete with end pieces, outlet tubes, and other special pieces as required. Fabricate in minimum 96-inch-long sections, sized according to SMACNA's "Architectural Sheet Metal Manual."
 - 1. Gutter Supports: Fabricated from same material and finish as gutters.
 - 2. Strainers: Bronze, copper, or aluminum wire ball type at outlets.
- F. Downspouts: Zinc-coated (galvanized) or aluminum-zinc alloy-coated steel sheet, 0.018-inch nominal uncoated steel thickness, prepainted with coil coating; finished to match metal wall panels. Fabricate in minimum 10-foot-long sections, complete with formed elbows and offsets.
 - 1. Mounting Straps: Fabricated from same material and finish as gutters.
- G. Simple Saver Insulation Systems accessories:

1. UVMAX Steel Strap, 100 KSI minimum yield high tensile strength steel, galvanized, primed and painted the specified color on the exposed side with clear coat primer on the concealed side.
 - a. Size: 0.02-inch by 1inch by continuous length.
 - b. Color: White
 - c. Fasteners: #12 by 3/4-inch plated self-drilling screws with sealing washers painted to match the specified color for fastening to light gauge steel (up to 12 GA purlins) or #12 by 1-1/4-inch plated self-drilling screws with sealing washers, painted to match the specified color for heavier gauge steel (up to 3/8-inch purlins or bar joists). Always install two fasteners in the end of each strap for safety and to withstand installation stress, and one fastener at all other designated fastening points.
2. Syseal Fabric shall be woven reinforced high-density polyethylene yarns coated on both sides with a continuous polyethylene film. Fabric shall comply with ASTM E84 and be Class A compliant with a flame spread index of 25 or less. This material shall be manufactured in large custom pieces by extrusion welding from roll goods. Pieces shall be fabricated to substantially fit the large defined building areas with minimum practical sealing to be done on job site. Fabric shall be folded to allow for rapid pull-out on the strap support system and certified for fall protection by the manufacturer.
 - a. Color: Syseal FP (White), roof and walls.
3. Sealant: Simple Saver System G524 High Tack Sealant.
4. Insulation: Fiberglass blanket or batt insulation meeting ASTM C991 Type 1, ASTM E136, and ASTM E84.
5. Fast-R Insulation Hangers: Preformed, rigid insulation hangers for supporting insulation between wall girts or roof purlins where roof pitch is 4:12 or greater. Coiled hangers are not allowed.
6. Thermal Break: 3/16 inch by 3 inch Quik-Stop Trash Free foam tape, closed cell polyethylene foam with pre-applied adhesive film and peel-off backing

2.7 FABRICATION

- A. General: Design components and field connections required for erection to permit easy assembly.
 1. Mark each piece and part of the assembly to correspond with previously prepared erection drawings, diagrams, and instruction manuals.
 2. Fabricate structural framing to produce clean, smooth cuts and bends. Punch holes of proper size, shape, and location. Members to be free of cracks, tears, and ruptures.
- B. Tolerances: Comply with MBMA's "Metal Building Systems Manual" for fabrication and erection tolerances.
- C. Primary Framing: Shop fabricate framing components to indicated size and section, with baseplates, bearing plates, stiffeners, and other items required for erection welded into place. Cut, form, punch, drill, and weld framing for bolted field assembly.
- D. Secondary Framing: Shop fabricate framing components to indicated size and section by roll forming or break forming, with baseplates, bearing plates, stiffeners, and other plates required for erection welded into place. Cut, form, punch, drill, and weld secondary framing for bolted field connections to primary framing.

- E. Metal Panels: Fabricate and finish metal panels at the factory to greatest extent possible by manufacturer's standard procedures and processes as necessary to fulfill indicated performance requirements. Comply with indicated profiles and with dimensional and structural requirements.
 - 1. Provide panel profile including major ribs and intermediate stiffening ribs, if any, for full length of metal panel.

2.8 SOURCE QUALITY CONTROL

- A. Special Inspection: Owner will engage a qualified special inspector to perform source quality control inspections and to submit reports.
 - 1. Accredited Manufacturers: Special inspections will not be required if fabrication is performed by an IAS AC472-accredited manufacturer approved by authorities having jurisdiction to perform such Work without special inspection.
- B. Product will be considered defective if it does not pass tests and inspections.
- C. Prepare test and inspection reports.

PART 3 - EXECUTION

3.1 METAL PANEL INSTALLATION, GENERAL

- A. General: Anchor metal panels and other components of the Work securely in place, with provisions for thermal and structural movement.
 - 1. Field cut metal panels as required for doors, windows, and other openings. Cut openings as small as possible, neatly to size required, and without damage to adjacent metal panel finishes.
 - a. Field cutting of metal panels by torch is not permitted unless approved in writing by manufacturer.
 - 2. Install metal panels perpendicular to structural supports unless otherwise indicated.
 - 3. Flash and seal metal panels with weather closures at perimeter of openings and similar elements. Fasten with self-tapping screws.
 - 4. Locate and space fastenings in uniform vertical and horizontal alignment.
 - 5. Locate metal panel splices over structural supports with end laps in alignment.
 - 6. Lap metal flashing over metal panels to allow moisture to run over and off the material.
- B. Lap-Seam Metal Panels: Install screw fasteners using power tools with controlled torque adjusted to compress EPDM washers tightly without damage to washers, screw threads, or metal panels. Install screws in predrilled holes.
 - 1. Arrange and nest side-lap joints so prevailing winds blow over, not into, lapped joints. Lap ribbed or fluted sheets one full rib corrugation. Apply metal panels and associated items for neat and weathertight enclosure. Avoid "panel creep" or application not true to line.
- C. Metal Protection: Where dissimilar metals contact each other or corrosive substrates, protect against galvanic action by painting contact surfaces with corrosion-resistant coating, by applying rubberized-asphalt underlayment to each contact surface, or by other permanent separation as recommended by metal roof panel manufacturer.

- D. Joint Sealers: Install gaskets, joint fillers, and sealants where indicated and where required for weatherproof performance of metal panel assemblies. Provide types of gaskets, fillers, and sealants indicated; or, if not indicated, provide types recommended by metal panel manufacturer.
 - 1. Seal metal panel end laps with double beads of tape or sealant the full width of panel. Seal side joints where recommended by metal panel manufacturer.
 - 2. Prepare joints and apply sealants to comply with requirements in Section 07 92 00 "Joint Sealants."

3.2 METAL ROOF PANEL INSTALLATION

- A. General: Provide metal roof panels of full length from eave to ridge unless otherwise indicated or restricted by shipping limitations.
 - 1. Install ridge caps as metal roof panel Work proceeds.
 - 2. Flash and seal metal roof panels with weather closures at eaves and rakes. Fasten with self-tapping screws.
- B. Standing-Seam Metal Roof Panels: Secure metal roof panels to supports with seamer recommended by manufacturer.
 - 1. Provide continuous vinyl weatherseal under heads of standing seams on weather side of metal roof panels.
 - 2. Provide sealant tape at protruding equipment, vents, and accessories.
 - 3. Apply a continuous ribbon of sealant tape to weather-side surface of fastenings on end laps and on side laps of nesting-type metal panels, on side laps of ribbed or fluted metal panels, and elsewhere as needed to make metal panels weatherproof to driving rains.
- C. Metal Fascia Panels: Align bottom of metal panels and fasten with blind rivets, bolts, or self-drilling or self-tapping screws. Flash and seal metal panels with weather closures where fasciae meet soffits, along lower panel edges, and at perimeter of all openings.

3.3 METAL WALL PANEL INSTALLATION

- A. General: Install metal wall panels in orientation, sizes, and locations indicated on Drawings. Install panels perpendicular to girts, extending full height of building, unless otherwise indicated. Anchor metal wall panels and other components of the Work securely in place, with provisions for thermal and structural movement.
 - 1. Unless otherwise indicated, begin metal panel installation at corners with center of rib lined up with line of framing.
 - 2. Shim or otherwise plumb substrates receiving metal wall panels.
 - 3. When two rows of metal panels are required, lap panels 4 inches minimum.
 - 4. When building height requires two rows of metal panels at gable ends, align lap of gable panels over metal wall panels at eave height.
 - 5. Rigidly fasten base end of metal wall panels and allow eave end free movement for thermal expansion and contraction. Predrill panels.
 - 6. Flash and seal metal wall panels with weather closures at eaves and rakes and at perimeter of all openings. Fasten with self-tapping screws.
 - 7. Install screw fasteners in predrilled holes.
 - 8. Install flashing and trim as metal wall panel work proceeds.
 - 9. Apply elastomeric sealant continuously between metal base channel (sill angle) and concrete, and elsewhere as indicated on Drawings; if not indicated, as necessary for waterproofing.

10. Align bottom of metal wall panels and fasten with blind rivets, bolts, or self-drilling or self-tapping screws.
 11. Provide weatherproof escutcheons for pipe and conduit penetrating exterior walls.
- B. Metal Wall Panels: Install metal wall panels on exterior side of girts. Attach metal wall panels to supports with fasteners as recommended by manufacturer.

3.4 THERMAL INSULATION INSTALLATION

- A. General: Install insulation concurrently with metal panel installation, in thickness indicated to cover entire surface, according to manufacturer's written instructions.
1. Set vapor-retarder-faced units with vapor retarder toward warm side of construction unless otherwise indicated. Do not obstruct ventilation spaces except for firestopping.
 2. Tape joints and ruptures in vapor retarder, and seal each continuous area of insulation to the surrounding construction to ensure airtight installation.
 3. Install factory-laminated, vapor-retarder-faced blankets straight and true in one-piece lengths, with both sets of facing tabs sealed, to provide a complete vapor retarder.
 4. Install blankets straight and true in one-piece lengths. Install vapor retarder over insulation, with both sets of facing tabs sealed, to provide a complete vapor retarder.
- B. Blanket Roof Insulation: Comply with the following installation method:
1. Install insulation per manufacturer's written instructions.
 2. Over-Framing Installation: Extend insulation and vapor retarder over and perpendicular to top flange of secondary framing. Hold in place by metal roof panels fastened to secondary framing.
 3. Between-Purlin Installation: Extend insulation and vapor retarder between purlins. Carry vapor-retarder-facing tabs up and over purlin, overlapping adjoining facing of next insulation course and maintaining continuity of retarder. Hold in place with bands and crossbands below insulation.
 4. Retainer Strips: Install retainer strips at each longitudinal insulation joint, straight and taut, nesting with secondary framing to hold insulation in place.
- C. Blanket Wall Insulation: Fit insulation vertically between girts, impaled on insulation hangers. Fluff insulation to the specified thickness, insuring there are no gaps or voids. Apply vapor retarder over and perpendicular to top flange of secondary framing. Hold in place by metal wall panels fastened to secondary framing.
1. Retainer Strips: Install retainer strips at each longitudinal insulation joint, straight and taut, nesting with secondary framing to hold insulation in place.
 2. Seal wall fabric to the roof fabric and to the base angle, or base cee channel as well as the column flanges.
 3. Additional straps are installed along the base angle and each column to retain system permanently in place.

3.5 ACCESSORY INSTALLATION

- A. General: Install accessories with positive anchorage to building and weathertight mounting, and provide for thermal expansion. Coordinate installation with flashings and other components.
1. Install components required for a complete metal roof panel assembly, including trim, copings, ridge closures, seam covers, flashings, sealants, gaskets, fillers, closure strips, and similar items.

2. Install components for a complete metal wall panel assembly, including trim, copings, corners, seam covers, flashings, sealants, gaskets, fillers, closure strips, and similar items.
 3. Where dissimilar metals contact each other or corrosive substrates, protect against galvanic action by painting contact surfaces with corrosion-resistant coating, by applying rubberized-asphalt underlayment to each contact surface, or by other permanent separation as recommended by manufacturer.
- B. Flashing and Trim: Comply with performance requirements, manufacturer's written installation instructions, and SMACNA's "Architectural Sheet Metal Manual." Provide concealed fasteners where possible and set units true to line and level. Install work with laps, joints, and seams that will be permanently watertight and weather resistant.
1. Install exposed flashing and trim that is without excessive oil-canning, buckling, and tool marks and that is true to line and levels indicated with exposed edges folded back to form hems. Install sheet metal flashing and trim to fit substrates and to result in waterproof and weather-resistant performance.
 2. Expansion Provisions: Provide for thermal expansion of exposed flashing and trim. Space movement joints at a maximum of 10 feet with no joints allowed within 24 inches of corner or intersection. Where lapped or bayonet-type expansion provisions cannot be used or would not be sufficiently weather resistant and waterproof, form expansion joints of intermeshing hooked flanges, not less than 1 inch deep, filled with mastic sealant (concealed within joints).
- C. Gutters: Join sections with riveted-and-soldered or lapped-and-sealed joints. Attach gutters to eave with gutter hangers spaced as required for gutter size, but not more than 36 inches on center using manufacturer's standard fasteners. Provide end closures and seal watertight with sealant. Provide for thermal expansion.
- D. Downspouts: Join sections with 1-1/2-inch telescoping joints. Provide fasteners designed to hold downspouts securely 1 inch away from walls; locate fasteners at top and bottom and at approximately 60 inches on center in between.
1. Provide elbows at base of downspouts to direct water away from building.
 2. Tie downspouts to underground drainage system indicated.

3.6 FIELD QUALITY CONTROL

- A. Special Inspections: Owner will engage a qualified special inspector to perform field quality control special inspections and to submit reports.
- B. Product will be considered defective if it does not pass tests and inspections.
- C. Prepare test and inspection reports.

END OF SECTION

SECTION 22 05 29 - HANGERS AND SUPPORTS FOR PLUMBING PIPING AND EQUIPMENT

PART 1 - GENERAL

1.1 SUMMARY

- A. Section Includes:
 - 1. Pipe hangers and supports.
 - 2. Hanger rods.
 - 3. Equipment curbs.
 - 4. Formed steel channel.
 - 5. Equipment bases and supports.
- B. Related Sections:
 - 1. Division 01 Specification Sections apply to Work of this Section.

1.2 REFERENCES

- A. American Society of Mechanical Engineers:
 - 1. ASME B31.1 - Power Piping.
 - 2. ASME B31.5 - Refrigeration Piping.
 - 3. ASME B31.9 - Building Services Piping.
- B. ASTM International:
 - 1. ASTM E84 - Standard Test Method for Surface Burning Characteristics of Building Materials.
 - 2. ASTM E119 - Standard Test Methods for Fire Tests of Building Construction and Materials.
 - 3. ASTM E814 - Standard Test Method for Fire Tests of Through Penetration Fire Stops.
 - 4. ASTM F708 - Standard Practice for Design and Installation of Rigid Pipe Hangers.
- C. American Welding Society:
 - 1. AWS D1.1 - Structural Welding Code - Steel.
- D. FM Global:
 - 1. FM - Approval Guide, A Guide to Equipment, Materials & Services Approved By Factory Mutual Research For Property Conservation.
- E. Manufacturers Standardization Society of the Valve and Fittings Industry:
 - 1. MSS SP 58 - Pipe Hangers and Supports - Materials, Design and Manufacturer.
 - 2. MSS SP 69 - Pipe Hangers and Supports - Selection and Application.
 - 3. MSS SP 89 - Pipe Hangers and Supports - Fabrication and Installation Practices.

1.3 SUBMITTALS

- A. Division 01 and Section 23 05 00 "General Mechanical Requirements."
- B. Shop Drawings: Indicate system layout with location including critical dimensions, sizes, and pipe hanger and support locations and detail of trapeze hangers.
- C. Product Data:
 - 1. Hangers and Supports: Submit manufacturers catalog data including load capacity.
- D. Design Data: Indicate load carrying capacity of trapeze, multiple pipe, and riser support hangers.

- E. Manufacturer's Installation Instructions:
 - 1. Hangers and Supports: Submit special procedures and assembly of components.
- F. Manufacturer's Certificate: Certify products meet or exceed specified requirements.

1.4 QUALITY ASSURANCE

- A. Perform Work in accordance with AWS D1.1 for welding hanger and support attachments to building structure.
- B. Perform Work in accordance with State and local standards.

1.5 QUALIFICATIONS

- A. Manufacturer: Company specializing in manufacturing Products specified in this Section with minimum 3 years' experience.
- B. Installer: Company specializing in performing Work of this Section with minimum 3 years' experience.

1.6 DELIVERY, STORAGE, AND HANDLING

- A. Accept materials on site in original factory packaging, labeled with manufacturer's identification.
- B. Protect from weather and construction traffic, dirt, water, chemical, and damage, by storing in original packaging.

1.7 FIELD MEASUREMENTS

- A. Verify field measurements prior to fabrication.

1.8 WARRANTY

- A. Section 23 05 00 "General Mechanical Requirements."

PART 2 - PRODUCTS

2.1 PIPE HANGERS AND SUPPORTS

- A. Plumbing Piping - DWV:
 - 1. Conform to ASME B31.9, ASTM F708, MSS SP58, MSS SP69, or MSS SP89.
 - 2. Hangers for Pipe Sizes 1/2- to 1-1/2 inch: Malleable iron or Carbon steel, adjustable swivel, split ring.
 - 3. Hangers for Pipe Sizes 2 inches and Larger: Carbon steel, adjustable, clevis.
 - 4. Multiple or Trapeze Hangers: Steel channels with welded spacers and hanger rods.
 - 5. Wall Support for Pipe Sizes 3 inches and Smaller: Cast iron hook.
 - 6. Wall Support for Pipe Sizes 4 inches and Larger: Welded steel bracket and wrought steel clamp.
 - 7. Vertical Support: Steel riser clamp.
 - 8. Floor Support: Cast iron adjustable pipe saddle, lock nut, nipple, floor flange, and concrete pier or steel support.
 - 9. Copper Pipe Support: Copper-plated, carbon-steel adjustable, ring.

B. Plumbing Piping - Water:

1. Conform to ASME B31.9, ASTM F708, MSS SP58, MSS SP69, or MSS SP89.
2. Hangers for Pipe Sizes 1/2- to 1-1/2 inch: Malleable iron or Carbon steel, adjustable swivel, split ring.
3. Hangers for Cold Pipe Sizes 2 inches and Larger: Carbon steel, adjustable, clevis.
4. Hangers for Hot Pipe Sizes 2 to 4 inches: Carbon steel, adjustable, clevis.
5. Multiple or Trapeze Hangers: Steel channels with welded spacers and hanger rods.
6. Wall Support for Pipe Sizes 3 inches and Smaller: Cast iron hook.
7. Wall Support for Pipe Sizes 4 inches and Larger: Welded steel bracket and wrought steel clamp.
8. Vertical Support: Steel riser clamp.
9. Floor Support for Cold Pipe: Cast iron adjustable pipe saddle, lock nut, nipple, floor flange, and concrete pier or steel support.
10. Floor Support for Hot Pipe Sizes 4 inches and Smaller: Cast iron adjustable pipe saddle, lock nut, nipple, floor flange, and concrete pier or steel support.
11. Copper Pipe Support: Copper-plated, Carbon-steel ring.

2.2 ACCESSORIES

- A. Hanger Rods: Mild steel threaded both ends, threaded on one end, or continuous threaded.

2.3 EQUIPMENT CURBS

- A. Fabrication: Unless otherwise noted, shall be welded 18 gauge galvanized steel shell and base, mitered 3-inch cant, variable step to match roof insulation, 1-1/2-inch thick insulation, factory installed wood nailer. Provide tapered curbs to match roof slope.

2.4 FORMED STEEL CHANNEL

- A. Manufacturers:
1. B-line, an Eaton business.
 2. Unistrut; Part of Atkore International.
 3. Substitutions: See Section 23 05 00 "General Mechanical Requirements."
- B. Product Description: Galvanized 12 gauge thick steel. With holes 1-1/2 inches on center.

PART 3 - EXECUTION

3.1 EXAMINATION

- A. Verify the existing conditions before starting work.
- B. Verify openings are ready to receive sleeves.
- C. Verify openings are ready to receive firestopping.

3.2 PREPARATION

- A. Obtain permission from Engineer before using powder-actuated anchors.
- B. Do not drill or cut structural members without obtaining permission from Engineer.

3.3 INSTALLATION - PIPE HANGERS AND SUPPORTS

- A. Install in accordance with ASME B31.1, ASME B31.5, ASME 31.9, ASTM F708, MSS SP 58, MSS SP 69, or MSS SP 89.
- B. Support horizontal piping as scheduled.
- C. Install hangers with minimum 1/2-inch space between finished covering and adjacent work.
- D. Place hangers within 12 inches of each horizontal elbow.
- E. Use hangers with 1-1/2-inch minimum vertical adjustment.
- F. Support horizontal cast iron pipe adjacent to each hub, with 5 feet maximum spacing between hangers.
- G. Support vertical piping at every floor. Support vertical cast iron pipe at each floor at hub.
- H. Where piping is installed in parallel and at same elevation, provide multiple pipe or trapeze hangers.
- I. Support riser piping independently of connected horizontal piping.
- J. Provide copper plated hangers and supports for copper piping.
- K. Design hangers for pipe movement without disengagement of supported pipe.
- L. Prime coat exposed steel hangers and supports. Refer to Section 09 90 00 "Painting and Coating. Hangers and supports located in crawl spaces, pipe shafts, and suspended ceiling spaces are not considered exposed.
- M. Provide clearance in hangers and from structure and other equipment for installation of insulation. Refer to Section 23 07 05 "HVAC and Plumbing Insulation."

3.4 INSTALLATION - EQUIPMENT BASES AND SUPPORTS

- A. Provide housekeeping pads of concrete, minimum 4 inches thick and extending 6 inches beyond supported equipment. Refer to Section 03 30 00 "Cast-In-Place Concrete."
- B. Using templates furnished with equipment, install anchor bolts, and accessories for mounting and anchoring equipment.
- C. Construct supports of steel members, formed steel channel, or steel pipe and fittings. Brace and fasten with flanges bolted to structure.
- D. Provide rigid anchors for pipes after vibration isolation components are installed.

3.5 INSTALLATION - FLASHING

- A. Provide flexible flashing and metal counterflashing where piping penetrates weather or waterproofed walls, floors, and roofs.
- B. Flash vent and soil pipes projecting 3 inches minimum above finished roof surface with lead worked 1-inch minimum into hub, 8 inches minimum clear on sides with 24- by 24-inch sheet size. For pipes through outside walls, turn flanges back into wall and caulk, metal counter-flash, and seal.
- C. Flash floor drains in floors with topping over finished areas with lead, 10 inches clear on sides with minimum 36- by 36-inch sheet size. Fasten flashing to drain clamp device.
- D. Seal floor drains watertight to adjacent materials.
- E. Adjust storm collars tight to pipe with bolts; caulk around top edge. Use storm collars above roof jacks. Screw vertical flange section to face of curb.

3.6 FIELD QUALITY CONTROL

- A. Inspect installed firestopping for compliance with specifications and submitted schedule.

3.7 CLEANING

- A. Clean adjacent surfaces of firestopping materials.

3.8 PROTECTION OF FINISHED WORK

- A. Protect adjacent surfaces from damage by material installation.

3.9 SCHEDULES

- A. Pipe Hanger Spacing:

Pipe Size (inches)	Max. Hanger Spacing (feet)	Hanger Rod Diameter (inches)
1/2	6	3/8
3/4	6	3/8
1	6	3/8
1 1/4	6	3/8
1 1/2	10	3/8
2	10	3/8
2 1/2	10	1/2
3	10	1/2
4	10	5/8
6	10	3/4
8	10	3/4
PVC (all sizes)	4	3/8
C.I. Bell and Spigot (or No-Hub) and at Joints	5	5/8

END OF SECTION

SECTION 22 11 00 - FACILITY WATER DISTRIBUTION

PART 1 - GENERAL

1.1 SUMMARY

- A. Section Includes:
 - 1. Domestic water piping, within 5 feet of building.
 - 2. Domestic water piping, above grade.
 - 3. Unions and flanges.
 - 4. Valves.
 - 5. Pressure gauges.
 - 6. Pressure gage taps.
 - 7. Thermometers.
 - 8. Relief valves.
 - 9. Strainers.
 - 10. Water hammer arrestors.
 - 11. Mixing valves.
 - 12. Diaphragm-type compression tanks.
- B. Related Sections:
 - 1. Division 01 Specification Sections apply to Work of this Section.
 - 2. Section 03 30 00 "Cast-In-Place Concrete:" Execution requirements for placement of concrete house keeping pads specified by this section.
 - 3. Section 22 05 29 "Hangers and Supports" for Plumbing Piping and Equipment: Product requirements for pipe hangers and supports for placement by this section.
 - 4. Section 23 07 05 "HVAC and Plumbing Insulation." Product and execution requirements for pipe insulation.
 - 5. Division 26 Specification Sections for execution requirements for electric connections to equipment specified by this Section.

1.2 REFERENCES

- A. American National Standards Institute:
 - 1. ANSI Z21.22 - Relief Valves for Hot Water Supply Systems.
- B. American Society of Mechanical Engineers:
 - 1. ASME B16.18 - Cast Copper Alloy Solder Joint Pressure Fittings.
 - 2. ASME B16.22 - Wrought Copper and Copper Alloy Solder Joint Pressure Fittings.
 - 3. ASME B16.26 - Cast Copper Alloy Fittings for Flared Copper Tubes.
 - 4. ASME B31.9 - Building Services Piping.
 - 5. ASME B40.1 - Gauges - Pressure Indicating Dial Type - Elastic Element.
 - 6. ASME Section VIII - Boiler and Pressure Vessel Code - Pressure Vessels.
 - 7. ASME Section IX - Boiler and Pressure Vessel Code - Welding and Brazing Qualifications.
- C. American Society of Sanitary Engineering:
 - 1. ASSE 1010 - Performance Requirements for Water Hammer Arresters.
 - 2. ASSE 1012 - Performance Requirements for Backflow Preventer with Intermediate Atmospheric Vent.
 - 3. ASSE 1013 - Performance Requirements for Reduced Pressure Principle Backflow Preventers and Reduced Pressure Fire Protection Principle Backflow Preventers.

4. ASSE 5013 - Performance Requirements for Reduced Pressure Principle Backflow Preventers (RP) and Reduced Pressure Fire Protection Principle Backflow Preventers (RFP).
5. ASSE 5015 - Performance Requirements for Testing Double Check Backflow Prevention Assemblies (DC) and Double Check Fire Protection Backflow Prevention Assemblies (RPDF).
- D. ASTM International:
 1. ASTM A395 - Standard Specification for Ferritic Ductile Iron Pressure-Retaining Castings for Use at Elevated Temperatures.
 2. ASTM A536 - Standard Specification for Ductile Iron Castings.
 3. ASTM B32 - Standard Specification for Solder Metal.
 4. ASTM B42 - Standard Specification for Seamless Copper Pipe, Standard Sizes.
 5. ASTM B88 - Standard Specification for Seamless Copper Water Tube.
 6. ASTM B584 - Standard Specification for Copper Alloy Sand Castings for General Applications.
 7. ASTM E1 - Standard Specification for ASTM Thermometers.
 8. ASTM E77 - Standard Test Method for Inspection and Verification of Thermometers.
 9. ASTM F1476 - Standard Specification for Performance of Gasketed Mechanical Couplings for Use in Piping Applications.
- E. American Welding Society:
 1. AWS A5.8 - Specification for Filler Metals for Brazing and Braze Welding.
- F. American Water Works Association:
- G. Manufacturers Standardization Society of the Valve and Fittings Industry:
 1. MSS SP 58 - Pipe Hangers and Supports - Materials, Design and Manufacturer.
 2. MSS SP 67 - Butterfly Valves.
 3. MSS SP 69 - Pipe Hangers and Supports - Selection and Application.
 4. MSS SP 71 - Cast Iron Swing Check Valves, Flanged and Threaded Ends.
 5. MSS SP 80 - Bronze Gate, Globe, Angle and Check Valves.
 6. MSS SP 85 - Cast Iron Globe & Angle Valves, Flanged and Threaded.
 7. MSS SP 89 - Pipe Hangers and Supports - Fabrication and Installation Practices.
 8. MSS SP 110 - Ball Valves Threaded, Socket-Welding, Solder Joint, Grooved and Flared Ends.
- H. National Electrical Manufacturers Association:
 1. NEMA 250 - Enclosures for Electrical Equipment (1000 Volts Maximum).
- I. Plumbing and Drainage Institute:
 1. PDI WH201 - Water Hammer Arrester Standard.
- J. Underwriters Laboratories Inc.:
 1. UL 393 - Indicating Pressure Gauges for Fire-Protection Service.
 2. UL 404 - Gauges, Indicating Pressure, for Compressed Gas Service.

1.3 SUBMITTALS

- A. Division 01 and Section 01 33 00 "Submittal Procedures."
- B. Product Data:
 1. Piping: Submit data on pipe materials, fittings, and accessories. Submit manufacturer's catalog information.
 2. Valves: Submit manufacturers catalog information with valve data and ratings for each service.
 3. Domestic Water Specialties: Submit manufacturers catalog information, component sizes, rough-in requirements, service sizes, and finishes.

- 4. Pumps: Submit pump type, capacity, certified pump curves showing pump performance characteristics with pump and system operating point plotted. Include NPSH curve when applicable. Include electrical characteristics and connection requirements.
 - C. Manufacturer's Installation Instructions: Submit installation instructions for pumps, valves and accessories.
- 1.4 CLOSEOUT SUBMITTALS
- A. Project Record Documents: Record actual locations of valves and equipment.
 - B. Operation and Maintenance Data: Submit spare parts list, exploded assembly views and recommended maintenance intervals.
- 1.5 QUALITY ASSURANCE
- A. For drinking water service, provide valves complying with NSF 61.
 - B. Perform Work in accordance with State and local standards.
- 1.6 QUALIFICATIONS
- A. Manufacturer: Company specializing in manufacturing products specified in this section with minimum 3 years' experience.
 - B. Installer: Company specializing in performing Work of this section with minimum 3 years' experience.
- 1.7 DELIVERY, STORAGE, AND HANDLING
- A. Accept valves and equipment on site in shipping containers with labeling in place. Inspect for damage.
 - B. Provide temporary protective coating on cast iron and steel valves.
 - C. Provide temporary end caps and closures on piping and fittings. Maintain in place until installation.
 - D. Protect piping systems from entry of foreign materials by temporary covers, completing sections of the Work, and isolating parts of completed system.
- 1.8 FIELD MEASUREMENTS
- A. Verify field measurements prior to fabrication.
- 1.9 WARRANTY
- A. Section 23 05 00 "General Mechanical Requirements."
- 1.10 EXTRA MATERIALS
- A. Furnish two packing kits for each size valve, two loose keys for outside hose bibs and hose end vacuum breakers for hose bibs, and two pump seals for each pump model.

PART 2 - PRODUCTS

2.1 DOMESTIC WATER PIPING, BURIED WITHIN 5 FEET OF BUILDING

- A. Copper Tubing: ASTM B88, Type K, annealed.
 - 1. Fittings: ASME B16.18, cast copper, or ASME B16.22, wrought copper.
 - 2. Joints: Compression connection or Brazed, AWS A5.8 BCuP silver/phosphorus/copper alloy with melting range 1,190 to 1,480 degrees F.

2.2 DOMESTIC WATER PIPING, ABOVE GRADE

- A. Copper Tubing: ASTM B88, Type L, hard drawn.
 - 1. Fittings: ASME B16.18, cast copper alloy or ASME B16.22, wrought copper and bronze.
 - 2. Joints: ASTM B32, Alloy Grade Sb5 tin-antimony, or Alloy Grade Sn95 tin-silver, lead free solder
 - 3. Copper Press Fittings:
 - a. Manufacturers:
 - 1) Viega.
 - 2) Ridge Tool Company.
 - b. Press Fittings: Copper and copper alloy press fittings shall conform to material requirements of ASME B 16.18 or ASME B 16.22 and performance criteria of IAPMO PS117. Sealing elements for press fittings shall be EPDM. Sealing elements shall be factory installed. Press ends shall have SC (Smart Connect™) feature design (leakage path). In ProPress 1/2- to 4-inch dimensions the Smart Connect Feature assures leakage of fluids and/or gases from inside the system past the sealing element of an upressed connection. The function of this feature is to provide the installer quick and easy identification of connections which have not been pressed prior to putting the system into operation.

2.3 UNIONS AND FLANGES

- A. Unions for Pipe 2 Inches and Smaller:
 - 1. Copper Piping: Class 150, bronze unions with soldered.
 - 2. Dielectric Connections: Union with galvanized or plated steel threaded end, copper solder end, water impervious isolation barrier.
- B. Flanges for Pipe 2-1/2 Inches and Larger:
 - 1. Copper Piping: Class 150, slip-on bronze flanges.
 - 2. Gaskets: 1/16-inch thick preformed neoprene gaskets.

2.4 BALL VALVES

- A. Manufacturers:
 - 1. Apollo Flow Controls; Conbraco Industries, Inc.
 - 2. Milwaukee Valve Company.
 - 3. NIBCO INC.
 - 4. Watts.
 - 5. Substitutions: Division 01 and Section 23 05 00 "General Mechanical Requirements," substituted products.
- B. Two Inches and Smaller: MSS SP 110, 600 psi WOG, bronze, three piece body, chrome plated bronze ball, full port, teflon seats, blow-out proof stem, solder or threaded ends with union, and lever handle.

2.5 CHECK VALVES

- A. Horizontal Swing Check Valves:
 - 1. Manufacturers:
 - a. Milwaukee Valve Company.
 - b. NIBCO INC.
 - c. Apollo Flow Controls.
 - d. Substitutions: Division 01 and Section 23 05 00 "General Mechanical Requirements," substituted products.
- B. Spring Loaded Check Valves:
 - 1. Manufacturers:
 - a. NIBCO INC.
 - b. Milwaukee Valve Company.
 - c. Substitution: Division 01 and Section 23 05 00 "General Mechanical Requirements," substituted products.
 - 2. Two Inches and Smaller: MSS SP 80, Class 250, bronze body, in-line spring lift check, silent closing, Buna-N disc, integral seat, solder or threaded ends.
 - 3. Two and One-Half Inches and Larger: MSS SP 71, Class 125, wafer or globe style, cast iron body, bronze seat, center guided bronze disc, stainless steel spring and screws, flanged ends.

2.6 PRESSURE GAGES

- A. Manufacturers:
 - 1. Trerice.
 - 2. Weiss.
 - 3. Substitutions: Division 01 and Section 23 05 00 "General Mechanical Requirements" for substituted products.
- B. Gage: ASME B40.1, UL 404 with bourdon tube, rotary brass movement, brass socket, front calibration adjustment, black scale on white background.
 - 1. Case: Cast aluminum.
 - 2. Bourdon Tube: Phosphor bronze.
 - 3. Dial Size: 4-1/2-inch diameter.
 - 4. Mid-Scale Accuracy: 1 percent.
 - 5. Scale: Psi.

2.7 PRESSURE GAUGE TAPS

- A. Manufacturers:
 - 1. Trerice.
 - 2. Weiss.
 - 3. Substitutions: Division 01 and Section 23 05 00 "General Mechanical Requirements." substituted products.
- B. Ball Valve: Brass, 1/4-inch NPT for 250 psi.

2.8 STEM TYPE THERMOMETERS

- A. Manufacturers:
 - 1. Trerice.
 - 2. Weiss.
 - 3. Substitutions: Division 01 and Section 23 05 00 "General Mechanical Requirements." substituted products.
- B. Thermometer: ASTM E1, red appearing mercury, lens front tube, cast aluminum case with enamel finish.
 - 1. Size: 9 inch scale.
 - 2. Window: Clear Lexan.
 - 3. Stem: Brass, 3/4-inch NPT, 3-1/2 inches long.
 - 4. Accuracy: 2 percent.
 - 5. Calibration: Degrees F.

2.9 RELIEF VALVES

- A. Pressure Relief:
 - 1. Bronze body, Teflon seat, steel stem and springs, automatic, direct pressure actuated at maximum 60 psi, UL listed for fuel oil, capacities ASME certified and labeled.
- B. Temperature and Pressure Relief:
 - 1. ANSI Z21.22 certified, bronze body, teflon seat, stainless steel stem and springs, automatic, direct pressure actuated, temperature relief maximum 210 degrees F, capacity ASME certified and labeled.

2.10 STRAINERS

- A. Manufacturers:
 - 1. Watts.
 - 2. Zurn Industries, LLC.
 - 3. Substitutions: Division 01 and Section 23 05 00 "General Mechanical Requirements." substituted products.
- B. Two inches and Smaller: Threaded brass body for 175 psi CWP, Y pattern with 1/32-inch stainless steel perforated screen.
- C. One and One-Half Inches to 4 Inches: Class 125, flanged iron body, Y pattern with 1/16-inch stainless steel perforated screen.
- D. Five Inches and Larger: Class 125, flanged iron body, basket pattern with 1/8-inch stainless steel perforated screen.

2.11 WATER HAMMER ARRESTORS

- A. ASSE 1010; stainless steel construction, piston type sized in accordance with PDI WH-201.
- B. Pre-charged suitable for operation in temperature range 34 to 250 degrees F and maximum 150 psi working pressure.

2.12 THERMOSTATIC MIXING VALVES

- A. Valve: Chrome plated cast brass body, stainless steel or copper alloy bellows, integral temperature adjustment. Conform to ASSE 1070 to temper water to maximum 110 degrees F.

2.13 DIAPHRAGM-TYPE COMPRESSION TANKS

- A. Manufacturers:
 - 1. Amtrol.
 - 2. Elbi.
 - 3. Substitutions: Division 01 and Section 23 05 00 "General Mechanical Requirements." substituted products.
- B. Construction: Welded steel, tested and stamped in accordance with ASME Section VIII; supplied with National Board Form U-1, rated for working pressure of 125 psig, with flexible diaphragm sealed into tank, and steel legs or saddles.
- C. Accessories: Pressure gage and air-charging fitting.

PART 3 - EXECUTION

3.1 EXAMINATION

- A. Verify excavations are to required grade, dry, and not over-excavated.

3.2 PREPARATION

- A. Ream pipe and tube ends. Remove burrs.
- B. Remove scale and dirt, on inside and outside, before assembly.

3.3 INSTALLATION - THERMOMETERS AND GAGES

- A. Install one pressure gage for each pump, locate taps before strainers and on suction and discharge of pump; pipe to gage.
- B. Install gage taps in piping.
- C. Install pressure gauges with pulsation dampers. Provide ball valve to isolate each gage.
- D. Install thermometers in piping systems in sockets in short couplings. Enlarge pipes smaller than 2-1/2 inches for installation of thermometer sockets. Allow clearance from insulation.
- E. Provide instruments with scale ranges selected according to service with largest appropriate scale.

- F. Install gauges and thermometers in locations where they are easily read from normal operating level. Install vertical to 45 degrees off vertical.
- G. Adjust gauges and thermometers to final angle, clean windows and lenses, and calibrate to zero.

3.4 INSTALLATION - BURIED PIPING SYSTEMS

- A. Verify connection size, location, and invert are as indicated on Drawings.
- B. Establish elevations of buried piping with not less than 2 feet of cover.
- C. Establish minimum separation of water from sanitary sewer piping in accordance with local code.
- D. Remove scale and dirt on inside of piping before assembly.
- E. Excavate pipe trench in accordance with Section 23 05 00 "General Mechanical Requirements."
- F. Route pipe in straight line.
- G. Install pipe to allow for expansion and contraction without stressing pipe or joints.
- H. Install shutoff valves at locations indicated on Drawings in accordance with this Section.
- I. Metallic Pipe: Install plastic ribbon tape continuous over top of pipe. 12 inches above pipeline; coordinate with Section 23 05 00 "General Mechanical Requirements."
- J. Non-Metallic Pipe: Install trace wire continuous over top of pipe. Buried 12 inches above pipeline; coordinate with Section 23 05 00 "General Mechanical Requirements."
- K. Pipe Cover and Backfilling:
 - 1. Backfill trench in accordance with Section 23 05 00 "General Mechanical Requirements."
 - 2. Maintain optimum moisture content of fill material to attain required compaction density.
 - 3. After hydrostatic test, evenly backfill entire trench in accordance with Section 23 05 00 "General Mechanical Requirements."
 - 4. Evenly and continuously backfill remaining trench depth in uniform layers with backfill material.
 - 5. Do not use wheeled or tracked vehicles for tamping.

3.5 INSTALLATION - ABOVE GROUND PIPING

- A. Install non-conducting dielectric connections wherever jointing dissimilar metals.
- B. Route piping in orderly manner and maintain gradient. Route parallel and perpendicular to walls.
- C. Install piping to maintain headroom without interfering with use of space or taking more space than necessary.
- D. Group piping whenever practical at common elevations.
- E. Slope piping and arrange systems to drain at low points.
- F. Install piping to allow for expansion and contraction without stressing pipe, joints, or connected equipment.
- G. Provide clearance in hangers and from structure and other equipment for installation of insulation and access to valves and fittings. Refer to Section 22 05 29 "Hangers and Supports."
- H. Provide access where valves and fittings are not accessible.

- I. Where pipe support members are welded to structural building framing, scrape, brush clean, and apply one coat of zinc rich primer to welding.
- J. Provide support for utility meters in accordance with requirements of utility companies.
- K. Prepare exposed, unfinished pipe, fittings, supports, and accessories ready for finish painting. Refer to Division 09.
- L. Install domestic water piping in accordance with ASME B31.9.
- M. Sleeve pipes passing through partitions, walls and floors.
- N. Install unions downstream of valves and at equipment or apparatus connections.
- O. Install valves with stems upright or horizontal, not inverted.
- P. Install brass male adapters each side of valves in copper piped system. Solder adapters to pipe.
- Q. Install ball or butterfly valves for shut-off and to isolate equipment, part of systems, or vertical risers.
- R. Install ball or butterfly valves for throttling, bypass, or manual flow control services.

- S. Provide lug end butterfly valves adjacent to equipment when functioning to isolate equipment.
- T. Provide spring loaded check valves on discharge of water pumps.
- U. Install potable water protection devices on plumbing lines where contamination of domestic water may occur; on boiler feed water lines, janitor rooms, fire sprinkler systems, premise isolation, irrigation systems, flush valves, interior and exterior hose bibs.
- V. Pipe relief from valves, back-flow preventers and drains to nearest floor drain.
- W. Test backflow preventers in accordance with ASSE.
- X. Install water hammer arrestors complete with accessible isolation valve on hot and cold water supply piping as shown on Drawings.
- Y. Press Connections: Copper press fittings shall be made in accordance with the manufacturer's installation instructions. The tubing shall be fully inserted into the fitting and the tubing marked at the shoulder of the fitting. The fitting alignment shall be checked against the mark on the tubing to assure the tubing is fully engaged (inserted) in the fitting. The joint shall be pressed using the tool approved by the manufacturer.

3.6 FIELD QUALITY CONTROL

- A. Test domestic water piping system in accordance with applicable code.

3.7 CLEANING

- A. Prior to starting work, verify system is complete, flushed and clean.
- B. Verify pH of water to be treated is between 7.4 and 7.6 by adding alkali (caustic soda or soda ash) or acid (hydrochloric).
- C. Inject disinfectant, free chlorine in liquid, powder and tablet or gas form, throughout system to obtain residual from 50 to 80 milligrams per liter.
- D. Bleed water from outlets to obtain distribution and test for disinfectant residual at minimum 15 percent of outlets.
- E. Maintain disinfectant in system for 24 hours.
- F. When final disinfectant residual tests less than 25 milligrams per liter, repeat treatment.
- G. Flush disinfectant from system until residual concentration is equal to incoming water or 1.0 milligrams per liter.
- H. Take samples no sooner than 24 hours after flushing, from 10 percent of outlets and from water entry, and analyze in accordance with AWWA C651.

END OF SECTION

SECTION 22 13 00 - FACILITY SANITARY SEWERAGE

PART 1 - GENERAL

1.1 SUMMARY

- A. Section Includes:
 - 1. Sanitary sewer piping buried beyond 5 feet of building.
 - 2. Sanitary sewer piping above grade.
- B. Related Sections:
 - 1. Division 01 Specification Sections apply to Work of this Section.

1.2 REFERENCES

- A. American Society of Mechanical Engineers:
 - 1. ASME A112.14.1 - Backwater Valves.
 - 2. ASME A112.14.3 - Grease Interceptors.
 - 3. ASME A112.14.4 - Grease Removal Devices.
 - 4. ASME A112.21.1 - Floor Drains.
 - 5. ASME B16.1 - Cast Iron Pipe Flanges and Flanged Fittings.
 - 6. ASME B16.3 - Malleable Iron Threaded Fittings.
 - 7. ASME B16.4 - Gray Iron Threaded Fittings.
 - 8. ASME B16.23 - Cast Copper Alloy Solder Joint Drainage Fittings (DWV).
 - 9. ASME B16.29 - Wrought Copper and Wrought Copper Alloy Solder Joint Drainage Fittings - DWV.
 - 10. ASME B31.9 - Building Services Piping.
- B. ASTM International:
 - 1. ASTM A47 - Standard Specification for Ferritic Malleable Iron Castings.
 - 2. ASTM A53 - Standard Specification for Pipe, Steel, Black and Hot-Dipped, Zinc-Coated, Welded and Seamless.
 - 3. ASTM A74 - Standard Specification for Cast Iron Soil Pipe and Fittings.
 - 4. ASTM A234 - Standard Specification for Piping Fittings of Wrought Carbon Steel and Alloy Steel for Moderate and High Temperature Service.
 - 5. ASTM A395 - Standard Specification for Ferritic Ductile Iron Pressure-Retaining Castings for Use at Elevated Temperatures.
 - 6. ASTM A536 - Standard Specification for Ductile Iron Castings.
 - 7. ASTM A746 - Standard Specification for Ductile Iron Gravity Sewer Pipe.
 - 8. ASTM B32 - Standard Specification for Solder Metal.
 - 9. ASTM B42 - Standard Specification for Seamless Copper Pipe, Standard Sizes.
 - 10. ASTM B43 - Standard Specification for Seamless Red Brass Pipe, Standard Sizes.
 - 11. ASTM B75 - Standard Specification for Seamless Copper Tube.
 - 12. ASTM B88 - Standard Specification for Seamless Copper Water Tube.
 - 13. ASTM B251 - Standard Specification for General Requirements for Wrought Seamless Copper and Copper-Alloy Tube.
 - 14. ASTM B302 - Standard Specification for Threadless Copper Pipe, Standard Sizes.
 - 15. ASTM B306 - Standard Specification for Copper Drainage Tube (DWV).
 - 16. ASTM C564 - Standard Specification for Rubber Gaskets for Cast Iron Soil Pipe and Fittings.

17. ASTM D1784 - Standard Specification for Rigid Poly (Vinyl Chloride) (PVC) compounds and Chlorinated Poly (Vinyl Chloride) (CPVC) Compounds.
 18. ASTM D1785 - Standard Specification for Poly (Vinyl Chloride) (PVC) Plastic Pipe, Schedules 40, 80, and 120.
 19. ASTM D2235 - Standard Specification for Solvent Cement for Acrylonitrile-Butadiene-Styrene (ABS) Plastic Pipe and Fittings.
 20. ASTM D2241 - Standard Specification for Polyethylene (PE) Plastic Pipe (SIDR-PR) Based on Controlled Inside Diameter.
 21. ASTM D2464 - Standard Specification for Threaded Poly (Vinyl Chloride) (PVC) Plastic Pipe Fittings, Schedule 80.
 22. ASTM D2466 - Standard Specification for Poly (Vinyl Chloride) (PVC) Plastic Pipe Fittings, Schedule 40.
 23. ASTM D2467 - Standard Specification for Poly (Vinyl Chloride) (PVC) Plastic Pipe Fittings, Schedule 80.
 24. ASTM D2564 - Standard Specification for Solvent Cements for Poly (Vinyl Chloride) (PVC) Plastic Piping Systems.
 25. ASTM D2665 - Standard Specification for Poly (Vinyl Chloride) (PVC) Plastic Drain, Waste, and Vent Pipe and Fittings.
 26. ASTM D2729 - Standard Specification for Poly (Vinyl Chloride) (PVC) Sewer Pipe and Fittings.
 27. ASTM D2855 - Standard Practice for Making Solvent-Cemented Joints with Poly (Vinyl Chloride) (PVC) Pipe and Fittings.
 28. ASTM D3034 - Standard Specification for Type PSM Poly (Vinyl Chloride) (PVC) Sewer Pipe and Fittings.
 29. ASTM F477 - Standard Specification for Elastomeric Seals (Gaskets) for Joining Plastic Pipe.
 30. ASTM F708 - Standard Practice for Design and Installation of Rigid Pipe Hangers.
 31. ASTM F1476 - Standard Specification for Performance of Gasketed Mechanical Couplings for Use in Piping Applications.
- C. Cast Iron Soil Pipe Institute:
1. CISPI 301 - Standard Specification for Hubless Cast Iron Soil Pipe and Fittings for Sanitary and Storm Drain, Waste, and Vent Piping Applications.
 2. CISPI 310 - Specification for Coupling for Use in Connection with Hubless Cast Iron Soil Pipe and Fittings for Sanitary and Storm Drain, Waste, and Vent Piping Applications.
- D. Manufacturers Standardization Society of the Valve and Fittings Industry:
1. MSS SP 58 - Pipe Hangers and Supports - Materials, Design and Manufacturer.
 2. MSS SP 69 - Pipe Hangers and Supports - Selection and Application.
 3. MSS SP 70 - Cast Iron Gate Valves, Flanged and Threaded Ends.
 4. MSS SP 71 - Cast Iron Swing Check Valves, Flanged and Threaded Ends.
 5. MSS SP 80 - Bronze Gate, Globe, Angle and Check Valves.
 6. MSS SP 89 - Pipe Hangers and Supports - Fabrication and Installation Practices.
 7. MSS SP 110 - Ball Valves Threaded, Socket-Welding, Solder Joint, Grooved and Flared Ends.
- E. Plumbing and Drainage Institute:
1. PDI G101 - Standard - Testing and Rating Procedure for Grease Interceptors.

1.3 SUBMITTALS

- A. Division 01 and Section 23 05 00 "General Mechanical Requirements."
- B. Product Data:
 - 1. Piping: Submit data on pipe materials, fittings, and accessories. Submit manufacturers catalog information.
 - 2. Sanitary Drainage Specialties: Submit manufacturers catalog information, component sizes, rough-in requirements, service sizes, and finishes.
- C. Manufacturer's Installation Instructions: Submit installation instructions for material and equipment.
- D. Manufacturer's Certificate: Certify products meet or exceed specified requirements.

1.4 CLOSEOUT SUBMITTALS

- A. Project Record Documents: Record actual locations of equipment and clean-outs.

1.5 QUALITY ASSURANCE

- A. Perform Work in accordance with State and local standards.

1.6 QUALIFICATIONS

- A. Manufacturer: Company specializing in manufacturing products specified in this Section with minimum 3 years' experience.
- B. Installer: Company specializing in performing Work of this Section with minimum 3 years' experience .

1.7 DELIVERY, STORAGE, AND HANDLING

- A. Protect piping systems from entry of foreign materials by temporary covers, completing sections of the Work, and isolating parts of completed system.

1.8 ENVIRONMENTAL REQUIREMENTS

- A. Do not install underground piping when bedding is wet or frozen.

1.9 FIELD MEASUREMENTS

- A. Verify field measurements prior to fabrication.

1.10 WARRANTY

- A. Section 23 05 00 "General Mechanical Requirements" for product warranties.

PART 2 - PRODUCTS

2.1 SANITARY SEWER PIPING, BURIED BEYOND 5 FEET OF BUILDING

- A. Cast Iron Soil Pipe: ASTM A74, service weight, bell and spigot ends.
 - 1. Fittings: Cast iron, ASTM A74.
 - 2. Joints: Hub-and-spigot, CISPI HSN compression type with ASTM C564, neoprene gaskets or lead and oakum.
- B. PVC Pipe: ASTM D2729, polyvinyl chloride (PVC) material, bell and spigot solvent sealed ends.
 - 1. Fittings: PVC, ASTM D2729.
 - 2. Joints: ASTM D2855, solvent weld with ASTM D2564 solvent cement.
- C. PVC Pipe: ASTM D3034, Type PSM, polyvinyl chloride (PVC) material, bell, and spigot style rubber ring sealed gasket joint.
 - 1. Fittings: PVC, ASTM D3034.
 - 2. Joints: ASTM F477, elastomeric gaskets.
- D. PVC Pipe: ASTM D1785, Schedule 40, polyvinyl chloride (PVC) material, bell and spigot style solvent sealed joint ends.
 - 1. Fittings: ASTM D2466, Schedule 40, PVC .
 - 2. Joints: ASTM D2855, solvent weld with ASTM D2564 Solvent cement.
- E. Plastic Pipe: ASTM D2665, polyvinyl chloride (PVC) material.
 - 1. Fittings: PVC, ASTM D2665.
 - 2. Joints: ASTM D2855, solvent weld with ASTM D2564 solvent cement.

2.2 SANITARY SEWER PIPING, ABOVE GRADE

- A. Cast Iron Pipe: ASTM A74, service weight.
 - 1. Fittings: Cast iron, ASTM A74.
 - 2. Joints: ASTM C564, rubber gasket joint devices or lead and oakum.
- B. Cast Iron Pipe: CISPI 301, hub-less.
 - 1. Fittings: Cast iron, CISPI 301.
 - 2. Joints: CISPI 310, neoprene gaskets and stainless steel clamp-and-shield assemblies.
- C. Copper Tube: ASTM B306, DWV ASTM B88 ASTM B251 Type L.
 - 1. Fittings: ASME B16.23, cast bronze, or ASME B16.29, wrought copper.
 - 2. Joints: Solder, lead free, ASTM B32,95-5 tin-antimony, or tin and silver, with melting range 430 to 535 degrees F.
- D. PVC Pipe: ASTM D2729, polyvinyl chloride (PVC) material.
 - 1. Fittings: ASTM D2729, PVC.
 - 2. Joints: ASTM D2855, solvent weld with ASTM D2564 solvent cement.
- E. PVC Pipe: ASTM D2665, polyvinyl chloride (PVC) material.
 - 1. Fittings: ASTM D2665, PVC.
 - 2. Joints: ASTM D2855, solvent weld with ASTM D2564 solvent cement.
- F. PVC Pipe: ASTM D1785 Schedule 40 , polyvinyl chloride (PVC) material.
 - 1. Fittings: ASTM D2466, Schedule 40, PVC .
 - 2. Joints: ASTM D2855, solvent weld with ASTM D2564 Solvent cement.

PART 3 - EXECUTION

3.1 EXAMINATION

- A. Verify excavations are to required grade, dry, and not over-excavated.

3.2 PREPARATION

- A. Ream pipe and tube ends. Remove burrs.
- B. Remove scale and dirt, on inside and outside, before assembly.
- C. Prepare piping connections to equipment with flanges or unions.
- D. Keep open ends of pipe free from scale and dirt. Protect open ends with temporary plugs or caps.

3.3 INSTALLATION - HANGERS AND SUPPORTS

- A. Pipe Hangers and Supports:
 - 1. Install in accordance with Section 22 05 29 "Hangers and Supports."

3.4 INSTALLATION - BURIED PIPING SYSTEMS

- A. Verify connection to existing piping system size, location, and invert are as indicated on Drawings.
- B. Establish elevations of buried piping with not less than 2 feet of cover.
- C. Establish minimum separation of sanitary sewer from other services piping in accordance with local code.
- D. Remove scale and dirt on inside of piping before assembly.
- E. Excavate pipe trench in accordance with Section 23 05 00 "General Mechanical Requirements."
- F. Install pipe to elevation as indicated on Drawings.
- G. Route pipe in straight line.
- H. Metallic Piping: Install plastic ribbon tape continuous over top of pipe. above pipe. Refer to Section 23 05 53 "Identification for HVAC and Plumbing Piping and Equipment.
- I. Non-Metalic Piping: Install trace wire continuous over top of pipe. Refer to Section Section 23 05 00 "General Mechanical Requirements."
- J. Pipe Cover and Backfilling:
 - 1. Backfill trench in accordance with Section 23 05 00 "General Mechanical Requirements."

3.5 INSTALLATION - ABOVE GROUND PIPING

- A. Establish invert elevations, slopes for drainage as required by local code. Maintain gradients.
- B. Extend cleanouts to finished floor or wall surface. Lubricate threaded cleanout plugs with mixture of graphite and linseed oil. Provide clearances at cleanout for snaking drainage system.
- C. Encase exterior cleanouts in concrete flush with grade.
- D. Install floor cleanouts at elevation to accommodate finished floor.
- E. Provide non-conducting dielectric connections wherever jointing dissimilar metals.

- F. Route piping in orderly manner and maintain gradient. Route parallel and perpendicular to walls.
- G. Install piping to maintain headroom. Do not spread piping, conserve space.
- H. Group piping whenever practical at common elevations.
- I. Install piping to allow for expansion and contraction without stressing pipe, joints, or connected equipment.
- J. Provide clearance in hangers and from structure and other equipment for installation of insulation.
- K. Provide access where valves and fittings are not accessible.
- L. Install piping penetrating roofed areas to maintain integrity of roof assembly.
- M. Where pipe support members are welded to structural building framing, scrape, brush clean, and apply one coat of zinc rich primer to welding.
- N. Prepare exposed, unfinished pipe, fittings, supports, and accessories ready for finish painting. Refer to Division 09 Finishes.
- O. Install bell and spigot pipe with bell end upstream.
- P. Sleeve pipes passing through partitions, walls and floors.
- Q. Install firestopping at fire rated construction perimeters and openings containing penetrating sleeves and piping. Refer to Division 07.
- R. Support cast iron drainage piping at every joint.

3.6 FIELD QUALITY CONTROL

- A. Test sanitary waste and vent piping system in accordance with applicable code.

END OF SECTION

SECTION 22 33 00 - ELECTRIC DOMESTIC WATER HEATERS

PART 1 - GENERAL

1.1 SUMMARY

- A. Section Includes:
 - 1. Electric water heaters.
- B. Related Sections:
 - 1. Division 01 Specification Section apply to Work of this Section.
 - 2. Section 03 30 00 "Cast-in-Place Concrete:" Execution requirements for concrete housekeeping pads specified by this Section.
 - 3. Section: 22 11 00 "Facility Water Distribution:" Supply connections to domestic water heaters.
 - 4. Section 26 05 91 "Equipment Wiring Systems:" Electric connection specified by this Section.

1.2 REFERENCES

- A. American Society of Heating, Refrigerating and Air-Conditioning Engineers:
 - 1. ASHRAE 90.1 - Energy Standard for Buildings Except Low-Rise Residential Buildings.
- B. American Society of Mechanical Engineers:
 - 1. ASME PTC 25 - Pressure Relief Devices.
 - 2. ASME Section VIII - Boiler and Pressure Vessel Code - Pressure Vessels.

1.3 SUBMITTALS

- A. Division 01 and Section 01 33 00 "Submittal Procedures."
- B. Product Data: Submit dimensioned Drawings of water heaters indicating components and connections to other equipment and piping. Submit electrical characteristics and connection locations.
- C. Manufacturer's Installation Instructions: Submit mounting and support requirements.

1.4 CLOSEOUT SUBMITTALS

- A. Operation and Maintenance Data: Submit replacement part numbers and availability.

1.5 QUALITY ASSURANCE

- A. Water Heater Performance Requirements: Equipment efficiency not less than prescribed by ASHRAE 90.1.
- B. Perform Work according to State and local standards.

1.6 QUALIFICATIONS

- A. Manufacturer: Company specializing in manufacturing products specified in this Section with minimum 3 years' experience.
- B. Installer: Company specializing in performing Work of this Section with minimum 3 years' documented experience.

1.7 DELIVERY, STORAGE, AND HANDLING

- A. Accept water heaters on Site in original labeled cartons. Inspect for damage.
- B. Protect tanks with temporary inlet and outlet caps. Maintain caps in place until installation.

1.8 FIELD MEASUREMENTS

- A. Verify field measurements prior to fabrication.

1.9 WARRANTY

- A. Refer to Division 01 and Section 23 05 00 "General Mechanical Requirements."
- B. Furnish 3 year manufacturer warranty for domestic water heaters.

PART 2 - PRODUCTS

2.1 ELECTRIC WATER HEATERS

- A. Manufacturers:
 - 1. A. O. Smith Corporation.
 - 2. State Industries.
 - 3. Keltech.
 - 4. Substitutions: Section 23 05 00 "General Mechanical Requirements."
- B. Type: Automatic, electric, vertical storage.
- C. Tank: Glass lined welded steel, thermally insulated with minimum 1-inch-thick glass fiber; encased in corrosion-resistant steel jacket with baked-on enamel finish.
- D. Controls: Automatic water thermostat with temperature range from 120 to 170 degrees F, flanged or screw-in nichrome elements, enclosed controls and electrical junction box.
- E. Accessories: Brass water connections and dip tube, drain valve, magnesium anode, and ASME temperature and pressure relief valve.

PART 3 - EXECUTION

3.1 INSTALLATION

- A. Maintain manufacturer's recommended clearances around and over water heaters.
- B. Install water heater on concrete housekeeping pad, minimum 3-1/2 inches high and 6 inches larger than water heater base on each side.
- C. Connect domestic hot and cold water piping to supply and return water heater connections.
- D. Install the following piping accessories.
 - 1. On Supply:
 - a. Shutoff valve.
 - 2. On Return:
 - a. Thermometer well and thermometer.
 - b. Shutoff valve.
- E. Install discharge piping from relief valves and drain valves to nearest floor drain.
- F. Install water heater trim and accessories furnished loose for field mounting.

- G. Install electrical devices furnished loose for field mounting.
- H. Install control wiring between water heater control panel and field mounted control devices.
- I. Install Work according to State and local standards.

END OF SECTION

SECTION 22 40 00 - PLUMBING FIXTURES

PART 1 - GENERAL

1.1 SUMMARY

- A. Section Includes:
 - 1. Water closets.
 - 2. Lavatories.
 - 3. Drains.
- B. Related Sections:
 - 1. Division 01 Specification Sections apply to Work of this Section.

1.2 SUBMITTALS

- A. Division 01 and Section 23 05 00 "General Mechanical Requirements."
- B. Product Data: Submit catalog illustrations of fixtures, sizes, rough-in dimensions, utility sizes, trim, and finishes.
- C. Manufacturer's Installation Instructions: Submit installation methods and procedures.
- D. Manufacturer's Certificate: Certify products meet or exceed specified requirements.

1.3 CLOSEOUT SUBMITTALS

- A. Operation and Maintenance Data: Submit fixture, trim, exploded view, and replacement parts lists.

1.4 QUALITY ASSURANCE

- A. Perform Work according to State and local standards.
- B. Provide products requiring electrical connections listed and classified by Underwriters Laboratory Inc., as suitable for purpose specified and indicated.

1.5 QUALIFICATIONS

- A. Manufacturer: Company specializing in manufacturing products specified in this Section with minimum 3 years' experience.
- B. Installer: Company specializing in performing Work of this Section with minimum 3 years' experience.

1.6 DELIVERY, STORAGE, AND HANDLING

- A. Accept fixtures on-site in factory packaging. Inspect for damage.
- B. Protect installed fixtures from damage by securing areas and by leaving factory packaging in place to protect fixtures and prevent use.

PART 2 - PRODUCTS

2.1 FIXTURES

- A. Refer to Drawings Plumbing Fixture Schedule for fixture make, model numbers, and type.

PART 3 - EXECUTION

3.1 EXAMINATION

- A. Verify walls and floor finishes are prepared and ready for installation of fixtures.
- B. Verify electric power is available and of correct characteristics.
- C. Confirm millwork is constructed with adequate provision for installation of counter top lavatories and sinks.

3.2 PREPARATION

- A. Rough-in fixture piping connections according to minimum sizes indicated in fixture rough-in schedule for particular fixtures.

3.3 INSTALLATION

- A. Install Work according to State and local standards.
- B. Install each fixture with trap, easily removable for servicing and cleaning.
- C. Provide chrome-plated rigid or flexible supplies to fixtures with stops, reducers, and escutcheons.
- D. Install components level and plumb.
- E. Install and secure fixtures in place with wall supports or carriers and bolts.
- F. Seal fixtures to wall and floor surfaces with sealant as specified in Division 07, color to match fixture.

3.4 INTERFACE WITH OTHER PRODUCTS

- A. Review millwork Shop Drawings. Confirm location and size of fixtures and openings before rough in and installation.

3.5 ADJUSTING

- A. Adjust stops or valves for intended water flow rate to fixtures without splashing, noise, or overflow.

3.6 CLEANING

- A. Clean plumbing fixtures and equipment.

END OF SECTION

SECTION 23 05 00 - GENERAL MECHANICAL REQUIREMENTS

PART 1 - GENERAL

1.1 SUMMARY

- A. Related Requirements:
 - 1. Division 01 Specification Sections apply to Work of this Section.

1.2 DESCRIPTION

- A. Work covered by this Division shall consist of furnishing all labor, equipment, supplies, and materials and in performing all operations necessary for the installation of complete and operating mechanical systems as required by these Specifications and/or shown on the Drawings, subject to the terms and conditions of the Contract. The Work shall also include the completion of such mechanical and electrical details not mentioned or shown which are necessary for the successful operation of all systems described on the Drawings or required by these Specifications; this includes the furnishing all materials for the filling the systems to make them operable, including water, refrigerant, oil, and grease. Prove satisfactory operation of all equipment and controls to Engineer on request.
- B. Work Not Included: Certain labor, material, and equipment may be furnished and/or installed under other Divisions of these Specifications. This Contractor shall coordinate with other trades and arrange his Work to make the part fit together. The following items are to be accomplished under other Divisions of these Specifications:
 - 1. Temporary Heat: Refer to paragraph in this Section.
 - 2. Temporary Water and Toilet: Refer to General Conditions.
 - 3. Roof Curbs: Refer to paragraph in this Section.
 - 4. Electrical Equipment and Wiring: Refer to paragraph in this Section.
 - 5. Concrete: Refer to paragraph in this Section.
- C. Equipment Furnished by Owner: Rough-in services pipes to locations as required by Engineerural and Mechanical Drawings and equipment Shop Drawings. Provide service valves on all pipes except waste and vent pipes. Final connection to equipment will be made by this Contractor.

1.3 BIDDING

- A. All mechanical equipment shall be new unless specified otherwise in the Specifications or on the Drawings.
- B. All Bids must be based only on the equipment and materials as scheduled on the Drawings and as specified or on equivalent equipment and materials. Any Contractor who assumes equivalence of products and who bases his Proposal on that assumption does so at his own risk.
- C. A listing of approved alternative manufacturers does not mean that all products of a particular alternative manufacturer are acceptable alternative to the scheduled items. All fixtures and devices must still be submitted according to the prescribed procedures. In addition, some items that have an important visual affect, e.g., electric water coolers, may be required to receive Owner's or Engineer's approval also.

1.4 EXISTING UTILITIES

- A. The Drawings indicate the locations, type, and sizes of various utilities within the Site where known. These utilities are indicated as accurately as possible. If Contractor encounters any utilities during construction which are not shown on the Drawings, they shall ask for written instructions from Engineer. Any relocation or remodeling required will then be directed by a change order. This Contractor shall assume all responsibility for protection of all utilities, shown or not, and for repair required by this construction.
- B. Contractor shall verify location, size, elevation, pressure, and any other pertinent data of the existing utilities. Additional costs incurred due to failure to verify such data and to coordinate associated Work with respective utility providers shall not be Owner's responsibility but shall be borne by Contractor.
- C. All costs associated with providing utilities including, but not limited to, connection fees, boring under roads, etc., shall be included in Contractor's proposal price, whether such costs are incurred by Contractor or charged by the utility company.
- D. Submission of a proposal by Contractor shall be considered an acknowledgment by Contractor of his compliance with this Section.

1.5 CODES, PERMITS, AND FEES

- A. Contractor shall comply with all local, State, and national codes and shall pay for all applicable costs, fees, permits, licenses, and inspections for this Division.

1.6 TEMPORARY HEAT

- A. Temporary heat will be furnished by General Contractor. Use of the permanent heating system will not be allowed without written authorization from Engineer and Owner. In case the permanent heating system is used for temporary heat, General Contractor shall pay all the costs until acceptance by Owner. Warranty of equipment shall not start until acceptance by Owner.

1.7 DRAWINGS

- A. Contract Drawings are diagrammatic only and are not intended to be scaled for dimensions. All dimensions shall be taken from Engineer's Drawings, certified equipment Drawings, and from the structure itself before fabricating and Work. All space requirements and equipment locations shall be verified, coordinated with other trades, as it is the various Contractors' responsibility to install the systems complete in the space provided without extra charges to Owner.
- B. It is intended that anything, whether labor and materials, which is usually furnished as part of any equipment specified and which is necessary for operation shall be furnished as part of the Contract without additional cost, whether or not shown or described.
- C. All piping in finished areas of the building shall be concealed except where otherwise noted on the Drawings.
- D. All equipment shall be installed in accordance with manufacturer's recommendations, unless approval is given in writing by Engineer for deviation.

1.8 REQUIREMENTS OF REGULATORY AGENCIES

- A. The mechanical Work shall be performed in strict accordance with the local and State codes, ordinances, and regulations governing the particular Work involved. Furnish, without extra charge, any additional material and labor when and where required to comply with these Rules and Regulations, though the Work is not mentioned in the Specifications or shown on the Drawings. When the Specifications or Drawings call for or describe materials or construction of a better quality or larger sizes than required by the above mentioned Rules and Regulations, the provisions of these Specifications and accompanying Drawings shall take precedence.

1.9 QUALIFICATIONS

- A. All mechanics shall be capable journeymen, skilled in the Work assigned to them with licensing required by the inspecting authority. All welders must have been certified within the past 3 years to perform the Work which they are doing.

1.10 WARRANTY

- A. All materials and equipment shall be new unless otherwise specified.
- B. Guarantee all workmanship, material and equipment and replace any found defective without cost to Owner, for 1 year after final acceptance, as defined in General Conditions.
- C. Each warranty for longer than 1 year as described above (that comes with equipment used on the job) shall be passed into Owner in the Operation and Maintenance Manual, along with the dates of start and end of warranty.
- D. Refer to General Conditions for additional information regarding specific warranty requirements.

1.11 PROJECT RECORD DOCUMENTS

- A. Before final payment, provide Engineer with one clean set of Drawings and Specifications corrected up-to-date as job progress. These documents shall reflect the As-Built conditions. Refer to General Conditions for additional information.

1.12 SUBMITTALS

- A. The intent of this Section is to give general submittal information; refer to specific submittal information in the subsequent Mechanical Sections.
- B. Sale of Electronic CADD Files:
 - 1. Refer to Engineer's Specification Section 01 33 00 "Submittal Procedures" OR call the Parkhill, office issuing this Project and request the pricing for electronic files.
- C. Within 30 days after award of the Contract, and before orders are placed, Contractor shall submit specific information on list of equipment and principal materials specified. Contractor shall indicate and/or provide names of manufacturers, catalog and model numbers, cut sheets, and such other supplementary information as necessary for evaluation. Submittal shall be electronic using pdf file extension.

- D. Requirements for Each Submittal:
 - 1. Bear a dated stamp or specific written indication that Contractor has reviewed and approved all submittal prior to submission to Engineer.
 - 2. Have all information deleted by Contractor that pertains to the means and methods of construction or to fabrication by Contractor that pertains to the means and methods of construction or to fabrication, assembly, installation, or erection (approval by Engineer shall not extend to these areas unless specifically noted by Engineer).
 - 3. Be clearly and SPECIFICALLY marked as to which specific piece of equipment is being submitted, by use of a permanent marker, stamp, etc., so as to distinguish it from other pieces of equipment that may occur on the same page.
 - 4. Be clearly marked as to which available options are being submitted that are associated with a piece of equipment.
 - 5. Be complete with respect to quantities, dimensions, specific performance, materials, and similar data to enable the Engineer to review the proposed equipment.
- E. Omission by Contractor of any of the above requirements or submittals will subject submittal to automatic rejection without review.
- F. Any submittals received by Engineer that were not requested shall be returned without review of any kind.
- G. Installation Instructions: For certain products or systems as identified in subsequent Specifications Sections or on the Drawings, Contractor shall be required to provide copies of manufacturer's installation instructions with the submittal. When required as such, the installation instructions are considered part of the submittal and their omission may result in automatic rejection of the submittal. Where more than one identical device is scheduled, only one set of installation instructions needs to be submitted; e.g., if seven 5-ton split systems air conditions are scheduled, only one 5-ton unit installation instruction needs to be submitted. Similarly, if one set of installation instructions is identified by the manufacturer and on the instructions to be applicable to more than 1 type or size of devices, e.g., if one set of air conditioner instructions is good for 3-, 4-, 5-ton units, then only one instruction set is required for these devices.

1.13 SUBSTITUTED PRODUCTS

- A. Material or equipment specified by manufacturer's name is being used as a basis of standard, unless otherwise noted. Engineer will be the sole judge on the equivalence of substituted equipment and materials.
- B. It shall be Contractor's responsibility to verify that submitted substitute equipment will fit in space available. Contractor's submittal for acceptance of the substitute shall include a written statement of whether or not such acceptance would require any subsequent or associated changes to the Drawings or Specifications. Any such changes shall be described in writing, briefly but complete.
- C. Contractor shall be responsible for the costs of any such modifications due to substitution of materials or equipment for that which was specified or scheduled. The cost shall be complete; that is, it shall include the cost effect of any and all other trades.
- D. Engineer may request detailed Shop Drawing or plan layouts of mechanical rooms or systems of the substituted equipment.

1.14 SAFETY

- A. General: Contractor shall be responsible for initiating, maintaining, and supervising all safety precautions and programs in connection with the Work, and Contractor shall comply with all laws governing safety, specifically the "Occupational Safety and Health Standards" and the "Safety and Health Regulations for Construction," state and federal.
- B. According to OSHA, a hazardous chemical is any chemical which is a physical hazard or a health hazard. This may include items such as paints, solvents, adhesives, sealants, cleaners, etc. If a Contractor produces, uses, or stores hazardous chemicals at the workplace, then Contractor shall develop, implement, and maintain a hazard communication program in compliance with the latest OSHA requirements. In Projects with multiple tenants in which the building is partially occupied during all or part of the Project, Contractor shall inform the Building Manager or Owner, according to OSHA guidelines, of any hazardous chemicals being produced, stored, or used in the building so that other tenants may be notified. Contractor shall employ required methods of training, information, handling, ventilation, labeling, storing, disposal, and removal of hazardous chemicals.

1.15 LABELING

- A. Each device for which an independent testing authority has established a standard shall have affixed a label indicating its compliance and listing. Refer to General Conditions for list of such independent testing authorities.

1.16 SITE VISIT REPORTS

- A. During the course of the job, Engineer will make Site visits to observe Work in progress and will subsequently prepare a written Site visit report, which will be sent to Contractor and to whomever else Engineer desires. Contractor shall prepare a written and typed response within 7 calendar days of his receiving the Site visit report. General Contractor shall include in his response the following information.
 - 1. Date of Site visit by Engineer.
 - 2. Date of receipt of the Site visit report.
 - 3. Name and title of the preparer of the response.
 - 4. An item number referenced to the Site report.
 - 5. A brief three- or four-word description of the item.
 - 6. Contractor or Subcontractor affected.
 - 7. The proposed course of action.
 - 8. An expected time of completion of the action.

1.17 CUTTING AND PATCHING

- A. No joists, beams, girders, columns, slabs, or other structural elements shall be cut, drilled, or altered in any way by Contractor without first obtaining written permission and instructions from Engineer.
- B. Where it is necessary to cut through any non-structural elements of walls, floors, or ceilings to permit the installation of any Work under this Contract, or to repair any defects that may appear up to the expiration of the guarantee, such cutting shall be done by Contractor with as little damage as reasonably possible to the element being cut or to adjacent elements.

- C. After the necessary Work has been completed, the damage shall be repaired by the respective Contractor, who shall pay all costs of such cutting, repairs, and patching. All patching or sealing of cuts, penetrations, etc., including final appearance of same, shall be done to the approval of Engineer.

PART 2 - PRODUCTS

2.1 MATERIALS

- A. All materials shall be new and of specified quality, unless specifically noted otherwise. Materials shall be free from defects. Where manufacturer names are mentioned in the Specifications or on the Drawings, it has been done in order to establish a standard of quality and construction.
- B. Contractor will be responsible for transportation of his material to and from the job Site and will be responsible for the storage and protection of his materials and Work until the final acceptance of the job. At the end of each day of Work, each Contractor is responsible for covering or protecting his Work and/or materials that may be susceptible to damage even if such damage is the result of unforeseen causes, e.g., an overnight thunderstorm. Failure to do so will be sufficient cause for rejection of any item in question, and any such item shall be replaced by Contractor at no cost to Owner.
- C. Contractor shall verify that all pieces of equipment will fit through available openings in the building and that all equipment can be installed without modification of building structure.

2.2 EQUIPMENT SCHEDULE

- A. All equipment major items are specified in the equipment schedules on the Drawings and shall be new and furnished complete with all accessories normally supplied with the catalog item listed and all other accessories necessary for a complete and satisfactory installation.
- B. Equipment items so noted will require start-up by factory trained personnel. Equipment items so noted will require factory approved service personnel who shall provide all service, including all parts and all labor, as requested by Owner, during the full period of equipment warranty.

2.3 EQUIPMENT RATINGS

- A. Equipment capacities as scheduled on the Drawings are at Project Site altitude. Capacities of submitted equipment must be corrected for Project Site altitude unless otherwise noted.

2.4 WORKMANSHIP

- A. The workmanship shall, in all respects, be of the highest grade, and all construction shall be done according to the best practices of the trade. Piping, ducting and conduit shall be concealed unless otherwise noted, and installed square to the building lines. Any Work not meeting this requirement shall be replaced or rebuilt without extra expense to Owner.

2.5 V-BELT DRIVES

- A. V-belt drives shall be of fabric and rubber construction of approved manufacture. Multiple belts shall be matched and all belts shall be adjusted to drive the apparatus properly and to prevent slippage and undue wear in starting motor nameplate rating.

2.6 BELTGUARDS

- A. Contractor shall provide for each V-belt drive a painted steel belt guard, which shall be constructed around an angle iron frame, securely bolted to the floor or apparatus. The guard shall completely enclose drives and pulleys and be constructed to comply with all safety requirements. Hinged access doors not less than 6- by 6-inch shall be provided for access to motors and fan shaft for test purposes.

2.7 ELECTRICAL WIRING AND CONTROL EQUIPMENT

- A. All disconnects, motor starters, relays, wiring, etc. shall comply with all requirements of Section 26 05 00 "Basic Electrical Methods" of the electrical Specifications.
- B. Mechanical Contractor must refer to the electrical control equipment and wiring shown on the Electrical Drawings. Any changes or additions required by specified or substituted equipment furnished shall be the complete responsibility of Contractor furnishing the equipment.
- C. All electrical equipment characteristics (voltage, etc.) must be VERIFIED by Mechanical Contractor prior to ordering. It is imperative that voltage and phase characteristics are checked with the Electrical Drawings.
- D. All motors shall be built in accordance with the current applicable IEEE, ASA, and NEMA standards. All general-purpose motors shall be open drip-proof machines for installation indoors and/or in protected locations. Totally enclosed fan cooled (TEFC) motors shall be used in all areas of exposure to weather or other environmental contamination. Motors shall be rated explosion-proof when located in hazardous atmospheres. Type II weather-protected motors may be used in lieu of TEFC motors on roof fan units and similar equipment. Motors mounted in direct sun shall be provided with a shield to for direct radiation from the sun when the sun is 45 degrees F or greater above the horizon.
- E. Unless indicated otherwise, motors shall be NEMA design B with a service factor of 1.15 with 40 degrees C rise and total temperature rise of 65 degrees C ambient and when powered from the system voltage feeding the motor. TEFC motors shall have a service factor of 1.00 with total temperature rise of 65 degrees C in the above conditions. Single-phase motors shall be NEMA Type N split-phase induction motors with built-in thermal protectors. Single-phase motors connected on loads requiring high starting torque shall be capacitor-start induction motors.
- F. All motors shall be all copper wound, high power factor, high efficiency motors. Electric motors shall be an energy efficient type as defined in the latest edition of NEMA document number MG1. Motor efficiency shall be made available to Engineer as required.
- G. If there is not a separate "Controls Contractor" for this Project, Mechanical Contractor is responsible for providing and installing all control wiring. Wiring and conduit is to be provided and installed as directed under Division 26 Specifications.

2.8 EQUIPMENT AND PIPING SUPPORTS

- A. All supporting systems for piping, equipment, and materials supported by the building structure shall be submitted to the Engineer for approval prior to purchase and installation.
- B. Roof Supports:
 - 1. Manufacturer's installation recommendations vary depending on roof types, but Contractor is responsible for verifying the roof type and adhering strictly to the appropriate set of manufacturer's installation instructions.

2.9 ROOF PENETRATIONS

- A. Piping:
 - 1. Penetration shall be accomplished with factory-made assemblies designed specifically for the purpose. The use of pitch pans or pitch pockets is not allowed. Contractor shall provide a factory-made penetration assembly as follows:
 - a. For pipes, conduits, etc., up to 3 inches in diameter that can or are intended to be turned to horizontal after passing through the roof (e.g., small electrical conduit, gas piping, refrigerant lines, water pipes, etc.) the device shall consist of a curb assembly with a welded 18 gauge galvanized steel shell and base, 1-1/2 inches thick 3 pounds per cubic foot rigid insulation, 0.50-inch aluminum or 20 gauge galvanized cap with minimum 3-inch over hang and 1-inch rigid insulation, and 2- x 6-inch wood nailer. Product shall be Custom Curb Model CPC, ThyCurb Model RP-2 with TC-1, 2, or 3 curb, or approved equivalent.
- B. Ductwork with Equipment:
 - 1. Each pierce of roof mounted equipment such as exhaust or supply fans, relief or intake hoods, packaged rooftop air conditioners, air handlers, etc., shall be provide and installed with an insulated roof curb designed to mate with the equipment and provide a weatherproof enclosure. In the event that a presinsulated curb is not available, an uninsulated curb is acceptable if Contractor provides and installs field insulation per manufacturer's instructions. Contractor shall provide the roof curb(s) to Roofing Contractor for installation.
- C. General:
 - 1. All roof flashing assemblies and roof curbs shall be closely coordinated with other Work through Roofing Contractor to ensure that the flashing, canting, insulation type and location, etc., is correct and appropriate for the particular roof construction type.
 - 2. Each roof curb shall be selected and provided so that the top of the curb shall be level after installation. Provide tapered curb as required to match roof slope. The curb shall provide a minimum clearance of 10 inches between the top of the finished roof surface and the top of the wood nailer, continuous around the curb perimeter.
 - 3. Each roof penetration location shown on the Drawings is approximate. Refer to the Engineerural and Structural Drawings for the structural openings. Refer to "Cutting and Patching" paragraph in this Section of this Specification for more information.
 - 4. Provide each roof curb with other options as scheduled on the Drawings.

2.10 ACCESSIBILITY

A. Access Panels:

1. Access panels shall be provided wherever necessary for possible future replacement, adjustment, or maintenance of operating devices such as machinery, valves, dampers, switches, relays, etc., or to other critical non-operating devices such as pull boxes, inspection parts, gauges, etc. Such access panels shall be provided and install by Contractor, whether or not shown on the Drawings, and shall be brought to the attention of Engineer for approval of type, color, etc. Where access is provided in rated members, the access panels shall be of a type that maintains the integrity of the member penetrated.

B. Access to Equipment:

1. All pipes, tubing, conduit, etc., including but not limited to draining piping of any type, electrical conduit, wiring not in conduit, and pneumatic control tubing shall be installed in such a way so as not to prevent and/or not to make necessary difficult the removal, operation, use, or maintenance of equipment, access panels or doors, pathways (especially in attics or crawlspaces), observation ports, measurement, balancing devices, or junction boxes.
2. If access for these purposes is prevented or made unreasonably difficult in the opinion of Engineer, then Contractor shall make modifications or repairs at no cost to anyone except Contractor. Such modifications or repairs shall be considered neither complete nor adequate until Engineer is satisfied that access for the above purpose is achieved.

2.11 PROTECTION OF PENETRATION

- A. All penetrations of fire or smoke barriers shall be sealed, sleeves (if any), insulation (if any), and vibration isolation (if any) that maintain the fire or smoke resistance of the barrier in accordance with the latest edition of NFPA 101 Life Safety Code.
- B. Contractor shall verify locations and type of all partitions penetrations from the Drawings. Sealing material and methods shall be per UL recommendations.

2.12 BEDDING COURSE

- A. Bedding Course: Naturally or artificially graded mixture of natural or crushed gravel, crushed stone, and natural or crushed sand; ASTM D2940; except with 100 percent passing a 1-inch sieve and not more than 8 percent passing a No. 200 sieve.

PART 3 - EXECUTION

3.1 STORAGE

- A. Provide for proper storage of all materials and equipment and assume responsibility for losses due to any cause. All storage shall be within the contract limits of the building Site or in a bonded warehouse. All equipment and materials must be covered and stored out of the elements; any item, which has become rusted, will not be permitted to be used.

- B. Each Contractor shall provide temporary storage facilities suitable for equipment stored at the Job Site. Storage facilities shall be rainproof and lockable as required. Materials or equipment stored on Site but not in a lockable rainproof storage facility shall be stored above ground or above slab. Contractor shall take necessary precautions to prevent entry of and/or damage from dirt, trash, water, or vermin. Equipment not properly stored and protected shall be, at the discretion of Engineer, replaced at no cost to Owner. Roofs are not acceptable storage areas unless specifically allowed in writing by Engineer.

3.2 INSTALLATION AND ARRANGEMENT

- A. Install all Work to permit removal (without damage to other parts) of coils, heat exchanger bundles, boiler tubes, fan shafts and wheels, filters, belt guards, sheaves and drives, and all other parts which might require periodic replacement or maintenance. Arrange pipes, ducts, and equipment to permit ready access to valves, traps, starters, motors, control components, and to clear openings of doors and of access panels.
- B. Offsets, transitions, and changes in direction in pipes and ducts shall be made as required to maintain proper head room and pitch of sloping pipes whether or not indicated on the Drawings. Furnish and install all traps, air vents, sanitary vents, etc., as required to affect these offsets, transitions, and changes in direction.
- C. Duct transitions and offsets required to connect ductwork to equipment shall be made as required whether or not indicated on the Drawings.

3.3 PROTECTION OF WORK AND PROPERTY

- A. Where there are existing facilities, be responsible for protection thereof, whether or not such facility is to be removed or relocated or remain as installed. Moving or removing any facility must be done so as not to cause interruption to the Work or Owner's Operation.
- B. All pipe and duct openings shall be closed with caps or plugs during installation. All fixtures shall be covered and protected against injury. At final completion, all Work shall be cleaned and delivered in an unblemished condition or refinished and repainted at the discretion of Engineer.

3.4 CONCEALED AND EXPOSED WORK

- A. "Concealed" is intended to mean within such spaces as pipe chases, pipe trenches, above plaster ceilings, in walls and buried pipe is inaccessible when building is completed. "Exposed" is intended to be within equipment rooms, unfinished spaces, above "pushup" ceilings, accessible pipe tunnels, etc., where pipe is accessible.

3.5 CONCRETE

- A. Mechanical Contractor shall coordinate all requirements for concrete. All concrete shall be furnished under the Engineer Divisions of these Specifications.

3.6 FIELD MEASUREMENTS

- A. Contractor shall verify the dimensions and conditions governing Work at the Project Site. He shall examine adjoining Work on which his Work is dependent, for perfect efficiency, and shall report any Work which must be corrected.

3.7 LUBRICATION

- A. Contractor shall provide all oil and grease for the operating of all equipment until acceptance. Contractor shall be held responsible for all damage to bearings while the equipment is being operated by him up to the date of acceptance of the equipment. Contractor shall protect all bearings and shafts during installation and shall thoroughly grease the steel shafts to prevent corrosion.

3.8 MANUFACTURER'S DIRECTION

- A. Contractor shall install all equipment in strict accordance with all directions and recommendations furnished by the manufacturer. Where such directions conflict with the Plans and Specifications, Contractor shall report such conflicts to Engineer, who shall make changes deemed necessary and desirable.

3.9 FLUSHING, CLEANING, AND STERILIZING

- A. Before final connections are made in the piping systems, all piping shall be blown out with air and then completely washed out with cleaning compounds. The systems shall be flushed for complete removal of all foreign materials. Furnish all temporary connections, valves, etc., required for this purpose.
- B. After flushing, sterilize the domestic water systems with an approved chlorinating agent to provide a dosage on not less than 50 ppm. After minimum contact period of 8 hours, the system shall be flushed with clean water until the residual chlorine is no greater than the city water.

3.10 TESTS

- A. Test all, storm, vent, and waste lines with either a 5 psi air test or a standing water test of 12 feet of head pressure. Test shall be held for a minimum of 2 hours, or as required by local code.
- B. Test all new domestic cold, hot, and recirculating hot water service lines at 50 psig above operating pressure, without exceeding the pressure rating of the piping materials. Test shall be held for a minimum of 2 hours, or as required by local code.
- C. Test all new gas lines at 1-1/2 times the proposed maximum working pressure, but not less than 5 psig. Test to be held for a minimum of 2 hours, or as required by local code.
- D. Repair leaks and defects with new materials and retest piping or portion thereof until satisfactory results are obtained.
- E. All tests shall be witnessed and approved by Engineer and the local authority having jurisdiction before covering or insulating. The satisfactory operation of blowers, pumps and other equipment with moving parts shall be demonstrated to Engineer. Equipment without movable parts shall have pressure or other tests performed by Contractor to demonstrate satisfactory operation.
- F. Furnish all instruments, pumps, blowers, and equipment required for the testing.
- G. Provide written copies of these test reports for inclusion on the Operations and Maintenance Manuals and submit one copy to Engineer.

3.11 PAINTING

- A. Surfaces of all equipment and material not provided with a factory finish coat shall be thoroughly cleaned, primed (if not factory primed) and finish coated with a high quality alkyl industrial enamel of a color chosen by Owner.

3.12 SPECIAL OPENINGS

- A. Contractor shall attempt to schedule delivery of all large equipment requiring special openings for installation prior to enclosing of area. Where this is not possible written notice of required openings which must be provided shall be listed by size and location and submitted to General Contractor prior to enclosing of areas involved. Work required to construct openings and the associated cost of enclosing them shall be done at no additional cost to Owner.

3.13 PLACING IN OPERATION

- A. All ducts, pipes, equipment, controls, etc., shall be cleaned of plaster and other foreign debris
- B. Before final acceptance, all strainers shall be thoroughly cleaned or replaced, all bearings shall be oiled or greased and all drains shall be cleaned out and primed. All permanent filters shall be cleaned; throwaway type filters shall be replaced with new filters.
- C. The systems shall be placed in operation.
- D. Contractor shall verify that all controls are set to meet operating conditions specified.
 - 1. Example: Boiler operating control set at 180 degrees F. Limit control set at 200 degrees F.
- E. Contractor shall verify that all pieces of equipment are operable and that all sequence of controls are being met.
- F. Contractor to adjust seating through the first year as required by Engineer.

3.14 BALANCING, TESTING, AND ADJUSTING THE MECHANICAL SYSTEMS

- A. Contractor shall include in their proposal the cost of testing, adjusting, and balancing (TAB). Mechanical Contractor shall provide a TAB report that shows the corrected airflow or coordinate with TAB Contractor to balance the system and correct deficiencies noted by the TAB Contractor during TAB testing.

3.15 OPERATION AND MAINTENANCE INSTRUCTIONS

- A. Contractor shall prepare and provide electronic copies of operating and maintenance manuals. Contractor shall deliver the electronic sets to Engineer for approval. Each manual shall be in a ring binder and shall be indexed with dividers for each Section. Delivery of required documents is a condition of final acceptance.
- B. Each manual shall contain, but not limited to, the following general sections:
 - 1. Certificates of acceptance from the inspecting authorities.
 - 2. Waiver of all liens.
 - 3. Warranties with starting dates and end dates for each pieces of equipment and/or for each system (warranties shall begin on date of substantial completion and acceptance by Owner).

4. Names, telephone, and fax numbers and addresses of all subcontractors, vendors, manufacturer's representatives, and warranties providers.
 5. Certification letters from each Contractor that each system furnished and installed by that Contractor and/or subcontractors is started-up, balanced, adjusted, and checked for proper operation in accordance with the intent of the Contract Documents.
 6. Spare parts lists for each piece of equipment.
 7. Lubrication charts showing type of lubrication and application methods and frequencies.
 8. Filter cleaning or replacement schedule (on Contractor's letterhead stationary).
 9. Preventative maintenance schedule for checking all items such as belt drives, safety controls, oil and refrigerant charges, and seasonal changer over recommendations. Cleaning of all strainers, traps, coils, tower pans, tubes, sprays, etc. (on Contractor's letterhead stationary).
 10. Normal operating instructions including a sequence of operations (on Contractor's letterhead stationary).
 11. Instructions as to procedures to be followed for emergency situations, such as alarms or safety items being tripped (on Contractor's letterhead stationary).
 12. Instruction on who to call for service during guarantee period (on Contractor's letterhead stationary).
 13. Copies of As-Built Drawings on reproducible vellum as produced by a Xerox or photographic process.
 14. Copies of all approved Shop Drawing Submittals including nameplate data, design parameters, name, telephone and fax numbers, address of vendor, manufacturer's representative and warrantee provider.
- C. Approval will not be given for final payment until the tests, balancing, and operating instruction portions have been completed.

3.16 INSTRUCTIONS TO OWNER

- A. Contractor shall instruct Owner's operating personnel in the operations and maintenance of all mechanical systems and equipment. There shall be a minimum of 2 hours of training. Contractor shall furnish any special servicing tools required for maintenance.
- B. Contractor shall conduct a demonstration of the installation upon completion and final acceptance of the Work. There shall be a minimum 2-hour demonstration. Prior to this, all Work shall have been completed, tested, balanced, and placed in operation. Qualified personnel must be present at the demonstration to operate all the systems and prove the performance of the equipment. The schedule for this demonstration shall be coordinated with Engineer.

3.17 EXCAVATION FOR PIPE AND CONDUIT

- A. Excavate trenches to indicated gradients, lines, depths, and elevations.
- B. Excavate trenches to uniform widths to provide a working clearance on each side of pipe or conduit. Excavate trench walls vertically from trench bottom to 12 inches higher than top of pipe or conduit, unless otherwise indicated.
- C. Trench Bottoms: Excavate and shape trench bottoms to provide uniform bearing and support of pipes and conduit. Shape subgrade to provide continuous support for bells, joints, and barrels of pipes and for joints, fittings, and bodies of conduits. Remove projecting stones and sharp objects along trench subgrade. Level bottom of all trenches and cover all PVC pipe with processed chat.

1. For pipes and conduit less than 6 inches in nominal diameter and flat-bottomed, multiple-duct conduit units, hand excavate trench bottoms and support pipe and conduit on an undisturbed subgrade.
2. For pipes and conduit 6 inches or larger in nominal diameter, shape bottom of trench to support bottom 90 degrees of pipe circumference. Fill depressions with tamped sand backfill.
3. Excavate trenches 4 inches deeper than elevation required in rock or other unyielding bearing material to allow for bedding course.
- D. Place backfill and fill materials in layers not more than 8 inches in loose depth for material compacted by heavy compaction equipment, and not more than 4 inches in loose depth for material compacted by hand-operated tampers.
- E. All piping and conduit trenches across pavement shall be backfilled with two-sack concrete to within 12 inches of finished grade.
- F. Compact soil to not less than the following percentages of maximum dry unit weight according to ASTM D698:
 1. Under structures, building slabs, steps, and pavements, scarify and recompact top 12 inches of existing subgrade and each layer of backfill or fill material at 95 percent.
 2. Under walkways, scarify and recompact top 6 inches below subgrade and compact each layer of backfill or fill material at 92 percent.
 3. Under lawn or unpaved areas, scarify and recompact top 6 inches below subgrade and compact each layer of backfill or fill material at 85 percent.
- G. Install detectable warning tape above conduits and pipe, 12 inches below finished grade, except 6 inches below subgrade under pavements and slabs.
- H. Protection:
 1. Protecting Graded Areas: Protect newly graded areas from traffic, freezing, and erosion. Keep free of trash and debris.
 2. Repair and reestablish grades to specified tolerances where completed or partially completed surfaces become eroded, rutted, settled, or where they lose compaction due to subsequent construction operations or weather conditions.
 - a. Scarify or remove and replace soil material to depth as directed by Engineer; reshape and recompact.
 3. Where settling occurs before Project correction period elapses, remove finished surfacing, backfill with additional soil material, compact, and reconstruct surfacing.
 - a. Restore appearance, quality, and condition of finished surfacing to match adjacent Work, and eliminate evidence of restoration to the greatest extent possible.
- I. Disposal of Surplus and Waste Materials:
 1. Disposal: Remove surplus satisfactory soil and waste material, including unsatisfactory soil, trash, and debris, and legally dispose of it off Owner's property unless otherwise directed by Owner.
 2. Repair: Any damage to shrubs, grass or structures shall be repaired to previous condition by Contractor at no additional expense to Owner.
- J. Bracing and Sheeting: Open cut trenches shall be sheeted and braced as required by OSHA and the requirements of the State of Texas as necessary for the safety of workers or the protection of property.

END OF SECTION

SECTION 23 05 00.20 - BASIC MECHANICAL MATERIALS AND METHODS

PART 1 - GENERAL

1.1 SUMMARY

- A. Section Includes:
 - 1. The following basic mechanical materials and methods to complement other Division 23 Sections.
 - a. Piping materials and installation instructions common to most piping systems.
 - b. Concrete equipment base construction requirements.
 - c. Equipment nameplate data requirements.
 - d. Labeling and identifying mechanical systems and equipment is specified in Section 23 05 53 "Identification for HVAC and Plumbing Piping and Equipment."
 - e. Nonshrink grout for equipment installations.
 - f. Field-fabricated metal and wood equipment supports.
 - g. Installation requirements common to equipment specification Sections.
 - h. Cutting and patching.
 - i. Touch-up painting and finishing.
 - 2. Pipe and pipe fitting materials are specified in piping system Sections.
- B. Related Requirements:
 - 1. Division 01 Specification Sections apply to Work of this Section.

1.2 DEFINITIONS

- A. Pipe, pipe fittings, and piping include tube, tube fittings, and tubing.
- B. Finished Spaces: Spaces other than mechanical and electrical equipment rooms, furred spaces, pipe and duct shafts, unheated spaces immediately below the roof, spaces above ceilings, unexcavated spaces, crawl spaces, and tunnels.
- C. Exposed Interior Installations: Exposed to view indoors. Examples include finished occupied spaces and mechanical equipment rooms.
- D. Exposed Exterior Installations: Exposed to view outdoors, or subject to outdoor ambient temperatures and weather conditions. Examples include rooftop locations.
- E. Concealed Interior Installations: Concealed from view and protected from physical contact by building occupants. Examples include above ceilings and in duct shafts.
- F. Concealed Exterior Installations: Concealed from view and protected from weather conditions and physical contact by building occupants, but subject to outdoor ambient temperatures. Examples include installations within unheated shelters.

1.3 SUBMITTALS

- A. General: Submit the following according to the Conditions of the Contract and Division 01 and Section 23 05 00 "General Mechanical Requirements."
- B. Product data for following piping specialties:
 - 1. Mechanical sleeve seals.
 - 2. Dielectric Fittings.
 - 3. Access Doors.

1.4 QUALITY ASSURANCE

- A. Qualify welding processes and operators for piping according to ASME "Boiler and Pressure Vessel Code," Section IX, "Welding and Brazing Qualifications."
 - 1. Comply with provisions of ASME B31 Series "Code for Pressure Piping."
 - 2. Certify that each welder has passed AWS qualification tests for the welding processes involved and that certification is current.
- B. ASME A13.1 for lettering size, length of color field, colors, and viewing angles of identification devices.
- C. Equipment Selection: Equipment of greater or larger power, dimensions, capacities, and ratings may be furnished provided such proposed equipment is approved in writing and connecting mechanical and electrical services, circuit breakers, conduit, motors, bases, and equipment spaces are increased. No additional costs will be approved for these increases, if larger equipment is approved. If minimum energy ratings or efficiencies of the equipment are specified, the equipment must meet the design requirements and commissioning requirements.

1.5 DELIVERY, STORAGE, AND HANDLING

- A. Deliver pipes and tubes with factory-applied end-caps. Maintain end-caps through shipping, storage, and handling to prevent pipe-end damage and prevent entrance of dirt, debris, and moisture.
- B. Protect stored pipes and tubes from moisture and dirt. Elevate above grade. When stored inside, do not exceed structural capacity of the floor.
- C. Protect flanges, fittings, and piping specialties from moisture and dirt.
- D. Protect stored plastic pipes from direct sunlight. Support to prevent sagging and bending.

1.6 SEQUENCING AND SCHEDULING

- A. Coordinate mechanical equipment installation with other building components.
- B. Arrange for chases, slots, and openings in building structure during progress of construction to allow for mechanical installations.
- C. Coordinate the installation of required supporting devices and set sleeves in poured-in-place concrete and other structural components as they are constructed.
- D. Sequence, coordinate, and integrate installations of mechanical materials and equipment for efficient flow of the Work. Coordinate installation of large equipment requiring positioning prior to closing in the building.
- E. Coordinate connection of electrical services.
- F. Coordinate connection of mechanical systems with exterior underground and overhead utilities and services. Comply with requirements of governing regulations, franchised service companies, and controlling agencies.
- G. Coordinate requirements for access panels and doors where mechanical items requiring access are concealed behind finished surfaces.
- H. Coordinate installation of identifying devices after completing covering and painting where devices are applied to surfaces. Install identifying devices prior to installing acoustical ceilings and similar concealment.

PART 2 - PRODUCTS

2.1 PIPE AND PIPE FITTINGS

- A. Refer to individual piping system specification Sections for pipe and fitting materials and joining methods.
- B. Pipe Threads: ASME B1.20.1 for factory-threaded pipe and pipe fittings.

2.2 JOINING MATERIALS

- A. Refer to individual piping system Specification Sections in Division 23 for special joining materials not listed below.
- B. Pipe Flange Gasket Materials: Suitable for the chemical and thermal conditions of the piping system contents.
 - 1. ASME B16.21, nonmetallic, flat, asbestos-free, 1/8-inch maximum thickness, except where thickness or specific material is indicated.
 - a. Full-Face Type: For flat-face, Class 125 cast-iron and cast-bronze flanges.
 - b. Narrow-Face Type: For raised-face, Class 250 cast iron and steel flanges.
 - 2. ASME B16.20 for grooved, ring-joint, steel flanges.
 - 3. AWWA C110, rubber, flat face, 1/8-inch-thick, except where other thickness is indicated; and full-face or ring type, except where type is indicated.
- C. Flange Bolts and Nuts: ASME B18.2.1, carbon steel, except where other material is indicated.
- D. Plastic Pipe Flange Gasket, Bolts, and Nuts: Type and material recommended by piping system manufacturer, except where other type or material is indicated.
- E. Solder Filler Metal: ASTM B32.
 - 1. Alloy Sn95 or Alloy Sn94: Tin (approximately 95 percent) and silver (approximately 5 percent), having 0.10 percent lead content.
- F. Brazing Filler Metals: AWS A5.8.
 - 1. BCuP Series: Copper-phosphorus alloys.
 - 2. BAg1: Silver alloy.
- G. Welding Filler Metals: Comply with AWS D10.12 for welding materials appropriate for wall thickness and chemical analysis of steel pipe being welded.
- H. Solvent Cements: Manufacturer's standard solvents complying with the following:
 - 1. Acrylonitrile-Butadiene-Styrene (ABS): ASTM D2235.
 - 2. Chlorinated Poly (Vinyl Chloride) (CPVC): ASTM F493.
 - 3. Poly (Vinyl Chloride) (PVC): ASTM D2564.
 - 4. PVC to ABS Transition: Made to requirements of ASTM D3138, color other than orange.
- I. Plastic Pipe Seals: ASTM F477, elastomeric gasket.
- J. Flanged, Ductile-Iron Pipe Gasket, Bolts, and Nuts: AWWA C110, rubber gasket, carbon steel bolts and nuts.
- K. Couplings: Iron body sleeve assembly, fabricated to match outside diameters of plain-end pressure pipes.
 - 1. Sleeve: ASTM A126, Class B, gray iron.
 - 2. Followers: ASTM A47, Grade 32510 or ASTM A536 ductile iron.
 - 3. Gaskets: Rubber.
 - 4. Bolts and Nuts: AWWA C111.
 - 5. Finish: Enamel paint.

2.3 PIPING SPECIALTIES

- A. Escutcheons: Manufactured wall, ceiling, and floor plates; deep-pattern type where required to conceal protruding fittings and sleeves.
 - 1. Inside Diameter: Closely fit around pipe, tube, and insulation.
 - 2. Outside Diameter: Completely cover opening.
 - 3. Cast Brass: One-piece, with setscrew.
 - a. Finish: Rough brass.
 - b. Finish: Polished chrome plate.
 - 4. Cast Brass: Split casting, with concealed hinge and setscrew.
 - a. Finish: Rough brass.
 - b. Finish: Polished chrome plate.
 - 5. Stamped Steel: One-piece, with setscrew and chrome-plated finish.
 - 6. Stamped Steel: One-piece, with spring clips and chrome-plated finish.
 - 7. Stamped Steel: Split plate, with concealed hinge, setscrew, and chrome-plated finish.
 - 8. Stamped Steel: Split plate, with concealed hinge, spring clips, and chrome-plated finish.
 - 9. Stamped Steel: Split plate, with exposed-rivet hinge, setscrew, and chrome-plated finish.
 - 10. Stamped Steel: Split plate, with exposed-rivet hinge, spring clips, and chrome-plated finish.
 - 11. Cast-Iron Floor Plate: One-piece casting.
- B. Dielectric Fittings: Assembly or fitting having insulating material isolating joined dissimilar metals to prevent galvanic action and stop corrosion.
 - 1. Description: Combination of copper alloy and ferrous; threaded, solder, plain, and weld neck end types and matching piping system materials.
 - 2. Insulating Material: Suitable for system fluid, pressure, and temperature.
 - 3. Dielectric Unions: Factory-fabricated, union assembly for 250-psig minimum working pressure at a 180 degrees F temperature.
 - 4. Dielectric Flanges: Factory-fabricated, companion-flange assembly for 150- or 300-psig minimum pressure to suit system pressures.
 - 5. Dielectric-Flange Insulation Kits: Field-assembled, companion-flange assembly, full-face or ring type. Components include neoprene or phenolic gasket, phenolic or polyethylene bolt sleeves, phenolic washers, and steel backing washers.
 - a. Provide separate companion flanges and steel bolts and nuts for 150- or 300-psig minimum working pressure to suit system pressures.
 - 6. Dielectric Couplings: Galvanized-steel coupling, having inert and noncorrosive, thermoplastic lining, with threaded ends and 300-psig minimum working pressure at 225 degrees F temperature.
 - 7. Dielectric Nipples: Electroplated steel nipple, having inert and noncorrosive thermoplastic lining, with combination of plain, threaded, or grooved end types and 300-psig working pressure at 225 degrees F temperature.
- C. Mechanical Sleeve Seals: Modular, watertight mechanical type. Components include interlocking synthetic rubber links shaped to continuously fill annular space between pipe and sleeve. Connecting bolts and pressure plates cause rubber-sealing elements to expand when tightened.

- D. Sleeves: The following materials are for wall, floor, slab, and roof penetrations:
1. Steel Sheet Metal: 24-gauge or heavier galvanized sheet metal, round tube closed with welded longitudinal joint.
 2. Steel Pipe: ASTM A53, Type E, Grade A, Schedule 40, galvanized, plain ends.
 3. Cast-Iron: Cast or fabricated wall pipe equivalent to ductile-iron pressure pipe, having plain ends and integral water stop, except where other features are specified.
 4. Wall Penetration Systems: Wall sleeve assembly, consisting of housing, gaskets, and pipe sleeve, with 1 mechanical-joint end conforming to AWWA C110 and one plain pipe-sleeve end.
 - a. Penetrating Pipe Deflection: 5 percent without leakage.
 - b. Housing: Ductile-iron casting having waterstop and anchor ring, with ductile-iron gland, steel studs and nuts, and rubber gasket conforming to AWWA C111, of housing and gasket size as required to fit penetrating pipe.
 - c. Pipe Sleeve: AWWA C151, ductile-iron pipe.
 - d. Housing-to-Sleeve Gasket: Rubber or neoprene push-on type of manufacturer's design.
 5. Cast-Iron Sleeve Fittings: Commercially made sleeve having an integral clamping flange, with clamping ring, bolts, and nuts for membrane flashing.
 - a. Underdeck Clamp: Clamping ring with setscrews.

2.4 GROUT

- A. Nonshrink, Nonmetallic Grout: ASTM C1107, Grade B.
1. Characteristics: Post-hardening, volume-adjusting, dry, hydraulic-cement grout, nonstaining, noncorrosive, nongaseous, and recommended for interior and exterior applications.
 2. Design Mix: 5,000-psi, 28-day compressive strength.
 3. Packaging: Premixed and factory-packaged.

2.5 ACCESS DOORS

- A. Flush mounted steel access doors with 16 gauge frame and 14 gauge panel. Prime coat finish. Concealed spring hinges, screwdriver cam-lock. Doors in fire rated surfaces shall be UL listed and labeled. Doors to be Milcor or approved equivalent.

PART 3 - EXECUTION

3.1 PIPING SYSTEMS - COMMON REQUIREMENTS

- A. General: Install piping as described below, except where system Sections specify otherwise. Individual piping system Specification Sections in Divisions 23 specify piping installation requirements unique to the piping system.
- B. General Locations and Arrangements: Drawings (plans, schematics, and diagrams) indicate general location and arrangement of piping systems. Indicated locations and arrangements were used to size pipe and calculate friction loss, expansion, pump sizing, and other design considerations. Install piping as indicated, except where deviations to layout are approved on Coordination Drawings.
- C. Install piping at indicated slope.

- D. Install components having pressure rating equal to or greater than system operating pressure.
- E. Install piping in concealed interior and exterior locations, except in equipment rooms and service areas.
- F. Install piping free of sags and bends.
- G. Install exposed interior and exterior piping at right angles or parallel to building walls. Diagonal runs are prohibited, except where indicated.
- H. Install piping tight to slabs, beams, joists, columns, walls, and other building elements. Allow sufficient space above removable ceiling panels to allow for ceiling panel removal.
- I. Install piping to allow application of insulation plus 1-inch clearance around insulation.
- J. Locate groups of pipes parallel to each other, spaced to permit valve servicing.
- K. Install fittings for changes in direction and branch connections.
- L. Install couplings according to manufacturer's printed instructions.
- M. Install pipe escutcheons for pipe penetrations of concrete and masonry walls, wall board partitions, and suspended ceilings according to the following:
 - 1. Chrome-Plated Piping: Cast-brass, one-piece, with setscrew, and polished chrome-plated finish. Use split-casting escutcheons, where required, for existing piping.
 - 2. Uninsulated Piping Wall Escutcheons: Cast-brass or stamped-steel, with setscrew.
 - 3. Uninsulated Piping Floor Plates in Utility Areas: Cast-iron floor plates.
 - 4. Insulated Piping: Cast-brass or stamped-steel, with concealed hinge, spring clips, and chrome-plated finish.
 - 5. Piping in Utility Areas: Cast-brass or stamped-steel, with setscrew or spring clips.
- N. Sleeves are required for core drilled holes.
- O. Install sleeves for pipes passing through concrete and masonry walls, concrete floor and roof slabs, and where indicated.
- P. Install sleeves for pipes passing through concrete and masonry walls, gypsum-board partitions, concrete floor and roof slabs, and where indicated.
 - 1. Cut sleeves to length for mounting flush with both surfaces.
 - a. Exception: Extend sleeves installed in floors of mechanical equipment areas or other wet areas 4 inches above finished floor level. Extend cast-iron sleeve fittings below floor slab as required to secure clamping ring where specified.
 - 2. Build sleeves into new walls and slabs as Work progresses.
 - 3. Install large enough sleeves to provide 1/4-inch annular clear space between sleeve and pipe or pipe insulation. Use the following sleeve materials:
 - a. Steel Pipe Sleeves: For pipes smaller than 6 inches.
 - b. Steel Sheet-Metal Sleeves: For pipes 6 inches and larger that penetrate gypsum board partitions.
 - c. Cast-Iron Sleeve Fittings: For floors having membrane waterproofing. Secure flashing between clamping flanges. Install section of cast-iron soil pipe to extend sleeve to 4 inches above finished floor level. Flashing is specified in Division 07.
 - 1) Seal space outside of sleeve fittings with nonshrink, nonmetallic grout.
 - 4. Except for below-grade wall penetrations, seal annular space between sleeve and pipe or pipe insulation, using elastomeric joint sealants specified in Division 07.

- Q. Above Grade, Exterior Wall, and Pipe Penetrations: Seal penetrations using sleeves and mechanical sleeve seals. Size sleeve for 1-inch annular clear space between pipe and sleeve for installation of mechanical seals.
 - 1. Install steel pipe for sleeves smaller than 6 inches.
 - 2. Install cast-iron wall pipes for sleeves 6 inches and larger.
 - 3. Assemble and install mechanical seals according to manufacturer's printed instructions.
- R. Below Grade, Exterior Wall, and Pipe Penetrations: Install cast-iron wall pipes for sleeves. Seal pipe penetrations using mechanical sleeve seals. Size sleeve for 1-inch annular clear space between pipe and sleeve for installation of mechanical seals.
 - 1. Below Grade, Exterior Wall, and Pipe Penetrations: Install ductile-iron wall penetration system sleeves according to manufacturer's printed installation instructions.
- S. Fire Barrier Penetrations: Maintain indicated fire rating of walls, partitions, ceilings, and floors at pipe penetrations. Seal pipe penetrations with firestopping sealant material. Firestopping materials are specified in Division 07.
- T. Verify final equipment locations for roughing in.
- U. Refer to equipment specifications in other Sections for roughing-in requirements.
- V. Piping Joint Construction: Join pipe and fittings as follows and as specifically required in individual piping system Sections.
 - 1. Ream ends of pipes and tubes and remove burrs. Bevel plain ends of steel pipe.
 - 2. Remove scale, slag, dirt, and debris from inside and outside of pipe and fittings before assembly.
 - 3. Soldered Joints: Construct joints according to AWS "Soldering Manual," in "The Soldering of Pipe and Tube" chapter.
 - 4. Brazed Joints: Construct joints according to AWS "Brazing Manual" in the "Pipe and Tube" chapter.
 - 5. Threaded Joints: Thread pipe with tapered pipe threads according to ASME B1.20.1. Cut threads full and clean using sharp dies. Ream threaded pipe ends to remove burrs and restore full inside diameter. Join pipe fittings and valves as follows:
 - a. Note the internal length of threads in fittings or valve ends, and proximity of internal seat or wall, to determine how far pipe should be threaded into joint.
 - b. Apply appropriate tape or thread compound to external pipe threads (except where dry seal threading is specified).
 - c. Align threads at point of assembly.
 - d. Tighten joint with wrench. Apply wrench to valve end into which pipe is being threaded.
 - e. Damaged Threads: Do not use pipe or pipe fittings having threads that are corroded or damaged. Do not use pipe sections that have cracked or open welds.
 - 6. Welded Joints: Construct joints according to AWS D10.12 "Recommended Practices and Procedures for Welding Low Carbon Steel Pipe" using qualified processes and welding operators according to the "Quality Assurance" Article.
 - 7. Flanged Joints: Align flange surfaces parallel. Select appropriate gasket material, size, type, and thickness for service application. Install gasket concentrically positioned. Assemble joints by sequencing bolt tightening to make initial contact of flanges and gaskets as flat and parallel as possible. Use suitable lubricants on bolt threads. Tighten bolts gradually and uniformly using torque wrench.

8. Plastic Pipe and Fitting Solvent-Cement Joints: Clean and dry joining surfaces by wiping with clean cloth or paper towels. Join pipe and fittings according to the following standards:
 - a. Comply with ASTM F402 for safe handling of solvent-cement and primers.
 - b. Acrylonitrile-Butadiene-Styrene (ABS): ASTM D2235 and ASTM D2661.
 - c. Chlorinated Poly (Vinyl Chloride) (CPVC): ASTM D2846 and ASTM F493.
 - d. Poly (Vinyl Chloride) (PVC) Pressure Application: ASTM D2672.
 - e. Poly (Vinyl Chloride) (PVC) Non-Pressure Application: ASTM D2855.
 - f. PVC to ABS (Non-Pressure) Transition: Procedure and solvent cement described in ASTM D3138.
9. Plastic Pipe and Fitting Heat-Fusion Joints: Prepare pipe and fittings and join with heat-fusion equipment according to manufacturer's printed instructions.
 - a. Plain-End Pipe and Fittings: Butt joining.
 - b. Plain-End Pipe and Socket-Type Fittings: Socket joining.
- W. Piping Connections: Except as otherwise indicated, make piping connections as specified below.
 1. Install unions in piping 2 inches and smaller adjacent to each valve and at final connection to each piece of equipment having a 2-inch or smaller threaded pipe connection.
 2. Install flanges in piping 2-1/2 inches and larger adjacent to flanged valves and at final connection to each piece of equipment having flanged pipe connection.
 3. Dry Piping Systems (Gas): Install dielectric unions and flanges to connect piping materials of dissimilar metals.
 4. Wet Piping Systems (Water): Install dielectric coupling and nipple fittings to connect piping materials of dissimilar metals.

3.2 EQUIPMENT INSTALLATION - COMMON REQUIREMENTS

- A. Install equipment to provide the maximum possible headroom where mounting heights are not indicated.
- B. Install equipment according to approved submittal data. Portions of the Work are shown only in diagrammatic form. Refer conflicts to Engineer.
- C. Install equipment level and plumb, parallel and perpendicular to other building systems and components in exposed interior spaces, except where otherwise indicated.
- D. Install mechanical equipment to facilitate servicing, maintenance, and repair or replacement of equipment components. Connect equipment for ease of disconnecting, with minimum of interference with other installations. Extend grease fittings to an accessible location.
- E. Install equipment giving right-of-way to piping systems installed at a required slope.

3.3 ACCESS DOORS

- A. Furnish an access door for each pipe chase for each floor. This includes both toilet plumbing chases and pipe riser chases. Access doors assembly to be size 16 by 16 inches. Access doors are not shown on floor plans. Access door locations shall be field verified.
- B. Also, furnish access doors in all non-removable ceiling and in partitions and walls where necessary access to plumbing cleanouts, shock absorbers, fire dampers, manual dampers, valves and other mechanical devices requiring access. Size these as required for access with minimum size of 12 by 12 inches.

- C. Any access doors furnished for installation in fire rated surfaces or assembly shall carry an approved fire rating for that use.
- D. Any access doors furnished for installation in glued on acoustical surfaces or assembly shall have recessed door to allow installation of tiles.
- E. Provide all access doors to General Contractor for them to construct into the building.

3.4 PAINTING AND FINISHING

- A. Refer to Division 09 for field painting requirements.
- B. Damage and Touch-Up: Repair marred and damaged factory-painted finishes with materials and procedures to match original factory finish.

3.5 CONCRETE BASES

- A. Construct concrete equipment bases of dimensions indicated, but not less than 4 inches larger than supported unit in both directions. Follow supported equipment manufacturer's setting templates for anchor bolt and tie locations. Use 3,000-psi, 28-day compressive strength concrete and reinforcement use fibrillated or monofilament polypropylene fibers engineered and designed for use in concrete, complying with ASTM C 1116, Type III, 1/2- to 1-1/2 inches long. Uniformly disperse in concrete mix at manufacturer's recommended rate, but not less than 1.5 pound per cubic yard.

3.6 ERECTION OF METAL SUPPORTS AND ANCHORAGE

- A. Cut, fit, and place miscellaneous metal supports accurately in location, alignment, and elevation to support and anchor mechanical materials and equipment.
- B. Field Welding: Comply with AWS D1.1 "Structural Welding Code - Steel."

3.7 ERECTION OF WOOD SUPPORTS AND ANCHORAGE

- A. Cut, fit, and place wood grounds, nailers, blocking, and anchorage to support and anchor mechanical materials and equipment.
- B. Select fastener sizes that will not penetrate members where opposite side will be exposed to view or will receive finish materials. Make tight connections between members. Install fasteners without splitting wood members.
- C. Attach to substrates as required to support applied loads.

3.8 CUTTING AND PATCHING

- A. Cut, channel, chase, and drill floors, walls, partitions, ceilings, and other surfaces necessary for mechanical installations. Perform cutting by skilled mechanics of the trades involved.
- B. Repair cut surfaces to match adjacent surfaces.

3.9 GROUTING

- A. Install nonmetallic, nonshrink grout for mechanical equipment base bearing surfaces, pump and other equipment base plates, and anchors. Mix grout according to manufacturer's printed instructions.
- B. Clean surfaces that will come into contact with grout.

- C. Provide forms for placement of grout, as required.
- D. Avoid air entrapment when placing grout.
- E. Place grout to completely fill equipment bases.
- F. Place grout on concrete bases to provide a smooth bearing surface for equipment.
- G. Place grout around anchors.
- H. Cure placed grout according to manufacturer's printed instructions.

3.10 DEMOLITION

- A. Disconnect, demolish, and remove Work specified under Divisions 23 and as indicated.
- B. Where pipe, duct Work, insulation, or equipment to remain is damaged or disturbed, remove damaged portions and install new products of equal capacity and quality.
- C. Accessible Work: Remove indicated exposed pipe and duct Work in its entirety.
- D. Abandoned Work: Cut and remove buried pipe abandoned in place, 2 inches beyond the face of adjacent construction. Cap and patch surface to match existing finish.
- E. Removal: Remove indicated equipment from the Project Site.
- F. Temporary Disconnection: Remove, store, clean, reinstall, reconnect, and make operational equipment indicated for relocation.

END OF SECTION

SECTION 23 05 53 - IDENTIFICATION FOR HVAC PIPING AND EQUIPMENT

PART 1 - GENERAL

1.1 SUMMARY

- A. Section Includes:
 - 1. Nameplates.
 - 2. Tags.
 - 3. Stencils.
 - 4. Pipe markers.
- B. Related Sections:
 - 1. Division 01 Specification Sections apply to Work of this Section.

1.2 REFERENCES

- A. American Society of Mechanical Engineers:
 - 1. ASME A13.1 - Scheme for the Identification of Piping Systems.

1.3 SUBMITTALS

- A. Division 01 and Section 23 05 00 "General Mechanical Requirements."
- B. Product Data: Submit manufacturers catalog literature for each product required.
- C. Manufacturer's Installation Instructions: Indicate installation instructions, special procedures, and installation.
- D. Manufacturer's Certificate: Certify products meet or exceed specified requirements.

1.4 CLOSEOUT SUBMITTALS

- A. Project Record Documents: Record actual locations of tagged valves; include valve tag numbers.

1.5 QUALITY ASSURANCE

- A. Conform to ASME A13.1 for color scheme for identification of piping systems and accessories.

1.6 QUALIFICATIONS

- A. Manufacturer: Company specializing in manufacturing products specified in this Section with minimum 3 years' experience.
- B. Installer: Company specializing in performing Work of this Section with minimum 3 years' experience.

1.7 FIELD MEASUREMENTS

- A. Verify field measurements prior to fabrication.

PART 2 - PRODUCTS

2.1 NAMEPLATES

- A. Nameplates
 - 1. Manufacturers:
 - a. Seton Identification Products.
 - b. Substitutions: Section 23 05 00 "General Mechanical Requirements.
- B. Product Description: Laminated three-layer plastic with engraved black letters on light contrasting background color.

2.2 TAGS

- A. Metal Tags
 - 1. Manufacturers:
 - a. Brass with stamped letters; tag size minimum 1-1/2 inches diameter with finished edges.
- B. Tag Chart: Typewritten letter size list of applied tags and location in anodized aluminum frame.

2.3 STENCILS

- A. Stencils: With clean cut symbols and letters of following size:
 - 1. Up to 2 inches Outside Diameter of Insulation or Pipe: 1/2-inch high letters.
 - 2. Two and one half to 6 inches Outside Diameter of Insulation or Pipe: 1-inch high letters.
 - 3. Over 6 inches Outside Diameter of Insulation or Pipe: 1-3/4 inches high letters.
 - 4. Equipment: 1-3/4 inches high letters.
- B. Stencil Paint: As specified in Section 09 90 00, semi-gloss enamel, colors and lettering size conforming to ASME A13.1.

2.4 PIPE MARKERS

- A. Color and Lettering: Conform to ASME A13.1.
- B. Plastic Pipe Markers:
 - 1. Factory fabricated, flexible, semi-rigid plastic, preformed to fit around pipe or pipe covering. Larger sizes may have maximum sheet size with spring fastener.
- C. Plastic Tape Pipe Markers:
 - 1. Flexible, vinyl film tape with pressure sensitive adhesive backing and printed markings.
- D. Plastic Underground Pipe Markers:
 - 1. Bright colored continuously printed plastic ribbon tape, minimum 6 inches wide by 4 mil thick, manufactured for direct burial service. Markers used on nonmetallic pipe shall contain tracer wire.

PART 3 - EXECUTION

3.1 PREPARATION

- A. Degrease and clean surfaces to receive adhesive for identification materials.
- B. Prepare surfaces in accordance with Division 09 for stencil painting.

3.2 INSTALLATION

- A. Apply stencil painting in accordance with Division 09.
- B. Install identifying devices after completion of coverings and painting.
- C. Install plastic nameplates with corrosive-resistant mechanical fasteners, or adhesive.
- D. Install tags using corrosion resistant chain. Number tags consecutively by location.
- E. Install underground plastic pipe markers 8 to 10 inches below finished grade, directly above buried pipe.
- F. Identify air handling units, pumps, heat transfer equipment, tanks, and water treatment devices with plastic nameplates. Identify in-line pumps and other small devices with tags.
- G. Identify control panels and major control components outside panels with plastic nameplates.
- H. Identify valves in main and branch piping with tags.
- I. Identify air terminal units and radiator valves with numbered tags.
- J. Tag automatic controls, instruments, and relays. Key to control schematic.
- K. Identify piping, concealed or exposed, with plastic pipe markers, plastic tape pipe markers, or stenciled painting. Use tags on piping 3/4-inch diameter and smaller. Identify service, flow direction, and pressure. Install in clear view and align with axis of piping. Locate identification not to exceed 20 feet on straight runs including risers and drops, adjacent to each valve and tee, at each side of penetration of structure or enclosure, and at each obstruction.

END OF SECTION

SECTION 23 07 05 - HVAC AND PLUMBING INSULATION

PART 1 - GENERAL

1.1 SUMMARY

- A. Section Includes:
 - 1. Ductwork insulation.
 - 2. Duct liner.
 - 3. Insulation jackets.
 - 4. Piping system insulation.
 - 5. Insulation accessories including vapor retarders, jackets, and accessories.
- B. Related Requirements:
 - 1. Division 01 Specification Sections apply to Work of this Section.

1.2 REFERENCES

- A. ASTM International:
 - 1. ASTM A167 - Standard Specification for Stainless and Heat-Resisting Chromium-Nickel Steel Plate, Sheet, and Strip.
 - 2. ASTM B209 - Standard Specification for Aluminum and Aluminum-Alloy Sheet and Plate.
 - 3. ASTM C177 - Standard Test Method for Steady-State Heat Flux Measurements and Thermal Transmission Properties by Means of the Guarded-Hot-Plate Apparatus.
 - 4. ASTM C195 - Standard Specification for Mineral Fiber Thermal Insulating Cement.
 - 5. ASTM C449 - Standard Specification for Mineral Fiber Hydraulic-Setting Thermal Insulating and Finishing Cement.
 - 6. ASTM C518 - Standard Test Method for Steady-State Heat Flux Measurements and Thermal Transmission Properties by Means of the Heat Flow Meter Apparatus.
 - 7. ASTM C533 - Standard Specification for Calcium Silicate Block and Pipe Thermal Insulation.
 - 8. ASTM C534 - Standard Specification for Preformed Flexible Elastomeric Cellular Thermal Insulation in Sheet and Tubular Form.
 - 9. ASTM C547 - Standard Specification for Mineral Fiber Pipe Insulation.
 - 10. ASTM C552 - Standard Specification for Cellular Glass Thermal Insulation.
 - 11. ASTM C553 - Standard Specification for Mineral Fiber Blanket Thermal Insulation for Commercial and Industrial Applications.
 - 12. ASTM C591 - Standard Specification for Unfaced Preformed Rigid Cellular Polyisocyanurate Thermal Insulation.
 - 13. ASTM C592 - Standard Specification for Mineral Fiber Blanket Insulation and Blanket-Type Pipe Insulation (Metal-Mesh Covered) (Industrial Type).
 - 14. ASTM C610 - Standard Specification for Molded Expanded Perlite Block and Pipe Thermal Insulation.
 - 15. ASTM C612 - Standard Specification for Mineral Fiber Block and Board Thermal Insulation.
 - 16. ASTM C795 - Standard Specification for Thermal Insulation for Use in Contact with Austenitic Stainless Steel.

17. ASTM C921 - Standard Practice for Determining the Properties of Jacketing Materials for Thermal Insulation.
 18. ASTM C1071 - Standard Specification for Thermal and Acoustical Insulation (Glass Fiber, Duct Lining Material).
 19. ASTM C1126 - Standard Specification for Faced or Unfaced Rigid Cellular Phenolic Thermal Insulation.
 20. ASTM C1136 - Standard Specification for Flexible, Low Permeance Vapor Retarders for Thermal Insulation.
 21. ASTM C1290 - Standard Specification for Flexible Fibrous Glass Blanket Insulation Used to Externally Insulate HVAC Ducts.
 22. ASTM D1784 - Standard Specification for Rigid Poly (Vinyl Chloride) (PVC) Compounds and Chlorinated Poly (Vinyl Chloride) (CPVC) Compounds.
 23. ASTM E84 - Standard Test Method for Surface Burning Characteristics of Building Materials.
 24. ASTM E96 - Standard Test Methods for Water Vapor Transmission of Materials.
 25. ASTM E162 - Standard Test Method for Surface Flammability of Materials Using a Radiant Heat Energy Source.
 26. ASTM G21 - Standard Practice for Determining Resistance of Synthetic Polymeric Materials to Fungi.
- B. Sheet Metal and Air Conditioning Contractors:
1. SMACNA - HVAC Duct Construction Standard - Metal and Flexible.

1.3 SUBMITTALS

- A. Refer to Division 01 and Section 23 05 00 "General Mechanical Requirements" for submittals.
- B. Product Data: Submit product description, thermal characteristics and list of materials and thickness for each service, and location.
- C. Manufacturer's Installation Instructions: Submit manufacturers published literature indicating proper installation procedures.
- D. Manufacturer's Certificate: Certify products meet or exceed specified requirements.

1.4 QUALIFICATIONS

- A. Manufacturer: Company specializing in manufacturing products specified in this Section with minimum 3 years' experience.
- B. Applicator: Company specializing in performing Work of this Section with minimum 3 years' experience approved by manufacturer.

1.5 DELIVERY, STORAGE, AND HANDLING

- A. Accept materials on Site in original factory packaging, labeled with manufacturer's identification, including product density and thickness.
- B. Protect insulation from weather and construction traffic, dirt, water, chemical, and mechanical damage, by storing in original wrapping.

1.6 ENVIRONMENTAL REQUIREMENTS

- A. Install insulation only when ambient temperature and humidity conditions are within range recommended by manufacturer.
- B. Maintain temperature during and after installation for minimum period of 24 hours.

1.7 FIELD MEASUREMENTS

- A. Verify field measurements prior to fabrication.

1.8 WARRANTY

- A. Refer to Section 23 05 00 "General Mechanical Requirements" for product warranties.

PART 2 - PRODUCTS

2.1 MAN MADE MINERAL FIBER

- A. Manufacturers:
 - 1. Johns Manville.
 - 2. Knauf.
 - 3. Owens Corning.
 - 4. Substitutions: Refer to Section 23 05 00 "General Mechanical Requirements" for substitutions.
- B. Insulation: ASTM C547 Mineral Fiber Pipe Insulation, Type I, 850 degrees F.
- C. Vapor Retarder Jacket:
 - 1. ASTM C921, White Kraft paper with glass fiber yarn, bonded to aluminized film.
 - 2. Moisture Vapor Transmission: ASTM E96; 0.02 perm-inches.
- D. Tie Wire: 0.048-inch stainless steel with twisted ends on maximum 12-inch centers.
- E. Vapor Retarder Lap Adhesive: Compatible with insulation.
- F. Insulating Cement/Mastic: ASTM C195; hydraulic setting on mineral wool.
- G. Glass Fiber Fabric:
 - 1. Cloth: Untreated; 9 ounces per square yard weight.
 - 2. Blanket: 1.0 pound per cubic feet density.
 - 3. Weave: 10 by 10.
- H. Indoor Vapor Retarder Finish:
 - 1. Cloth: Untreated; 9 ounces per square yard weight.
 - 2. Vinyl emulsion type acrylic, compatible with insulation, white color.
- I. Insulating Cement: ASTM C449.

2.2 MINERAL FIBER, FLEXIBLE

- A. Manufacturers:
 - 1. Johns Manville.
 - 2. Knauf.
 - 3. Owens Corning.
 - 4. Substitutions: Refer to Section 23 05 00 "General Mechanical Requirements" for substitutions.
- B. Insulation: ASTM C553 Mineral Fiber Blanket Thermal Insulation for Commercial and Industrial Applications, Type II.
 - 1. Density: 0.75 PCF.
- C. Vapor Retarder Jacket:
 - 1. Kraft paper with glass fiber yarn and bonded to aluminized film.
 - 2. Moisture vapor transmission: ASTM E96; 0.02 perm.
 - 3. Secure with pressure sensitive tape.

- D. Vapor Retarder Tape: Kraft paper reinforced with glass fiber yarn and bonded to aluminized film, with pressure sensitive rubber-based adhesive.
- E. Tie Wire: Annealed steel, 16 gauge.

2.3 ELASTOMERIC CELLULAR FOAM

- A. Manufacturers:
 - 1. Armaflex.
 - 2. Substitutions: Refer to Section 23 05 00 "General Mechanical Requirements" for substitutions.
- B. Preformed Flexible Elastomeric Cellular Thermal Insulation in Sheet and Tubular form: ASTM C534; Type I, Tubular form.
- C. Elastomeric Foam Adhesive: Air dried, contact adhesive, compatible with insulation.

2.4 PIPE INSULATION AND EQUIPMENT JACKETS

- A. PVC Plastic Pipe Jacket:
 - 1. Manufacturers:
 - a. Johns Manville.
 - b. Knauf.
 - c. Owens Corning.
 - d. Substitutions: Refer to Section 23 05 00 "General Mechanical Requirements" for substitutions.
 - 2. Product Description: ASTM D1784, one-piece molded type fitting covers and sheet material, off-white color.
 - 3. Thickness: 15 mil.
 - 4. Connections: Brush-on welding adhesive.
- B. PVC Plastic Equipment Jacket:
 - 1. Manufacturers:
 - a. Johns Manville.
 - b. Knauf.
 - c. Owens Corning.
 - d. Substitutions: Refer to Section 23 05 00 "General Mechanical Requirements" for substitutions.
 - 2. Product Description: Sheet material, off-white color.
 - 3. Minimum Service Temperature: Minus 40 degrees F.
 - 4. Maximum Service Temperature: 150 degrees F.
 - 5. Moisture Vapor Transmission: ASTM E96; 0.002 perm-inches.
 - 6. Thickness: 15 mil.
 - 7. Connections: Brush-on welding adhesive.
- C. Covering Adhesive Mastic: Compatible with insulation.
- D. Aluminum Pipe Jacket:
 - 1. ASTM B209.
 - 2. Thickness: 0.020-inch thick
 - 3. Finish: Stucco embossed.
 - 4. Jointing: Longitudinal slip joints and 2-inch laps.
 - 5. Fittings: 0.016-inch thick die shaped fitting covers with factory attached protection liner.
 - 6. Metal Jacket Bands: 3/8-inch wide; 0.015-inch thick aluminum.

PART 3 - EXECUTION

3.1 EXAMINATION

- A. Verify piping, equipment and ductwork has been tested before applying insulation materials.
- B. Verify surfaces are clean and dry, with foreign material removed.

3.2 INSTALLATION

- A. Exposed Piping: Locate insulation and cover seams in least visible locations. Provide PVC jacketing.
- B. Insulated pipes conveying fluids below ambient temperature: Insulate entire system including fittings, valves, unions, flanges, strainers, flexible connections, pump bodies, and expansion joints.
- C. Man made mineral fiber insulated pipes conveying fluids below ambient temperature:
 - 1. Furnish factory-applied or field-applied vapor retarder jackets. Secure factory-applied jackets with pressure sensitive adhesive self-sealing longitudinal laps and butt strips. Secure field-applied jackets with outward clinch expanding staples and seal staple penetrations with vapor retarder mastic.
 - 2. Insulate fittings, joints, and valves with molded insulation of like material and thickness as adjacent pipe. Finish with glass cloth and vapor retarder adhesive or PVC fitting covers.
- D. For hot piping conveying fluids over 140 degrees F, insulate flanges and unions at equipment.
- E. Man made mineral fiber insulated pipes conveying fluids above ambient temperature:
 - 1. Furnish factory-applied or field-applied standard jackets. Secure with outward clinch expanding staples or pressure sensitive adhesive system on standard factory-applied jacket and butt strips or both.
 - 2. Insulate fittings, joints, and valves with insulation of like material and thickness as adjoining pipe. Finish with glass cloth and adhesive or PVC fitting covers.
- F. Inserts and Shields:
 - 1. Application: Piping or Equipment 1-1/2 inches diameter or larger.
 - 2. Shields: Galvanized steel between pipe hangers or pipe hanger rolls and inserts.
 - 3. Insert location: Between support shield and piping and under finish jacket.
 - 4. Insert configuration: Minimum 6 inches long, of thickness and contour matching adjoining insulation; may be factory fabricated.
 - 5. Insert material: Compression resistant insulating material suitable for planned temperature range and service.
- G. Continue insulation through penetrations of building assemblies or portions of assemblies having fire resistance rating of 1 hour or less. Provide intumescent firestopping when continuing insulation through assembly. Finish at supports, protrusions, and interruptions. Refer to Division 07 for penetrations of assemblies with fire resistance rating greater than 1 hour.
- H. Factory Insulated Equipment: Do not insulate.
- I. Exposed Equipment: Locate insulation and cover seams in least visible locations.
- J. Apply insulation close to equipment by grooving, scoring, and beveling insulation. Fasten insulation to equipment with studs, pins, clips, adhesive, wires, or bands.

- K. Fill joints, cracks, seams, and depressions with bedding compound to form smooth surface. On cold equipment, use vapor retarder cement.
- L. Insulated Equipment Containing Fluids Below Ambient Temperature: Insulate entire system.
- M. Mineral fiber insulated equipment containing fluids below ambient temperature: Provide vapor retarder jackets, factory-applied or field-applied. Finish with glass-cloth and vapor barrier adhesive.
- N. For hot equipment containing fluids over 140 degrees F, insulate flanges and unions with removable sections and jackets.
- O. Mineral Fiber Insulated Equipment Containing Fluids Above Ambient Temperature: Provide standard jackets, with or without vapor retarder, factory-applied or field-applied. Finish with glass cloth and adhesive.
- P. Finish insulation at supports, protrusions, and interruptions.
- Q. Nameplates and ASME Stamps: Bevel and seal insulation around; do not insulate over.
- R. Equipment Requiring Access for Maintenance, Repair, or Cleaning: Install insulation for easy removal and replacement without damage.
- S. Insulated ductwork conveying air below ambient temperature:
 - 1. Provide insulation with vapor retarder jackets.
 - 2. Finish with tape and vapor retarder jacket.
 - 3. Continue insulation through walls, sleeves, hangers, and other duct penetrations.
 - 4. Insulate entire system including fittings, joints, flanges, fire dampers, flexible connections, and expansion joints.
- T. Insulated ductwork conveying air above ambient temperature:
 - 1. Provide with or without standard vapor retarder jacket.
 - 2. Insulate fittings and joints. Where service access is required, bevel and seal ends of insulation.
- U. External Duct Insulation Application:
 - 1. Secure insulation with vapor retarder with wires and seal jacket joints with vapor retarder adhesive or tape to match jacket.
 - 2. Secure insulation without vapor retarder with staples, tape, or wires.
 - 3. Install without sag on underside of ductwork. Use adhesive or mechanical fasteners where necessary to prevent sagging. Lift ductwork off trapeze hangers and insert spacers.
 - 4. Seal vapor retarder penetrations by mechanical fasteners with vapor retarder adhesive.
 - 5. Stop and point insulation around access doors and damper operators to allow operation without disturbing wrapping.
- V. For hot equipment containing fluids over 140 degrees F, insulate flanges and unions with removable sections and jackets.
- W. Exterior Applications: Provide vapor retarder jacket. Insulate fittings, joints, and valves with insulation of like material and thickness as adjoining pipe, and finish with glass mesh reinforced vapor retarder cement. Cover with aluminum jacket with seams located at 3 or 9 o'clock position on side of horizontal piping with overlap facing down to shed water.

3.3 SCHEDULES

- A. Plumbing Systems:
 - 1. Domestic Hot Water Supply:
 - a. Man-made Mineral Fiber Insulation:
 - 1) Pipe Size Range: 1.5-inch or less.
 - a) Thickness: 1 inch.
 - 2) Pipe Size Range: Greater than 1.5 inches.
 - a) Thickness: 2 inches.
 - 3) Runout Piping 4 feet or less:
 - a) Pipe Size Range: 1 inch or less.
 - b) Thickness: 1/2-inch.
 - 2. Domestic Cold Water:
 - a. Man-made Mineral Fiber Insulation:
 - 1) Pipe Size Range: All sizes.
 - a) Thickness: 1/2-inch.
- B. Cooling Systems:
 - 1. Interior Condensate Drains and Refrigerant Suction Piping:
 - a. Elastomeric Cellular Foam:
 - 1) Pipe Size Range: All sizes.
 - a) Thickness: 3/4-inch.
- C. Supply Ducts:
 - 1. Mineral Fiber, Flexible:
 - a. Thickness: As required to meet R-6.
- D. Return Ducts:
 - 1. Mineral Fiber, Flexible (return ducts without liner):
 - a. Thickness: As required to meet R-6.

END OF SECTION

SECTION 23 23 00 - REFRIGERANT PIPING

PART 1 - GENERAL

1.1 SUMMARY

- A. Section Includes:
 - 1. Refrigerant piping.
 - 2. Unions, flanges, and couplings.
 - 3. Valves.
 - 4. Refrigerant strainers.
- B. Related Sections:
 - 1. Division 01 Specification Sections apply to Work of this Section.

1.2 REFERENCES

- A. Air-Conditioning and Refrigeration Institute:
 - 1. ARI 495 - Refrigerant Liquid Receivers.
 - 2. ARI 710 - Liquid-Line Driers.
 - 3. ARI 730 - Flow-Capacity Rating and Application of Suction-Line Filters and Filter Dryers.
 - 4. ARI 750 - Thermostatic Refrigerant Expansion Valves.
 - 5. ARI 760 - Solenoid Valves for Use with Volatile Refrigerants.
- B. American Society of Heating, Refrigerating and Air-Conditioning Engineers:
 - 1. ASHRAE 15 - Safety Code for Mechanical Refrigeration.
- C. American Society of Mechanical Engineers:
 - 1. ASME B16.22 - Wrought Copper and Copper Alloy Solder Joint Pressure Fittings.
 - 2. ASME B16.26 - Cast Copper Alloy Fittings for Flared Copper Tubes.
 - 3. ASME B31.5 - Refrigeration Piping.
 - 4. ASME Section VIII - Boiler and Pressure Vessel Code - Pressure Vessels.
- D. ASTM International:
 - 1. ASTM A53 - Standard Specification for Pipe, Steel, Black and Hot-Dipped, Zinc-Coated, Welded and Seamless.
 - 2. ASTM A234 - Standard Specification for Piping Fittings of Wrought Carbon Steel and Alloy Steel for Moderate and High Temperature Service.
 - 3. ASTM B88 - Standard Specification for Seamless Copper Water Tube.
 - 4. ASTM B280 - Standard Specification for Seamless Copper Tube for Air Conditioning and Refrigeration Field Service.
 - 5. ASTM F708 - Standard Practice for Design and Installation of Rigid Pipe Hangers.
 - 6. ASTM B749 - Standard Specification for Lead and Lead Alloy Strip, Sheet, and Plate Products.
- E. American Welding Society:
 - 1. AWS A5.8 - Specification for Filler Metals for Brazing and Braze Welding.
 - 2. AWS D1.1 - Structural Welding Code - Steel.

- F. Manufacturers Standardization Society of the Valve and Fittings Industry:
 - 1. MSS SP 58 - Pipe Hangers and Supports - Materials, Design and Manufacturer.
 - 2. MSS SP 69 - Pipe Hangers and Supports - Selection and Application.
 - 3. MSS SP 89 - Pipe Hangers and Supports - Fabrication and Installation Practices.
- G. Underwriters Laboratories Inc.:
 - 1. UL 429 - Electrically Operated Valves.

1.3 SYSTEM DESCRIPTION

- A. Where more than one piping system material is specified, provide compatible system components and joints. Use non-conducting dielectric connections when joining dissimilar metals in systems.
- B. Provide flanges, unions, or couplings at locations requiring servicing. Use unions, flanges, or couplings downstream of valves and at equipment connections. Do not use direct welded or threaded connections to valves or equipment.
- C. Provide pipe hangers and supports in accordance with ASME B31.5, ASTM F708, MSS SP 58, MSS SP 69, and MSS SP 89.

1.4 SUBMITTALS

- A. Division 01 and Section 23 05 00 "Submittal Procedures."
- B. Product Data:
 - 1. Piping: Submit data on pipe materials, fittings, and accessories.
 - 2. Valves: Submit manufacturer's catalog information with valve data and ratings for each service.

1.5 QUALITY ASSURANCE

- A. Perform Work in accordance with ASME B31.5 code for installation of refrigerant piping systems.
- B. Perform Work in accordance with AWS D1.1 for welding hanger and support attachments to building structure.
- C. Perform Work in accordance with State and local standards.

1.6 QUALIFICATIONS

- A. Manufacturer: Company specializing in manufacturing products specified in this section with minimum 3 years' documented experience.
- B. Fabricator or Installer: Company specializing in performing Work of this section with minimum 3 years' experience.

1.7 DELIVERY, STORAGE, AND HANDLING

- A. Dehydrate and charge refrigeration components including piping and receivers, seal prior to shipment. Maintain seal until connected into system.
- B. Accept valves on site in shipping containers with labeling in place. Inspect for damage.
- C. Provide temporary end caps and closures on piping and fittings. Maintain in place until installation.
- D. Protect piping systems from entry of foreign materials by temporary covers, completing sections of the Work, and isolating parts of completed system.

1.8 ENVIRONMENTAL REQUIREMENTS

- A. Do not install underground piping when bedding is wet or frozen.

1.9 FIELD MEASUREMENTS

- A. Verify field measurements prior to fabrication.

1.10 WARRANTY

- A. Division 01 and Section 23 05 00 "General Mechanical Requirements."

PART 2 - PRODUCTS

2.1 REFRIGERANT PIPING

- A. Copper Tubing: ASTM B280, drawn.
 - 1. Fittings: ASME B16.22 wrought copper.
 - 2. Joints: Braze, AWS A5.8 BCuP silver/phosphorus/copper alloy with melting range 1,190 to ,480 degrees F.

2.2 UNIONS, FLANGES, AND COUPLINGS

- A. Two inches and Smaller:
 - 1. Copper Pipe: Bronze, soldered joints.
- B. Dielectric Connections: Union with galvanized or plated steel threaded end, copper solder end, water impervious isolation barrier.

2.3 VALVES

- A. Ball Valves:
 - 1. Two piece bolted forged brass body with teflon ball seals and copper tube extensions, brass bonnet and seal cap, chrome plated ball, stem with neoprene ring stem seals, soldered ends.
 - 2. Maximum working pressure: 500 psig.
 - 3. Maximum working temperature: 325 degrees F.
- B. Service Valves:
 - 1. Forged brass body with copper stubs, brass caps, removable valve core, integral ball check valve, flared or solder ends.
 - 2. Maximum working pressure: 500 psig.
- C. Refrigerant Check Valves:
 - 1. Straight Through Type:
 - a. Spring, neoprene seat.
 - b. Maximum working pressure: 500 psig.
 - c. Maximum working temperature: 250 degrees F.

2.4 REFRIGERANT STRAINERS

- A. Straight Line or Angle Line Type:
 - 1. Brass or steel shell, steel cap and flange, and replaceable cartridge, with screen of stainless steel wire or monel reinforced with brass.
 - 2. Maximum working pressure: 430 psig.

PART 3 - EXECUTION

3.1 EXAMINATION

- A. Verify excavations are to required grade, dry, and not over-excavated.

3.2 PREPARATION

- A. Ream pipe and tube ends. Remove burrs.
- B. Remove scale and dirt on inside and outside before assembly.
- C. Prepare piping connections to equipment with flanges or unions.
- D. Keep open ends of pipe free from scale and dirt. Protect open ends with temporary plugs or caps.

3.3 INSTALLATION - INSERTS

- A. Provide inserts for placement in concrete forms.
- B. Provide inserts for suspending hangers from reinforced concrete slabs and sides of reinforced concrete beams.
- C. Provide hooked rod to concrete reinforcement section for inserts carrying pipe 4 inches and larger.
- D. Where concrete slabs form finished ceiling, locate inserts flush with slab surface.
- E. Where inserts are omitted, drill through concrete slab from below and provide through-bolt with recessed square steel plate and nut recessed into and grouted flush with slab.

3.4 INSTALLATION - PIPE HANGERS AND SUPPORTS

- A. Refer to Section 22 05 09 "Hangers and Supports."

3.5 INSTALLATION - ABOVE GROUND PIPING SYSTEMS

- A. Route piping parallel to building structure and maintain gradient.
- B. Install piping to conserve building space, and not interfere with use of space.
- C. Group piping whenever practical at common elevations.
- D. Sleeve pipe passing through partitions, walls and floors. Refer to Section 23 05 00 "General Mechanical Requirements."
- E. Install piping to allow for expansion and contraction without stressing pipe, joints, or connected equipment.
- F. Provide access where valves and fittings are not exposed.
- G. Arrange refrigerant piping to return oil to compressor. Provide traps and loops in piping, and provide double risers as required. Slope horizontal piping 0.40 percent in direction of flow.
- H. Flood refrigerant piping system with nitrogen when brazing.

- I. Where pipe support members are welded to structural building framing, scrape, brush clean, and apply one coat of zinc rich primer to welds.
- J. Install valves with stems upright or horizontal, not inverted.
- K. Insulate piping ; refer to Section 23 07 05 "HVAC and Plumbing Installation."
- L. Fully charge completed system with refrigerant after testing.
- M. Follow ASHRAE 15 procedures for charging and purging of systems and for disposal of refrigerant.
- N. Install refrigerant piping in accordance with ASME B31.5.

3.6 FIELD QUALITY CONTROL

- A. Test refrigeration system in accordance with ASME B31.5.
- B. Pressure test refrigeration system with dry nitrogen to 200 psig.
- C. Repair leaks.
- D. Retest until no leaks are detected.

3.7 SCHEDULES

- A. Copper Tube Hanger Spacing:
 - 1. Pipe Size 1/2-Inch:
 - a. Maximum Hanger Spacing: 5 feet.
 - b. Hanger Rod Diameter: 3/8-inch.
 - 2. Pipe Size 3/4-Inch:
 - a. Maximum Hanger Spacing: 5 feet.
 - b. Hanger Rod Diameter: 3/8-inch.
 - 3. Pipe Size 1 Inch:
 - a. Maximum Hanger Spacing: 6 feet.
 - b. Hanger Rod Diameter: 3/8-inch.
 - 4. Pipe Size 1-1/4 Inches:
 - a. Maximum Hanger Spacing: 7 feet.
 - b. Hanger Rod Diameter: 3/8-inch.
 - 5. Pipe Size 1-1/2 Inches:
 - a. Maximum Hanger Spacing: 8 feet.
 - b. Hanger Rod Diameter: 3/8-inch.
 - 6. Pipe Size 2 Inches:
 - a. Maximum Hanger Spacing: 8 feet.
 - b. Hanger Rod Diameter: 3/8-inch.
 - 7. Pipe Size 2-1/2 Inches:
 - a. Maximum Hanger Spacing: 9 feet.
 - b. Hanger Rod Diameter: 1/2-inch.
 - 8. Pipe Size 3 Inches:
 - a. Maximum Hanger Spacing: 10 feet.
 - b. Hanger Rod Diameter: 1/2-inch.
 - 9. Pipe Size 4 Inches:
 - a. Maximum Hanger Spacing: 10 feet.
 - b. Hanger Rod Diameter: 1/2-inch.

END OF SECTION

SECTION 23 31 00 - HVAC DUCTS AND CASINGS

PART 1 - GENERAL

1.1 SUMMARY

- A. Section Includes:
 - 1. Duct materials.
 - 2. Ductwork fabrication.
- B. Related Requirements:
 - 1. Division 01 Specification Sections apply to Work of this Section.

1.2 REFERENCE STANDARDS

- A. ASTM International:
 - 1. ASTM A36 - Standard Specification for Carbon Structural Steel.
 - 2. ASTM A90 - Standard Test Method for Weight Mass of Coating on Iron and Steel Articles with Zinc or Zinc-Alloy Coatings.
 - 3. ASTM A167 - Stainless and Heat-Resisting Chromium-Nickel Steel Plate, Sheet, and Strip.
 - 4. ASTM A568 - Standard Specification for Steel, Sheet, Carbon, Structural, and High-Strength, Low-Alloy, Hot-Rolled and Cold-Rolled, General Requirements for.
 - 5. ASTM A653 - Standard Specification for Steel Sheet, Zinc-Coated (Galvanized) or Zinc-Iron Alloy-Coated (Galvannealed) by the Hot-Dip Process.
 - 6. ASTM A1008 - Standard Specification for Steel, Sheet, Cold-Rolled, Carbon, Structural, High-Strength Low-Alloy, High-Strength Low-Alloy with Improved Formability, Solution Hardened, and Bake Hardenable.
 - 7. ASTM A1011 - Standard Specification for Steel, Sheet and Strip, Hot-Rolled, Carbon, Structural, High-Strength Low-Alloy, High-Strength Low-Alloy with Improved Formability, and Ultra-High Strength.
 - 8. ASTM B209 - Standard Specification for Aluminum and Aluminum-Alloy Sheet and Plate.
 - 9. ASTM C14 - Standard Specification for Nonreinforced Concrete Sewer, Storm Drain, and Culvert Pipe.
 - 10. ASTM C443 - Standard Specification for Joints for Concrete Pipe and Manholes, Using Rubber Gaskets.
 - 11. ASTM E84 - Standard Test Method for Surface Burning Characteristics of Building Materials.
- B. National Fire Protection Association:
 - 1. NFPA 90A - Standard for the Installation of Air-Conditioning and Ventilating Systems.
 - 2. NFPA 90B - Standard for the Installation of Warm Air Heating and Air-Conditioning Systems.
- C. Sheet Metal and Air Conditioning Contractors' National Association:
 - 1. SMACNA 016 - HVAC Air Duct Leakage Test Manual.
 - 2. SMACNA 1966 - HVAC Duct Construction Standards - Metal and Flexible.
- D. Underwriters Laboratories Inc.:
 - 1. UL 181 - Factory-Made Air Ducts and Air Connectors.

1.3 PERFORMANCE REQUIREMENTS

- A. Variation of duct configuration or sizes other than those of equivalent or lower loss coefficient is not permitted except by written permission. Size round ducts installed in place of rectangular ducts in accordance with ASHRAE table of equivalent rectangular and round ducts.

1.4 SUBMITTALS

- A. Division 01 and Section 23 05 00 "General Mechanical Requirements."
- B. Product Data: Submit manufacturer information for duct materials and, duct connectors.
- C. Test Reports: Indicate pressure tests performed, including date, section tested, test pressure, and leakage rate according to SMACNA 016.
- D. Manufacturer Installation Instructions:
 - 1. Submit special procedures for glass-fiber ducts.

1.5 CLOSEOUT SUBMITTALS

- A. Project Record Documents:
 - 1. Record actual locations of ducts and duct fittings.
 - 2. Record changes in fitting location and type.
 - 3. Show additional fittings used.

1.6 QUALITY ASSURANCE

- A. Perform Work according to SMACNA 1966.
- B. Construct ductwork to NFPA 90A standards.

1.7 QUALIFICATIONS

- A. Manufacturer: Company specializing in manufacturing products specified in this Section with minimum 3 years' experience.
- B. Installer: Company specializing in performing Work of this Section with minimum 3 years' experience .

1.8 ENVIRONMENTAL REQUIREMENTS

- A. Do not install duct sealant when temperatures are less than those recommended by sealant manufacturers.
- B. Maintain temperatures during and after installation of duct sealant.

1.9 FIELD MEASUREMENTS

- A. Verify field measurements prior to fabrications.

1.10 WARRANTY

- A. Section 23 05 00 "General Mechanical Requirements" for product warranties.

PART 2 - PRODUCTS

2.1 DUCTS MATERIALS

- A. Galvanized-Steel Ducts:
 - 1. Material: ASTM A653 galvanized-steel sheet.
 - 2. Quality: Lock forming.
 - 3. Finish: G90 zinc coating according to ASTM A90.
- B. Fasteners: Rivets, bolts, or sheet metal screws.

2.2 FABRICATION

- A. Rectangular Ducts:
 - 1. According to SMACNA 1966 and as indicated on Drawings.
 - 2. Provide duct material, gages, reinforcing, and sealing for indicated operating pressures.
- B. Round Ducts:
 - 1. According to SMACNA 1966 and as indicated on Drawings.
 - 2. Seams: Longitudinal.
 - 3. Provide duct material, gages, reinforcing, and sealing for indicated operating pressures.
- C. Tees, Bends, and Elbows:
 - 1. Minimum Radius:
 - a. One and one half times centerline duct width.
 - b. If not possible or if rectangular elbows are used, provide airfoil turning vanes.
- D. Divergence:
 - 1. Increase duct sizes gradually, not exceeding 15 degrees of divergence wherever possible.
 - 2. Upstream of Equipment: Maximum 30 degrees.
 - 3. Downstream of Equipment: Maximum 45 degrees.
- E. Takeoffs:
 - 1. Provide standard 45-degree lateral wye takeoffs.
 - 2. If not possible due to space limitations, provide 90-degree conical tee connections.
- F. Sealing:
 - 1. Seal joints between duct sections and duct seams with welds, gaskets, mastic adhesives, mastic plus embedded fabric systems, or tape.
 - 2. Sealants, Mastics, and Tapes: Comply with UL 181A and provide products bearing appropriate UL 181A markings.
 - 3. Do not provide sealing products not bearing UL approval marking.

PART 3 - EXECUTION

3.1 EXAMINATION

- A. Verify sizes of equipment connections before fabricating transitions.

3.2 INSTALLATION

- A. Install and seal ducts according to SMACNA 1966.
- B. During construction, install temporary closure of metal or taped polyethylene on open ductwork to prevent construction dust from entering ductwork system.
- C. Hanger and Supports:
 - 1. Fabricate and support ducts according to SMACNA 1966.
 - 2. Threaded Rods: Provide double nuts and lock washers.

3.3 INTERFACE WITH OTHER PRODUCTS

- A. Install openings in ductwork where required to accommodate thermometers and controllers. Install Pitot tube openings for testing of systems. Install Pitot tube complete with metal can with spring device or screw to prevent air leakage. Where openings are provided in insulated ductwork, install insulation material inside metal ring.

3.4 SCHEDULES

- A. Ductwork Material Schedule:

AIR SYSTEM	MATERIAL
General Exhaust Supply Air Return Air	Steel

- B. Ductwork Pressure Class Schedule:

AIR SYSTEM	MATERIAL
General Exhaust Supply Air Return Air	1-inch wg regardless of velocity

END OF SECTION

SECTION 23 33 00 - AIR DUCT ACCESSORIES

PART 1 - GENERAL

1.1 SUMMARY

- A. Section Includes:
 - 1. Back-draft dampers.
 - 2. Duct access doors.
 - 3. Volume control dampers.
 - 4. Flexible duct connections.
 - 5. Duct test holes.
- B. Related Sections:
 - 1. Division 01 Specification Section apply to Work of this Section.

1.2 REFERENCES

- A. Air Movement and Control Association International, Inc.:
 - 1. AMCA 500 - Test Methods for Louvers, Dampers, and Shutters.
- B. ASTM International:
 - 1. ASTM E1 - Standard Specification for ASTM Thermometers.
- C. National Fire Protection Association:
 - 1. NFPA 90A - Standard for the Installation of Air Conditioning and Ventilating Systems.
 - 2. NFPA 92A - Recommended Practice for Smoke-Control Systems.
- D. Sheet Metal and Air Conditioning Contractors:
 - 1. SMACNA - HVAC Duct Construction Standard - Metal and Flexible.
- E. Underwriters Laboratories Inc.:
 - 1. UL 555 - Standard for Safety for Fire Dampers.
 - 2. UL 555C - Standard for Safety for Ceiling Dampers.
 - 3. UL 555S - Standard for Safety for Smoke Dampers.

1.3 SUBMITTALS

- A. Division 01 and Section 23 05 00 "General Mechanical Requirements."
- B. Product Data: Submit data for shop fabricated assemblies and hardware used.
- C. Product Data: Submit for the following. Include where applicable electrical characteristics and connection requirements.
 - 1. Fire dampers including locations and ratings.
 - 2. Smoke dampers including locations and ratings.
 - 3. Backdraft dampers.
 - 4. Flexible duct connections.
 - 5. Volume control dampers.
 - 6. Duct access doors.
 - 7. Duct test holes.

- D. Product Data: For fire dampers, smoke dampers, or combination fire and smoke dampers submit the following:
 - 1. Include UL ratings, dynamic ratings, leakage, pressure drop and maximum pressure data.
 - 2. Indicate materials, construction, dimensions, and installation details.
- E. Manufacturer's Installation Instructions: Submit for Fire and Combination Smoke and Fire Dampers.

1.4 CLOSEOUT SUBMITTALS

- A. Project Record Documents: Record actual locations of access doors and test holes.
- B. Operation and Maintenance Data: Submit for Combination Smoke and Fire Dampers.

1.5 QUALITY ASSURANCE

- A. Dampers tested, rated and labeled in accordance with the latest UL requirements.
- B. Damper pressure drop ratings based on tests and procedures performed in accordance with AMCA 500.
- C. Perform Work in accordance with State and local standards.

1.6 QUALIFICATIONS

- A. Manufacturer: Company specializing in manufacturing products specified in this section with minimum 3 years experience.

1.7 DELIVERY, STORAGE, AND HANDLING

- A. Protect dampers from damage to operating linkages and blades.
- B. Delivery: Deliver materials to site in manufacturer's original, unopened containers and packaging, with labels clearly indicating manufacturer and material.
- C. Storage: Store materials in a dry area indoor, protected from damage.
- D. Handling: Handle and lift dampers in accordance with manufacturer's instructions. Protect materials and finishes during handling and installation to prevent damage.

1.8 FIELD MEASUREMENTS

- A. Verify field measurements prior to fabrication.

1.9 COORDINATION

- A. Coordinate Work where appropriate with building control Work.

1.10 WARRANTY

- A. Section 23 05 00 "General Mechanical Requirements" for product warranties.

PART 2 - PRODUCTS

2.1 BACK-DRAFT DAMPERS

- A. Product Description: Multi-Blade, back-draft dampers: Parallel-action, gravity-balanced, Galvanized 16 gauge thick steel, or extruded aluminum. Blades, maximum 6-inch width, center pivoted, with felt or flexible vinyl sealed edges. Blades linked together in rattle-free manner with 90-degree stop, steel ball bearings, and plated steel pivot pin. Furnish dampers with adjustment device to permit setting for varying differential static pressure.

2.2 DUCT ACCESS DOORS

- A. Fabricate in accordance with SMACNA HVAC Duct Construction Standards - Metal and Flexible, and as indicated on Drawings.
- B. Fabrication: Rigid and close fitting of galvanized steel with sealing gaskets and quick fastening locking devices. For insulated ductwork, furnish minimum 1-inch thick insulation with sheet metal cover.
 - 1. Less than 12 inches square, secure with sash locks.
 - 2. Up to 18 inches Square: Furnish two hinges and two sash locks.
 - 3. Up to 24 x 48 inches: Three hinges and two compression latches.
 - 4. Larger Sizes: Furnish additional hinge.
 - 5. Access panels with sheet metal screw fasteners are not acceptable.

2.3 VOLUME CONTROL DAMPERS

- A. Fabricate in accordance with SMACNA HVAC Duct Construction Standards - Metal and Flexible, and as indicated on Drawings.
- B. Multi-Blade Damper: Fabricate of opposed blade pattern with maximum blade sizes 8- by 72-inch. Assemble center and edge crimped blades in prime coated or galvanized frame channel with suitable hardware.
- C. End Bearings: Except in round ductwork 12 inches and smaller, furnish end bearings. On multiple blade dampers, furnish oil-impregnated nylon or sintered bronze bearings. Furnish closed end bearings on ducts having pressure classification over 2 inches wg.
- D. Quadrants:
 - 1. Furnish locking, indicating quadrant regulators on single and multi-blade dampers.
 - 2. On insulated ducts mount quadrant regulators on standoff mounting brackets, bases, or adapters.
 - 3. Where rod lengths exceed 30 inches furnish regulator at both ends.

2.4 FLEXIBLE DUCT CONNECTIONS

- A. Fabricate in accordance with SMACNA HVAC Duct Construction Standards - Metal and Flexible.
- B. Connector: Fabric crimped into metal edging strip.
 - 1. Fabric: UL listed fire-retardant neoprene coated woven glass fiber fabric conforming to NFPA 90A, minimum density 30 ounces per square yard.
 - 2. Net Fabric Width: Approximately 6 inches wide.
 - 3. Metal: 3-inch wide, 24 gauge galvanized steel.

2.5 DUCT TEST HOLES

- A. Permanent Test Holes: Factory fabricated, air tight flanged fittings with screw cap. Furnish extended neck fittings to clear insulation.

PART 3 - EXECUTION

3.1 EXAMINATION

- A. Verify rated walls are ready for fire damper installation.
- B. Verify ducts and equipment installation are ready for accessories.
- C. Check location of air outlets and inlets and make necessary adjustments in position to conform to architectural features, symmetry, and lighting arrangement.

3.2 INSTALLATION.

- A. Install in accordance with NFPA 90A, and follow SMACNA HVAC Duct Construction Standards - Metal and Flexible. Refer to Section 23 31 00 "HVAC Ducts and Casings" for duct construction and pressure class.
- B. Install Work in accordance with State and local standards.
- C. Install back-draft dampers on exhaust fans or exhaust ducts nearest to outside and where indicated on Drawings.
- D. Access Doors: Install access doors at the following locations and as indicated on Drawings:
 - 1. Before and after each duct mounted filter.
 - 2. Before and after each duct mounted coil.
 - 3. Before and after each duct mounted fan.
 - 4. Before and after each automatic control damper.
 - 5. Before and after each fire damper, smoke damper, or combination fire and smoke damper.
 - 6. Downstream of each VAV box.
 - 7. Install at locations for cleaning kitchen exhaust ductwork in accordance with NFPA 96.
- E. Access Door Sizes: Install minimum 8- by 8-inch size for hand access, 18- by 18-inch size for shoulder access, and as indicated on Drawings. Review locations prior to fabrication.
 - 1. Mark access doors for fire and smoke dampers on outside surface, with minimum 1/2-inch high letters reading: FIRE/SMOKE DAMPER, SMOKE DAMPER, OR FIRE DAMPER.
- F. Install temporary duct test holes and required for testing and balancing purposes. Cut or drill in ducts. Cap with neat patches, neoprene plugs, threaded plugs, or threaded or twist-on metal caps.
- G. Install permanent duct test holes and required for testing and balancing purposes.

- H. Install fire dampers, combination fire and smoke dampers, and smoke dampers at locations as indicated on Drawings. Install with required perimeter mounting angles, sleeves, breakaway duct connections, corrosion resistant springs, bearings, bushings and hinges.
 - 1. Install smoke dampers and combination smoke and fire dampers in accordance with NFPA 92A.
 - 2. Install dampers square and free from racking with blades running horizontally.
 - 3. Do not compress or stretch damper frame into duct or opening.
 - 4. Handle damper using sleeve or frame. Do not lift damper using blades, actuator, or jack shaft.
 - 5. Install bracing for multiple section assemblies to support assembly weight and to hold against system pressure. Install bracing as needed.

3.3 DEMONSTRATION

- A. Demonstrate re-setting of fire dampers to Owner's representative.

END OF SECTION

SECTION 23 34 00 - HVAC FANS

PART 1 - GENERAL

1.1 SUMMARY

- A. Section Includes:
 - 1. Sidewalk propeller fans.
 - 2. Centrifugal square inline fans.
- B. Related Sections:
 - 1. Division 01 Specification Sections apply to Work of this Section.

1.2 REFERENCES

- A. American Bearing Manufacturers Association:
 - 1. ABMA 9 - Load Ratings and Fatigue Life for Ball Bearings.
 - 2. ABMA 11 - Load Ratings and Fatigue Life for Roller Bearings.
- B. Air Movement and Control Association International, Inc.:
 - 1. AMCA 99 - Standards Handbook.
 - 2. AMCA 204 - Balance Quality and Vibration Levels for Fans.
 - 3. AMCA 210 - Laboratory Methods of Testing Fans for Aerodynamic Performance Rating.
 - 4. AMCA 300 - Reverberant Room Method for Sound Testing of Fans.
 - 5. AMCA 301 - Methods for Calculating Fan Sound Ratings from Laboratory Test Data.
- C. American Refrigeration Institute:
 - 1. ARI 1060 - Air-to-Air Energy Recovery Ventilation Equipment Certification Equipment Program.
- D. National Electrical Manufacturers Association:
 - 1. NEMA MG 1 - Motors and Generators.
 - 2. NEMA 250 - Enclosures for Electrical Equipment (1000 Volts Maximum).
- E. Underwriters Laboratories Inc.:
 - 1. UL 705 - Power Ventilators.

1.3 SUBMITTALS

- A. Section 23 05 00 "General Mechanical Requirements."
- B. Product Data: Submit data on each type of fan and include accessories, fan curves with specified operating point plotted, power, RPM, sound power levels for both fan inlet and outlet at rated capacity, electrical characteristics and connection requirements.
- C. Manufacturer's Installation Instructions: Submit fan manufacturer instructions.
- D. Manufacturer's Certificate: Certify products meet or exceed specified requirements.

1.4 CLOSEOUT SUBMITTALS

- A. Operation and Maintenance Data: Submit instructions for lubrication, motor and drive replacement, spare parts list, and wiring diagrams.

1.5 QUALITY ASSURANCE

- A. Performance Ratings: Conform to AMCA 210 and bear AMCA Certified Rating Seal.
- B. Sound Ratings: AMCA 301, tested to AMCA 300 ,and bear AMCA Certified Sound Rating Seal.
- C. UL Compliance: UL listed and labeled, designed, manufactured, and tested in accordance with UL 705.
- D. Balance Quality: Conform to AMCA 204.
- E. Perform Work in accordance with State and local standards.

1.6 QUALIFICATIONS

- A. Manufacturer: Company specializing in manufacturing products specified in this section with minimum 3 years' experience.
- B. Installer: Company specializing in performing Work of this section with minimum 3 years' experience.

1.7 DELIVERY, STORAGE, AND HANDLING

- A. Protect motors, shafts, and bearings from weather and construction dust.

1.8 FIELD MEASUREMENTS

- A. Verify field measurements prior to fabrication.

1.9 WARRANTY

- A. Section 23 05 00 "General Mechanical Requirements" for product warranties.

1.10 EXTRA MATERIALS

- A. Furnish two sets of belts for each fan.

PART 2 - PRODUCTS

2.1 SIDEWALL PROPELLER FANS

- A. Manufacturers:
 - 1. Greenheck Corporation..
 - 2. Loren Cook Company.
 - 3. Substitutions: Section 23 05 00 "General Mechanical Requirements."
- B. General Description:
 - 1. Fan arrangement shall be exhaust.
 - 2. Sidewall mounted applications.
 - 3. Each fan shall bear a permanently affixed manufacturer's engraved metal nameplate containing the model number and individual serial number.

- C. Wheel:
 - 1. Propeller constructed of cast aluminum tapered airfoil blades and cast aluminum hubs.
 - 2. Securely attached to motor shaft with a standard square key, set screw, and tapered bushing.
 - 3. Statically and dynamically balanced in accordance with AMCA Standard 204-05.
 - 4. The propeller and fan inlet will be matched and shall have precise running tolerances for maximum performance and operating efficiency.
- D. Motors:
 - 1. Electronically Commutated Motor:
 - a. Motor Enclosure: Open drip proof.
 - b. Motor to be a DC electronic commutation type motor (ECM) specially designed for fan application.
 - c. Motors are permanently lubricated, heavy duty ball bearing type to match with the fanload and pre-wired to the specific voltage and phase.
 - d. Internal motor circuitry to convert AC power supplied to the fan to DC power to operate the motor.
 - e. Motor shall be speed controllable down to 20 percent of full speed (80 percent turndown). Speed shall be controlled by either a potentiometer dial mounted at the motor or by a 0-10 VDC signal.
 - f. Motor shall be a minimum of 85 percent efficient at all speeds.
- E. Drive Frame:
 - 1. Frames and panels shall be bolted construction.
 - 2. Drive frame assemblies and fan panels shall be galvanized steel or inted steel.
 - 3. Drive frame shall have formed channels and fan panels shall have pre-punched mounting holes, formed flanges, and a deep formed one-piece inlet venturi.
- F. Options/Accessories:
 - 1. Damprs:
 - a. Type: WD-320, Gravity.
 - b. Prevents outside air from entering back into the building when fan is off.
 - c. Balanced for minimal resistance to flow.
 - d. Galvanized frames with pre-puched mounting holes.
 - 2. Discharge Diffusers:
 - a. Constructed of heavy gauge galvanized steel frame and blades.
 - b. Shall have pre-punch mouting flanges.
 - c. Designed to mount to the interior end of the wall housing when used in supply configuration.
 - 3. Wall Housing:
 - a. Fan panel will be mounted vertically drecting the air horizontally out of the building. Wall housing will be mounted in a manner that will not have any housing protruding outside the building. Motor and drives will be accessible from the interior of the building.
 - b. Construct3ed of galvanized steel with heavy gauge mounting flanges and pre-punches mounting holds.
 - c. Housing shall include OSHA approved motor guard.
 - d. Reduces installation time and provides maximum installation flexibility.

4. Weather Hood:
 - a. Shall shield wall opening and dampers from rain and snow.
 - b. Material Type: Galvanized.
 - c. Turndown Angle: 45 degrees.
 - d. 1/2- by 1/2-inch weld wire birdscreen.

2.2 CENTRIFUGAL SQUARE INLINE FANS

- A. Manufacturers:
 1. Greenheck Fan Corporation.
 2. Loren Cook Company.
 3. Substitutions: Refer to Section 23 05 00 "General Mechanical Requirements."
- B. General Description:
 1. Base fan performance at standard conditions (density 0.075 pounds per cubed feet).
 2. Normal operating temperature up to 130 degrees F.
 3. Applications include intake, exhaust, return, or makeup air systems.
 4. Each fan shall bear a permanently affixed manufacturer's engraved metal nameplate containing the model number and individual serial number.
- C. Fan Wheel:
 1. Backward inclined centrifugal type.
 2. Aluminum construction.
 3. Statically and dynamically balanced in accordance to AMCA Standard 204-05.
 4. The wheel cone and fan inlet will be matched and shall have precise running tolerances for maximum performance and operating efficiency.
 5. Single thickness blades are securely riveted or welded to a heavy gauge back plate and wheel cone.
- D. Electronically Commutated Motor:
 1. Motor Enclosure: Open drip proof..
 2. Motor to be a DC Electronic Commutation Type Motor (ECM) specifically designed for fan applications. AC induction type motors are not acceptable. Examples of unacceptable motors are Shaded Pole, Permanent Split Capacitor (PSC), Split Phase, Capacitor Start, and 3-phase induction type motors.
 3. Motors are permanently lubricated, heavy duty ball bearing type to match with fan load and pre-wired to the specific voltage and phase.
 4. Internal motor circuitry to convert AC power supplied to the fan to DC power to operate the motor.
 5. Motor shall be speed controllable down to 20 percent of full speed (80 percent turndown). Speed shall be controlled by either a potentiometer dial mounted at the motor or by a 1-10 VDC signal.
 6. Motor shall be a minimum of 85 percent efficient at all speeds.
- E. Housing/Cabinet Construction:
 1. Square design constructed of heavy gauge galvanized steel and shall include square duct mounting collars.
 2. Housing and bearing supports shall be constructed of heavy gauge bolted and welded steel construction to prevent vibration and to rigidly support the shaft and bearing assembly.
 3. Galvanized construction material
- F. Housing Supports and Drive Frame:
 1. Housing supports are constructed of structural steel with formed flanges.
 2. Drive frame is welded steel which supports the motor.

- G. Disconnect Switches:
 - 1. NEMA Rated: NEMA 1: Indoor application no water. Factory standard.
 - 2. Positive electrical shut-off.
 - 3. Wired from fan motor to junction box.
- H. Duct Collars:
 - 1. Square design to provide a large discharge area.
 - 2. Inlet and discharge collars provide easy duct connection.
- I. Access Panel: Two-sided access panels, permit easy access to all internal components.

PART 3 - EXECUTION

3.1 EXAMINATION

- A. Verify roof curbs are installed and dimensions are as instructed by manufacturer.

3.2 INSTALLATION

- A. Secure roof fans with cadmium plated steel lag screws to roof curb.
- B. Install backdraft dampers on inlet to roof exhaust fans.
- C. Install safety screen where inlet or outlet is exposed.
- D. Provide sheaves required for final air balance.

3.3 DEMONSTRATION

- A. Demonstrate fan operation and maintenance procedures.

3.4 PROTECTION OF FINISHED WORK

- A. Do not operate fans for until ductwork is clean, filters in place, bearings lubricated, and fan has been test run under observation.

END OF SECTION

SECTION 23 37 00 - AIR OUTLETS AND INLETS

PART 1 - GENERAL

1.1 SUMMARY

- A. Section Includes:
 - 1. Diffusers.
 - 2. Registers
 - 3. Grilles.
 - 4. Louvers.
- B. Related Sections:
 - 1. Division 01 Specification Sections apply to Work of this Section.

1.2 REFERENCES

- A. Air Movement and Control Association International, Inc.:
 - 1. AMCA 500 - Test Methods for Louvers, Dampers, and Shutters.
- B. American Society of Heating, Refrigerating and Air-Conditioning Engineers:
 - 1. ASHRAE 70 - Method of Testing for Rating the Performance of Air Outlets and Inlets.
- C. Sheet Metal and Air Conditioning Contractors:
 - 1. SMACNA - HVAC Duct Construction Standard - Metal and Flexible.

1.3 SUBMITTALS

- A. Division 01 and Section 23 05 00 "General Mechanical Requirements" for Submittal Procedures.
- B. Product Data: Submit sizes, finish, and type of mounting. Submit schedule of outlets and inlets showing type, size, location, application, and noise level.
- C. Test Reports: Rating of air outlet and inlet performance.
- D. Manufacturer's Certificate: Certify products meet or exceed specified requirements.

1.4 CLOSEOUT SUBMITTALS

- A. Section 01 70 00 - Execution and Closeout Requirements: Closeout procedures.
- B. Project Record Documents: Record actual locations of air outlets and inlets.

1.5 QUALITY ASSURANCE

- A. Test and rate diffuser, register, and grille performance in accordance with ASHRAE 70.
- B. Test and rate louver performance in accordance with AMCA 500.

1.6 QUALIFICATIONS

- A. Manufacturer: Company specializing in manufacturing products specified in this section with minimum 3 years' documented experience.

1.7 WARRANTY

- A. Section 01 70 00 "Execution and Closeout Requirements" for product warranties and product bonds.

PART 2 - PRODUCTS

2.1 DIFFUSERS, GRILLES, AND REGISTERS

- A. Manufacturers:
 - 1. Nailor.
 - 2. Titus.
 - 3. Price.
 - 4. Substitutions: Section 23 05 00 "General Mechanical Requirements."

2.2 LOUVERS

- A. Manufacturers:
 - 1. Cesco Products.
 - 2. Greenheck Fan Corporation.
 - 3. Pottorff.
 - 4. Ruskin Company.
 - 5. Substitutions: Section 23 05 00 "General Mechanical Requirements."

PART 3 - EXECUTION

3.1 EXAMINATION

- A. Verify inlet and outlet locations.
- B. Verify ceiling or wall systems are ready for installation.

3.2 INSTALLATION

- A. Install diffusers to ductwork with airtight connection.
- B. Install balancing dampers on duct take-off to diffusers, grilles, and registers, whether or not dampers are furnished as part of diffuser, grille, and register assembly.
- C. Paint visible portion of ductwork behind air outlets and inlets matte black.
- D. Do not locate air registers, diffusers or grilles in floors of toilet or bathing rooms.

3.3 INTERFACE WITH OTHER PRODUCTS

- A. Check location of outlets and inlets and make necessary adjustments in position to conform to architectural features, symmetry, and lighting arrangement.

3.4 SCHEDULES

- A. Refer to Drawings for all schedules.

END OF SECTION

SECTION 23 81 26.20 - SPLIT-SYSTEM HEAT PUMPS

PART 1 - GENERAL

1.1 SUMMARY

- A. Section Includes:
 - 1. Air handling unit.
 - 2. Condensing unit.
- B. Related Requirements:
 - 1. Division 01 Specification Sections apply to Work of this Section.
 - 2. Section 23 05 00 "General Maintenance Requirements."
 - 3. Division 26 Electrical.

1.2 REFERENCES

- A. Air-Conditioning and Refrigeration Institute:
 - 1. ARI 210/240 - Unitary Air-Conditioning and Air-Source Heat Pump Equipment.
 - 2. ARI 270 - Sound Rating of Outdoor Unitary Equipment.
 - 3. ARI 340/360 - Commercial and Industrial Unitary Air-Conditioning and Heat Pump Equipment.
- B. American Society of Heating, Refrigerating and Air-Conditioning Engineers:
 - 1. ASHRAE 52.1 - Gravimetric and Dust-Spot Procedures for Testing Air-Cleaning Devices Used in General Ventilation for Removing Particulate Matter.
- C. National Fire Protection Association:
 - 1. NFPA 90A - Standard for the Installation of Air Conditioning and Ventilating Systems.

1.3 SUBMITTALS

- A. Refer to Division 01 and Section 23 05 00 "General Mechanical Requirements" for submittals.
- B. Product Data: Submit data indicating:
 - 1. Cooling and heating capacities.
 - 2. Dimensions.
 - 3. Weights.
 - 4. Rough-in connections and connection requirements.
 - 5. Duct connections.
 - 6. Electrical requirements with electrical characteristics and connection requirements.
 - 7. Controls.
 - 8. Accessories.
- C. Manufacturer's Installation Instructions: Submit assembly, support details, connection requirements, and include start-up instructions.
- D. Manufacturer's Certificate: Certify products meet or exceed specified requirements.

1.4 CLOSEOUT SUBMITTALS

- A. Project Record Documents: Record actual locations of controls installed remotely from units.
- B. Operation and Maintenance Data: Submit manufacturer's descriptive literature, operating instructions, installation instructions, and maintenance and repair data.

1.5 QUALITY ASSURANCE

- A. Cooling Capacity: Rate in accordance with ARI 210/240.
- B. Sound Rating: Measure in accordance with ARI 270.
- C. Insulation and adhesives: Meet requirements of NFPA 90A.

1.6 QUALIFICATIONS

- A. Manufacturer: Company specializing in manufacturing products specified in this Section with minimum 3 years' experience.
- B. Installer: Company specializing in performing Work of this Section with minimum 3 years' experience.

1.7 DELIVERY, STORAGE, AND HANDLING

- A. Accept units and components on site in factory protective containers, with factory shipping skids and lifting lugs. Inspect for damage.
- B. Protect units from weather and construction traffic by storing in dry, roofed location.

1.8 WARRANTY

- A. Furnish 5 year manufacturer's warranty for compressors.

PART 2 - PRODUCTS

2.1 MINI SPLIT SYSTEM AIR CONDITIONING UNITS

- A. Manufacturers:
 - 1. Carrier Corp.
 - 2. Daikin.
 - 3. Mitsubishi Electric.
 - 4. L.G.
 - 5. Samsung.
 - 6. Substitutions: Refer to Section 23 05 00 "General Mechanical Requirements."
- B. Wall-Mounted Indoor Unit:
 - 1. Indoor unit shall be factory assembled, wired, and run tested. Contained within the unit shall be all factory wiring, piping, control circuit board and fan motor. The unit shall have a self-diagnostic function, 3-minute time delay mechanism, an auto restart function, an emergency operation function, and a test run switch. Indoor unit and refrigerant pipes will be charged with dry air instead of refrigerant, before shipment from factory.

2. Unit Cabinet:
 - a. Casing shall have a white finish.
 - b. Multi-directional drain and refrigerant piping offering four directions for refrigerant piping and two directions for draining shall be standard.
 - c. There shall be a separate back plate which secures the unit firmly to the wall.
3. Fan:
 - a. Evaporator fan shall be an assembly with a line-flow fan directly driven by a single motor.
 - b. Fan shall be statically and dynamically balanced and run on a motor with permanently lubricated bearings.
 - c. A manual adjustable guide vane shall be provided with ability to change the airflow from side to side (left to right).
 - d. A motorized air sweep flow louver shall provide an automatic change in airflow by directing the air up and down to provide for uniform air distribution.
 - e. Indoor fan shall consist of three speeds: high, medium, and low.
4. Filter: Return air shall be filtered by means of an easily removable washable filter.
5. Coil:
 - a. Evaporator coil shall be of nonferrous construction with smooth plate fins on copper tubing.
 - b. Tubing shall have inner grooves for high efficiency heat exchange.
 - c. All tube joints shall be brazed with phos copper or silver alloy.
 - d. Coils shall be pressure tested at the factory.
 - e. A condensate pan and drain shall be provided under the coil.
6. Electrical:
 - a. Unit shall be powered from the outdoor unit.
 - b. Indoor unit shall not have any supplemental electrical heat elements.
7. Control: Provide 7-day electronic programmable WIFI thermostat.
 - a. This unit shall have a wireless controller to perform input functions necessary to operate the system.
 - b. Controller shall consist of a power on/off switch, model selector, temperature setting, time control, fan speed select, and auto vane selector.
 - c. Temperature changes shall be by 2 degrees F increments with a range of 59 to 89 degrees F.
 - d. Microprocessor located in the indoor unit shall have the capability of sensing return air temperature and indoor coil temperature, receiving and processing commands from the wireless controller, providing emergency operation, and controlling the outdoor unit.
 - e. System shall be capable of automatic restart when power is restored after power interruption.
 - f. Control system shall control the continued operation of the air sweep louvers, as well as provide on/off and system/mode function switching.
- C. Outdoor Unit:
 1. Outdoor unit is designed specifically for use with the indoor units. The unit must have a powder coating finish. Outdoor unit shall be completely factory assembled, piped, and wired. Each unit must be run tested at the factory.
 2. Unit Cabinet: casing shall be fabricated of galvanized steel, bonderized, and finished with a powder coating baked enamel. Provide with manufacturer's hail guard.
 3. Fan:
 - a. Unit shall be furnished with a direct drive propeller-type fan.
 - b. Motor shall have inherent protection by permanently lubricated bearings.

- c. Fan motor shall be mounted for quiet operation.
 - d. Fan shall be provided with a raised guard to prevent contact with moving parts.
 - e. Outdoor unit shall have a horizontal discharge airflow.
- 4. Coil:
 - a. Condenser coil shall be nonferrous construction with lanced or corrugated plate fins on copper tubing.
 - b. Coil shall be protected with an integral metal guard.
 - c. Refrigerant flow from the condenser shall be controlled by means of a metering orifice.
 - d. Provide with either a factory installed or field installed hail screen.
- 5. Compressor:
 - a. Compressor shall be a high-performance rotary.
 - b. Outdoor unit shall have an accumulator.
 - c. Compressor will be equipped with an internal thermal overload.
 - d. Outdoor unit must have the ability to operate with a maximum height difference of 25 feet and have refrigerant tubing length of 49 feet between indoor and outdoor units with the need for line size changes, traps, or additional oil.
 - e. Compressor shall be mounted to avoid the transmission of vibration.
- 6. Electrical:
 - a. Unit electrical power shall be as scheduled.
 - b. Outdoor unit shall be controlled by the microprocessor located in the indoor unit.

2.2 ELECTRICAL CHARACTERISTICS AND COMPONENTS

- A. Electrical Characteristics: In accordance with Division 26 Electrical.

PART 3 - EXECUTION

3.1 EXAMINATION

- A. Verify piping rough-in is at correct location.
- B. Verify electrical rough-in is at correct location.

3.2 INSTALLATION

- A. Install refrigerant piping from unit to remote condensing unit. Install refrigerant specialties furnished with unit.
- B. Pipe condensate from drain pan to condensate drainage system. Refer to Drawings.
- C. Install accessories furnished loose for field mounting.
- D. Install electrical devices furnished loose for field mounting.
- E. Install control wiring between unit control panel and field mounted control devices.

3.3 CLEANING

- A. After construction is completed, clean exposed surfaces of units.
- B. Vacuum clean coils and inside of unit cabinet.
- C. Touch-up marred or scratched surfaces of factory finished cabinets using finish materials furnished by manufacturer.

3.4 DEMONSTRATION

- A. Demonstrate unit operation and maintenance.
- B. Furnish services of manufacturer's technical representative for 2 hours to instruct Owner's personnel in operation and maintenance of units. Schedule training with Owner, provide at least 7 days notice of training date.

3.5 PROTECTION OF FINISHED WORK

- A. Protect finished surfaces of cabinets with protective covers during remainder of construction.

END OF SECTION

SECTION 23 82 39 - UNIT HEATERS

PART 1 - GENERAL

1.1 SUMMARY

- A. Section includes suspended heaters with electric-resistance heating coils.
- B. Related Requirements:
 - 1. Division 01 Specification Sections apply to Work of this Section.

1.2 REFERENCES

- A. American Society of Heating, Refrigerating and Air-Conditioning Engineers:
 - 1. ASHRAE 90.1 – Energy Standard for Buildings Except Low-Rise Residential Buildings.
 - 2. ASHRAE 33: Method of Testing Forced Circulation Air Cooling and Heating Coils.
- B. National Fire Protection Association:
 - 1. NFPA 70: National Electrical Code.
 - 2. NFPA 90A: Standard for the Installation of Air Conditioning and Ventilating Systems.
 - 3. NFPA 90B: Standard for the Installation of Warm Air Heating and Air Conditioning Systems.
- C. UL LLC:
 - 1. UL 823: Standard for Electric Heaters for Use in Hazardous (Classified) Locations.
 - 2. UL 1995: Heating and Cooling Equipment.
 - 3. UL 2021: Fixed and Location-Dedicated Electric Room Heaters.

1.3 SUBMITTALS

- A. Division 01 and Section 23 05 00 “General Mechanical Requirements” for submittals.
- B. Product Data: Submit manufacturer’s literature and data indicating rated capacities, weights, accessories, electrical nameplate data, and wiring diagrams.
- C. Manufacturer’s Installation Instructions: Submit/indicate rigging and assembly.
- D. Manufacturer’s Certificate: Certify products meet or exceed specified requirements.

1.4 CLOSEOUT SUBMITTALS

- A. Operation and Maintenance Data: Submit manufacturer’s descriptive literature, operating instructions, maintenance and repair data, and parts listing.

1.5 QUALITY ASSURANCE

- A. Perform Work in accordance with State and local standards.

1.6 QUALIFICATIONS

- A. Manufacturer: Company specializing in manufacturing products specified in this Section with minimum 3 years' experience.
- B. Installer: Company specializing in performing Work of this Section with minimum 3 years' experience.

1.7 DELIVERY, STORAGE, AND HANDLING

- A. Accept heaters and controls on site in factory packaging. Inspect for damage.

1.8 FIELD MEASUREMENTS

- A. Verify field measurements prior to fabrication.

PART 2 - PRODUCTS

2.1 ELECTRIC RESISTANCE CEILING HEATERS

- A. Manufacturers:
 - 1. Reznor.
 - 2. Markel.
 - 3. Substitutions: Refer to Section 23 05 00 "General Mechanical Requirements" for substitutions.
- B. Self-contained, packaged, factory assembled, prewired unit consisting of cabinet, supply fan, heater exchanger, controls and accessories:
 - 1. Discharge Louvers: Flat ribbon wire, stamped-steel, or extruded aluminum grille.
 - 2. Control Voltage: 24 Volt, 60 Hertz.
 - 3. Location: Suspended mount.
 - 4. Heat ON indicator light.
- C. Cabinet: Galvanized steel, corrosion resistant baked enamel finish, easily removed and secured access panels, insulated or double panel construction, constructed to fit into a ceiling.
- D. Supply Fan: Propeller type with direct drive.
- E. Heat Exchanger: Nickel-chromium-wire heating element enclosed in metallic sheath mechanically bonded into fins, or stainless steel tubular elements with aluminum fins, with automatic, integrated high-temperature cutout and overheat reset sensor. Element supports shall eliminate thermal expansion noise.
- F. Controls:
 - 1. Thermostat integral to heater.
- G. Motor Type: Permanently lubricated, totally enclosed, thermally protected, continuous duty.

PART 3 - EXECUTION

3.1 EXAMINATION

- A. Examine areas to receive unit heaters for compliance with requirements for installation tolerances and other conditions affecting performance.

3.2 INSTALLATION

- A. Install units in accordance with NFPA 90B and NFPA 70.
- B. Provide hangers and supports for suspended units. Refer Section 23 05 29 "Hangers and Supports for HVAC Piping and Equipment."
- C. Provide operating controls.
- D. Provide connection to electrical power systems. Refer to Division 26.

END OF SECTION

SECTION 26 05 00 - BASIC ELECTRICAL METHODS

PART 1 - GENERAL

1.1 SUMMARY

- A. Related Requirements:
 - 1. Division 01 Specification Sections apply to Work of this Section.

1.2 REQUIREMENTS OF REGULATORY AGENCIES AND STANDARDS

- A. Regulatory Agencies: Installation, materials, equipment and Workmanship shall conform to the applicable provisions of the following:
- B. National Electrical Code (NEC).
- C. National Electrical Safety Code (NESC).
- D. Terms and conditions of the electrical utility and other authorities having lawful jurisdiction pertaining to the Work required.
- E. All temperature control wiring and associated conduit and boxes, shall be provided under other Sections of the Specifications. All power and control wiring, not identified under Divisions 22 and 23, shall be provided under Division 26.
- F. The Work covered by Division 26 of the Specifications includes the furnishing of all materials, labor, transportation, tools, permits, and fees for the complete installation of all electrical Work required in the Contract Drawings.
- G. In the event that additional or special construction is required, Contractor is responsible for providing all material and equipment which are usually furnished with such construction in order to complete the installation, whether indicated or not.
- H. Contractor shall familiarize himself with the existing conditions of the Site and advise Engineer of any discrepancy or conflict prior to bidding.
- I. Contractor shall be responsible for all permits, fees, and licenses required for the Project. All cost of such permits or fees shall be included in the bid.
- J. All equipment and material shall be installed in accordance with applicable manufacturer's recommendations and standards.
- K. Install sleeves, sealant pans, and roof penetrations as required for the installation of the electrical Work. All such Work is subject to the approval of Engineer.
- L. Contractor shall be responsible for coordinating with the utility service provider to verify all locations, routing, equipment and labor that will be furnished as a part of this Contract.
- M. Any fees or charges associated with delivering permanent power for the Project shall be included in Contractor's bid.

1.3 SUBMITTALS

- A. The intent of this Section is to give general submittal information; refer to specific submittal information in the subsequent Mechanical Sections.

- B. Within 10 days after award of the Contract, and before orders are placed, Contractor shall submit specific information on list of equipment and principal materials specified. Contractor shall indicate and/or provide names of manufacturers, catalog and model numbers, cut sheets, and such other supplementary information as necessary for evaluation. Minimum of six copies, or as directed by Engineer, of each shall be submitted and shall include all items mentioned by model number and/or manufacturer's name in the Specifications or in schedules on the Drawings.
- C. Requirements for Each Submittal:
 - 1. Bear a dated stamp or specific written indication that Contractor has reviewed and approved all submittal prior to submission to Engineer.
 - 2. Have all information deleted by Contractor that pertains to the means and methods of construction or to fabrication, assembly, installation, or erection (approval by Engineer shall not extend to these areas unless specifically noted by Engineer).
 - 3. Be clearly and SPECIFICALLY marked as to which specific piece of equipment is being submitted, by use of a permanent marker, stamp, etc., so as to distinguish it from other pieces of equipment that may occur on the same page.
 - 4. Be clearly marked as to which available options are being submitted that are associated with a piece of equipment.
 - 5. Be complete with respect to quantities, dimensions, specific performance, materials, and similar data to enable Engineer to review the proposed equipment.
- D. Omission by Contractor of any of the above requirements or submittals will subject submittal to automatic rejection without review.
- E. Any submittals received by Engineer that were not requested shall be returned without review of any kind.

PART 2 - PRODUCTS

2.1 EQUIPMENT REQUIREMENTS

- A. The electrical requirements for equipment specified or indicated on the Drawings are based on information available at the time of design. If equipment furnished for installation has electrical requirements other than indicated on the Electrical Drawings, Contractor shall make any required changes to wire and conduit size, controls, overcurrent protection, and installation as required to accommodate the equipment supplied, without additional charge to Owner. The complete responsibility and costs for such adjustments shall be assigned to the respective Section of this Specification under which the equipment is furnished.

2.2 MATERIALS

- A. All similar materials and equipment shall be the product of the same manufacturer unless specified otherwise.
- B. Materials and equipment shall be the standard products of manufacturers regularly engaged in the production of such material and shall be the manufacturer's current and standard design.
- C. Altitude: Equipment affected by altitude shall perform satisfactorily for the function intended at the altitude of the Project Site.

- D. Detectable Warning Tape: Acid and alkali-resistant polyethylene film warning tape manufactured for marking and identifying underground utilities, minimum 6-inch-wide and 4 mils thick, continuously inscribed with a description of utility, with metallic core encased in a protective jacket for corrosion protection, detectable by metal detector when tape is buried up to 30 inch deep; colored as follows:
 - 1. Red: Electric.
 - 2. Yellow: Gas, oil, steam, and dangerous materials.
 - 3. Orange: Telephone and other communications.
 - 4. Blue: Water systems.
 - 5. Green: Sewer systems.
- E. Backfill Material:
 - 1. Material 4 inches below and 12 inches above pipes and conduit shall be natural or manufactured sand complying to ASTM C33.
 - 2. Material more than 12 inches above pipes and conduits shall be sand indicated above or native fill free of rock or gravel larger than 3/8-inches in any dimension, debris, waste, frozen materials, vegetation, and other deleterious matter.

PART 3 - EXECUTION

3.1 GENERAL

- A. Fabrication, erection, and installation of the complete electrical system shall be done in accordance with accepted good practice by qualified personnel experienced in such Work and shall proceed in an orderly manner so as not to impede the progress of the Project. Electrical Contractor shall check all areas and surfaces where electrical equipment material is to be installed, removed, or relocated and report any unsatisfactory conditions before starting Work. Commencement of Work signifies this Contractor's acceptance of existing conditions. In the acceptance or rejection of the finished installation, no allowance will be made for lack of skill on the part of Workers. Surfaces requiring coatings will be completed prior to installation of any electrical Work on these surfaces.
- B. The Electrical Drawings are diagrammatic. The installation requirements shall be carefully coordinated with structural, architectural, and mechanical conditions and shall be adjusted to avoid conflict.
- C. All Work shall be concealed in walls, ceilings, and chases unless specifically noted to be exposed or otherwise approved.
- D. The locations of electrical equipment are approximate and are not intended to convey the exact details and mounting of location of outlets, equipment, and other items. Exact locations are to be field determined by actual measurements.
- E. The location height and projection of fixtures illuminating signs or special features shall be approved by Engineer prior to installation.
- F. Contractor shall coordinate the location of all exterior fixtures with architectural Drawings and Specifications.
- G. Consult architectural Drawings to determine wall finishes and locations of wall-mounted equipment, countertop splashes, and similar items to avoid conflict with electrical equipment. At locations where surface or pendant mounted light fixtures are noted, provide for all necessary framing channels, pendants, chains, canopies, and other hardware as required for a complete and operable system.

- H. Protect subgrades and foundation soils against freezing temperatures or frost. Provide protective insulating materials as necessary.
- I. Excavation for Pipe and Conduit:
 - 1. Excavate trenches to indicated gradients, lines, depths, and elevations.
 - 2. Excavate trenches to uniform widths to provide a Working clearance on each side of pipe or conduit. Excavate trench walls vertically from trench bottom to 12 inches higher than top of pipe or conduit, unless otherwise indicated.
 - 3. Trench Bottoms: Excavate and shape trench bottoms to provide uniform bearing and support of pipes and conduit. Shape subgrade to provide continuous support for bells, joints, and barrels of pipes and for joints, fittings, and bodies of conduits. Remove projecting stones and sharp objects along trench subgrade.
 - a. For pipes and conduit less than 6 inches in nominal diameter and flat-bottomed, multiple-duct conduit units, hand excavate trench bottoms and support pipe and conduit on an undisturbed subgrade.
 - b. For pipes and conduit 6 inches or larger in nominal diameter, shape bottom of trench to support bottom 90 degrees of pipe circumference. Fill depressions with tamped sand backfill.
 - c. Excavate trenches 4 inches deeper than elevation required in rock or other unyielding bearing material to allow for bedding course.
 - 4. Place backfill and fill materials in layers not more than 8 inches in loose depth for material compacted by heavy compaction equipment, and not more than 4 inches in loose depth for material compacted by hand-operated tampers.
 - 5. Compact soil to not less than the following percentages of maximum dry unit weight according to ASTM D698:
 - a. Under structures, building slabs, steps, and pavements, scarify and recompact top 12 inches of existing subgrade and each layer of backfill or fill material at 95 percent.
 - b. Under walkways, scarify and recompact top 6 inches below subgrade and compact each layer of backfill or fill material at 92 percent.
 - c. Under lawn or unpaved areas, scarify and recompact top 6 inches below subgrade and compact each layer of backfill or fill material at 85 percent.
 - 6. Install detectable warning tape above conduits and pipe, 12 inches below finished grade, except 6 inches below subgrade under pavements and slabs.
 - 7. Protection:
 - a. Protecting Graded Areas: Protect newly graded areas from traffic, freezing, and erosion. Keep free of trash and debris.
 - b. Repair and reestablish grades to specified tolerances where completed or partially completed surfaces become eroded, rutted, settled, or where they lose compaction due to subsequent construction operations or weather conditions.
 - 1) Scarify or remove and replace soil material to depth as directed by Engineer; reshape and recompact.
 - c. Where settling occurs before Project correction period elapses, remove finished surfacing, backfill with additional soil material, compact, and reconstruct surfacing.
 - 1) Restore appearance, quality, and condition of finished surfacing to match adjacent Work, and eliminate evidence of restoration to the greatest extent possible.

8. Disposal of Surplus and Waste Materials:
 - a. Disposal: Remove surplus satisfactory soil and waste material, including unsatisfactory soil, trash, and debris, and legally dispose of it off Owner's property unless otherwise directed by Owner.
 - b. Repair: Any damage to shrubs, grass or structures shall be repaired to previous condition by Contractor at no additional expense to Owner.
- J. It shall be the responsibility of Division 26 Contractor to provide for all disconnecting and motor control devices for all equipment. Contractor shall coordinate to determine voltage, phase, and configurations. Any changes necessary to coordinate these items between Divisions 22, 23, and 26 shall be considered part of this Contract.
- K. Division 26 Contractor shall be responsible for providing for all power requirements associated with the mechanical systems including power, control devices, smoke dampers, etc. Refer to Division 22 and 23 Drawings for locations and requirements. Connect all smoke dampers to the fire alarm control panel.

3.2 PERFORMANCE TESTS

- A. Thoroughly test all control circuits, fixtures, services, and all circuits for proper operating condition and freedom from grounds and short circuits before acceptance is requested. All equipment, appliances, and devices shall be operated under load conditions.
- B. After the interior wiring system installation is complete conduct operating tests for approval. When requested, test all the wire, cable, devices, and equipment after installation, to assure that all material continues to possess all the original characteristics as required by governing codes and standards listed in these Specifications.
- C. After motor operation has been verified make voltage readings at all panelboards and starters. Based on these readings, make final adjustments of primary taps on all transformers in the building as directed, or coordinate with the utility proper building voltage.
- D. Perform such other tests as required by other Sections of these Specifications or as requested to prove acceptability.
- E. Furnish all instruments and labor for testing.
- F. All material installed shall be listed, inspected, and approved by a nationally accepted testing laboratory such as UL and/or ETL. All material shall bear the UL or ETL label where available.

3.3 SUBMITTAL AND APPROVAL OF MATERIALS

- A. All requirements for submittals shall comply with the applicable provisions included in the individual Specification Sections.
- B. Unless identified as a sole source item, the listing of product manufacturers, catalog numbers, etc., on Drawings is intended to establish a standard of quality of the product. It is the responsibility of Contractor to review all items he intends to submit. If equipment other than that indicated on Drawings is proposed by Contractor, the information will be reviewed at the time of the submission of the submittal.

END OF SECTION

SECTION 26 05 13 - BUILDING WIRE AND CABLE

PART 1 - GENERAL

1.1 SUMMARY

- A. Section Includes:
 - 1. Building wire and cable.
 - 2. Wiring connectors and connections.
- B. Related Requirements:
 - 1. Division 01 Specification Sections apply to Work of this Section.
 - 2. Section 01 40 00 "Quality Requirements" for requirements for references and standards.
 - 3. Section 26 05 53 "Electrical Identification."

1.2 REFERENCES

- A. NECA Standard of Installation (National Electrical Contractors Association).
- B. NETA ATS - Acceptance Testing Specifications for Electrical Power Distribution Equipment and Systems (International Electrical Testing Association).
- C. NFPA 70 - National Electrical Code.

1.3 SUBMITTALS FOR REVIEW

- A. Refer to Section 01 33 00 "Submittal Procedures" for procedures for Submittals.
- B. Product Data: Provide for each cable assembly type.

1.4 SUBMITTALS FOR INFORMATION

- A. Refer to Section 01 33 00 "Submittal Procedures" for procedures for Submittals.
- B. Test Reports: Indicate procedures and values obtained.
- C. Manufacturer's Installation Instructions: Indicate application conditions and limitations of use stipulated by product testing agency specified under Regulatory Requirements.

1.5 SUBMITTALS AT PROJECT CLOSEOUT

- A. Refer to Section 01 70 00 "Execution and Closeout Requirements" for procedures for submittals.
- B. Project Record Documents: Record actual locations of components and circuits.

1.6 QUALIFICATIONS

- A. Manufacturer: Company specializing in manufacturing products specified in this Section with minimum 3 years' documented experience.

1.7 REGULATORY REQUIREMENTS

- A. Conform to NFPA 70.
- B. Furnish products listed and classified by UL as suitable for the purpose specified and indicated.

1.8 FIELD SAMPLES

- A. Provide under provisions of Section 01 40 00 "Quality Requirements."

1.9 PROJECT CONDITIONS

- A. Refer to Section 01 30 00 "Administrative Requirements."
- B. Verify that field measurements are as indicated.
- C. Conductor sizes are based on copper.
- D. Wire and cable routing indicated is approximate unless dimensioned.

1.10 COORDINATION

- A. Coordinate Work under provisions of Section 01 30 00 "Administrative Requirements."
- B. Where wire and cable destination is indicated and routing is not shown, determine exact routing and lengths required.

PART 2 - PRODUCTS

2.1 BUILDING WIRE

- A. Manufacturers:
 - 1. American Cable.
 - 2. Houston Wire and Cable.
 - 3. Southwire.
 - 4. Substitutions: Refer to Section 01 60 00 "Product Requirements."
- B. Description: Single conductor insulated wire.
- C. Conductor: Copper.
- D. Insulation Voltage Rating: 600 volts.
- E. Insulation: NFPA 70, Type indicated herein.
- F. MC Cable: Shall not be utilized on this Project.

2.2 WIRING CONNECTORS

- A. Split Bolt Connectors:
 - 1. Buchanan.
 - 2. Burndy.
 - 3. Ilsco.
 - 4. Substitutions: Refer to Section 01 60 00 "Product Requirements."

- B. Solderless Pressure Connectors:
 - 1. Buchanan.
 - 2. Burndy.
 - 3. Ilsco.
 - 4. Substitutions: Refer to Section 01 60 00 "Product Requirements."
- C. Spring Wire Connectors:
 - 1. Ideal.
 - 2. Substitutions: Refer to Section 01 60 00 "Product Requirements."
- D. Compression Connectors:
 - 1. Buchanan.
 - 2. Burndy.
 - 3. Ilsco.
 - 4. Substitutions: Refer to Section 01 60 00 "Product Requirements."

PART 3 - EXECUTION

3.1 EXAMINATION

- A. Refer to Section 01 30 00 "Administrative Requirements" for verification of existing conditions before starting Work.
- B. Verify that interior of building has been protected from weather.
- C. Verify that mechanical Work likely to damage wire and cable has been completed.
- D. Verify that raceway installation is complete and supported.

3.2 PREPARATION

- A. Completely and thoroughly swab raceway before installing wire.

3.3 WIRING METHODS

- A. Concealed Dry Interior Locations: Use only building wire, Type THHN/THWN insulation, in raceway.
- B. Exposed Dry Interior Locations: Use only building wire, Type THHN/THWN insulation, in raceway.
- C. Above Accessible Ceilings: Use only building wire, Type THHN/THWN insulation, in raceway.
- D. Wet or Damp Interior Locations: Use only building wire, Type THHN/THWN insulation, in raceway.
- E. Exterior Locations: Use only building wire, Type THHN/THWN insulation, in raceway.
- F. Use wiring methods indicated.

3.4 INSTALLATION

- A. Refer to Section 01 40 00 "Quality Requirements" for manufacturer's instructions.
- B. Route wire and cable as required to meet Project Conditions.
- C. Install cable in accordance with the NECA "Standard of Installation."
- D. Use solid conductor for feeders and branch circuits 10 AWG and smaller.

- E. Use stranded conductors for control circuits.
- F. Use conductor not smaller than 12 AWG for power and lighting circuits with the exception of premanufactured fixture whips, listed for such use and not exceeding 6 feet in length.
- G. Use conductor not smaller than 14 AWG for control circuits.
- H. Use 10 AWG conductors for 20 ampere, 120 volt branch circuits longer than 100 feet and as indicated on the Drawings.
- I. Install all conductors in conduit.
- J. Pull all conductors into raceway at same time.
- K. Use suitable wire pulling lubricant for building wire 4 AWG and larger.
- L. Protect exposed cable from damage.
- M. All cables shall be neatly supported.
- N. Use suitable cable fittings and connectors.
- O. Neatly train and lace wiring inside boxes, equipment, and panelboards.
- P. Clean conductor surfaces before installing lugs and connectors.
- Q. Make splices, taps, and terminations to carry full ampacity of conductors with no perceptible temperature rise.
- R. Use split bolt connectors for copper conductor splices and taps, 6 AWG and larger. Tape uninsulated conductors and connector with electrical tape to 150 percent of insulation rating of conductor.
- S. Use solderless pressure connectors with insulating covers for copper conductor splices and taps, 8 AWG and smaller.
- T. Use insulated spring wire connectors with plastic caps for copper conductor splices and taps, 10 AWG and smaller.
- U. Identify and color code wire and cable under provisions of Section 26 05 53 "Electrical Identification." Identify each conductor with its circuit number or other designation indicated.
- V. The number of conductors in each conduit run shall be limited to the requirements as indicated on the Drawings and indicated in Article 310 of the National Electrical Code.

3.5 FIELD QUALITY CONTROL

- A. Refer to Section 01 40 00 "Quality Requirements" for field inspection, testing, and adjusting.
- B. Inspect and test in accordance with NETA ATS, except Section 4.
- C. Perform inspections and tests listed in NETA ATS, Section 7.3.1.

END OF SECTION

SECTION 26 05 19 - EQUIPMENT WIRING SYSTEMS

PART 1 - GENERAL

1.1 SUMMARY

- A. Section includes basic electrical connections to equipment specified under other Sections.
- B. Related Requirements:
 - 1. Division 01 Specification Sections apply to Work of this Section.
 - 2. Section 26 05 00 "Basic Electrical Methods."

1.2 REFERENCES

- A. NEMA WD 1 - General Purpose Wiring Devices.
- B. NEMA WD 6 - Wiring Device Configurations.
- C. ANSI/NFPA 70 - National Electrical Code.

1.3 SUBMITTALS

- A. Submit under provisions of Section 01 33 00 "Submittal Procedures."
- B. Product Data: Provide wiring device manufacturer's catalog information showing dimensions, configurations, and construction.
- C. Manufacturer's Instructions: Indicate application conditions and limitations of use stipulated by product testing agency specified under Regulatory Requirements. Include instructions for storage, handling, protection, examination, preparation, installation, and starting of product.

1.4 REGULATORY REQUIREMENTS

- A. Conform to requirements of ANSI/NFPA 70.
- B. Furnish products listed and classified by UL as suitable for purpose specified and shown.

1.5 COORDINATION

- A. Coordinate Work under provisions of Section 01 30 00 "Submittal Procedures."
- B. Obtain and review Shop Drawings, product data, and manufacturer's instructions for equipment furnished under other Sections.
- C. Determine connection locations and requirements.
- D. Sequence rough-in of electrical connections to coordinate with installation schedule for equipment.
- E. Sequence electrical connections to coordinate with startup schedule for equipment.

PART 2 - PRODUCTS

2.1 CORDS AND CAPS

- A. Attachment Plug Construction: Conform to NEMA WD 1.
- B. Configuration: NEMA WD 6; match receptacle configuration at outlet provided for equipment.

- C. Cord Construction: ANSI/NFPA 70, multiconductor flexible cord with identified equipment grounding conductor, suitable for use in damp locations.
- D. Size: Suitable for connected load of equipment, length of cord, and rating of branch circuit overcurrent protection.
- E. Division 26 Contractor shall be responsible for providing matching cord/receptacle for all equipment not furnished with such equipment.

PART 3 - EXECUTION

3.1 EXAMINATION

- A. Verify conditions under provisions of Section 01 30 00 "Submittal Procedures."
- B. Verify that equipment is ready for electrical connection, wiring, and energization.

3.2 ELECTRICAL CONNECTIONS

- A. Make electrical connections in accordance with equipment manufacturer's instructions.
- B. Make conduit connections to equipment using flexible conduit. Use liquidtight flexible conduit with watertight connectors in damp or wet locations.
- C. Make wiring connections using wire and cable with insulation suitable for temperatures encountered in heat producing equipment.
- D. Provide receptacle outlet where connection with attachment plug is indicated. Provide cord and cap where field-supplied attachment plug is indicated.
- E. Provide suitable strain-relief clamps and fittings for cord connections at outlet boxes and equipment connection boxes.
- F. Install disconnect switches, controllers, control stations, and control devices as indicated.
- G. Modify equipment control wiring with terminal block jumpers as indicated.
- H. Provide interconnecting conduit and wiring between devices and equipment where indicated.
- I. Check and modify phase connections as required for proper motor rotation.
- J. Provide power to equipment only after equipment supplier verifies acceptance to receive and approves.
- K. Contractor shall coordinate with all equipment to verify exact power and control wiring as required to properly serve equipment.

END OF SECTION

SECTION 26 05 26 - GROUNDING AND BONDING

PART 1 - GENERAL

1.1 SUMMARY

- A. Section Includes:
 - 1. Rod electrodes.
 - 2. Mechanical connectors.
 - 3. Exothermic connections.
 - 4. Wire.
- B. Related Requirements:
 - 1. Division 01 Specification Sections apply to Work of this Section.
 - 2. Section 01 40 00 "Quality Requirements" for requirements for references and standards.

1.2 REFERENCES

- A. NETA ATS - Acceptance Testing Specifications for Electrical Power Distribution Equipment and Systems (International Electrical Testing Association).
- B. NFPA 70 - National Electrical Code.

1.3 GROUNDING SYSTEM DESCRIPTION

- A. Metal underground water pipe.
- B. Metal frame of the building.
- C. Rod electrodes.

1.4 PERFORMANCE REQUIREMENTS

- A. Grounding System Maximum Resistance: 10 ohms.

1.5 SUBMITTALS FOR REVIEW

- A. Refer to Section 01 33 00 "Submittal Procedures."
- B. Product Data: Provide for grounding electrodes and connections.

1.6 SUBMITTALS FOR CLOSEOUT

- A. Refer to Section 01 70 00 "Execution and Closeout Requirements" for procedures for Submittals.
- B. Project Record Documents: Record actual locations of components and grounding electrodes.
- C. Certificate of Compliance: Indicate approval of installation by authority having jurisdiction.

1.7 QUALIFICATIONS

- A. Manufacturer: Company specializing in manufacturing products specified in this Section with minimum 3 years' documented experience, and with service facilities within 100 miles of Project.

1.8 REGULATORY REQUIREMENTS

- A. Conform to requirements of NFPA 70.
- B. Products: Listed and classified by UL as suitable for the purpose specified and indicated.

PART 2 - PRODUCTS

2.1 ROD ELECTRODES

- A. Material: Copper.
- B. Diameter: 3/4-inch.
- C. Length: 10 feet.

2.2 MECHANICAL CONNECTORS

- A. Description: In lieu of exothermic connections, high compression type as manufactured by Burndy using the 12 ton Hy-Ground series.

2.3 EXOTHERMIC CONNECTIONS

- A. Manufacturers: Cadweld.

2.4 WIRE

- A. Material: Stranded copper.
- B. Grounding Electrode Conductor: Minimum size to meet NFPA 70 requirements or as indicated on the Drawings.

PART 3 - EXECUTION

3.1 EXAMINATION

- A. Refer to Section 01 30 00 "Administrative Requirements" for verification of existing conditions prior to beginning Work.
- B. Verify that final backfill and compaction has been completed before driving rod electrodes.

3.2 INSTALLATION

- A. Refer to Section 01 40 00 "Quality Requirements" for manufacturer's instructions.
- B. Install rod electrodes. Install additional rod electrodes as required to achieve a resistance to ground of 10 ohms or less. Rods shall be installed with a minimum separation of 6 feet.
- C. Provide bonding to meet Regulatory Requirements.

- D. Bond together metal siding not attached to grounded structure; bond to ground.
- E. Equipment Grounding Conductor: Provide separate, insulated conductor within each feeder and branch circuit raceway. Terminate each end on suitable lug, bus, or bushing.
- F. Grounding Electrode System: The new grounding electrode system shall consist of the common bonding of building steel, underground steel water piping and supplemental ground rods, concrete re-enforcing bar, as detailed on the Drawings.
- G. Provide proper bonding of the electrical system's grounded conductor (neutral) and the grounding electrode system sized in accordance with NEC Article 250. This bonding shall occur at all locations where there are separately derived systems.

3.3 FIELD QUALITY CONTROL

- A. Refer to Section 01 40 00 "Quality Requirements" for field inspection, testing, and adjusting.
- B. Inspect and test in accordance with NETA ATS, except Section 4.
- C. Perform inspections and tests listed in NETA ATS, Section 7.13.

END OF SECTION

SECTION 26 05 29 - SUPPORTING DEVICES

PART 1 - GENERAL

1.1 SUMMARY

- A. Section Includes:
 - 1. Supports for conduit and equipment.
 - 2. Anchors and fasteners.
- B. Related Requirements:
 - 1. Division 01 Specification Sections apply to Work of this Section.

1.2 REFERENCES

- A. NECA - National Electrical Contractors Association.
- B. NFPA 70 - National Electrical Code.

1.3 REGULATORY REQUIREMENTS

- A. Conform to requirements of NFPA 70.
- B. Furnish products listed and classified by UL as suitable for purpose specified and shown.

PART 2 - PRODUCTS

2.1 SUPPORTS

- A. Provide materials, sizes, and types of anchors, fasteners and supports to carry the loads of equipment and conduit. Consider weight of wire in conduit when selecting products.

2.2 ANCHORS AND FASTENERS

- A. Concrete Structural Elements: Use expansion anchors, powder actuated anchors, and preset inserts.
- B. Steel Structural Elements: Use beam clamps, spring steel clips, and steel ramset fasteners.
- C. Concrete Surfaces: Use self-drilling anchors and expansion anchors.
- D. Sheet Metal: Use sheet metal screws.
- E. Wood Elements: Use wood screws.
- F. Roof Support/Jacks: Advanced supports products # SS1000A or approved equal.

2.3 MATERIALS AND FINISHES

- A. Provide adequate corrosion resistance.

PART 3 - EXECUTION

3.1 INSTALLATION

- A. Install products in accordance with manufacturer's instructions.
- B. Provide anchors, fasteners, and supports in accordance with NECA "Standard of Installation."
- C. Do not fasten supports to pipes, ducts, mechanical equipment, and conduit.
- D. Obtain permission from Engineer before drilling or cutting structural members.
- E. Fabricate supports from structural steel as indicated on drawings. Rigidly weld members or use hexagon head bolts to present neat appearance with adequate strength and rigidity. Use lock washers under all nuts.
- F. Install surface-mounted cabinets and panelboards with minimum of four anchors.
- G. In wet and damp locations, use steel channel supports to stand cabinets and panelboards 1 inch off wall.
- H. Install conduit supports a maximum spacing specified in the NEC.

END OF SECTION

SECTION 26 05 33 - CONDUIT

PART 1 - GENERAL

1.1 SUMMARY

- A. Section Includes:
 - 1. Metal conduit.
 - 2. Flexible metal conduit.
 - 3. Liquidtight flexible metal conduit.
 - 4. Electrical metallic tubing.
 - 5. Fittings and conduit bodies.
- B. Related Requirements:
 - 1. Division 01 Specification Sections apply to Work of this Section.
 - 2. Section 26 05 33.16 "Boxes."
 - 3. Section 26 05 53 "Electrical Identification."

1.2 REFERENCES

- A. ANSI C80.1 - Rigid Steel Conduit, Zinc Coated.
- B. ANSI C80.3 - Electrical Metallic Tubing, Zinc Coated.
- C. ANSI/NEMA FB 1 - Fittings, Cast Metal Boxes, and Conduit Bodies for Conduit and Cable Assemblies.
- D. NECA "Standard of Installation."
- E. NEMA TC 3 - PVC Fittings for Use with Rigid PVC Conduit and Tubing.
- F. NFPA 70 - National Electrical Code.

1.3 DESIGN REQUIREMENTS

- A. Conduit Size: NFPA 70.

1.4 SUBMITTALS

- A. Submit under provisions of Section 01 33 00 "Submittal Procedures."
- B. Product Data: Provide for metallic conduit, flexible metal conduit, liquidtight flexible metal conduit, nonmetallic conduit, fittings and conduit bodies.

1.5 PROJECT RECORD DOCUMENTS

- A. Submit under provisions of Section 01 70 00 "Execution and Closeout Requirements."
- B. Accurately record actual routing of conduits.

1.6 REGULATORY REQUIREMENTS

- A. Conform to requirements of ANSI/NFPA 70.
- B. Furnish products listed and classified by UL as suitable for purpose specified and shown.

1.7 DELIVERY, STORAGE, AND HANDLING

- A. Deliver, store, protect, and handle products to site under provisions of Section 01 60 00 "Product Requirements."
- B. Accept conduit on site. Inspect for damage.
- C. Protect conduit from corrosion and entrance of debris by storing above grade. Provide appropriate covering.
- D. Protect PVC conduit from sunlight.

1.8 PROJECT CONDITIONS

- A. Verify that field measurements are as shown on Drawings.
- B. Verify routing and termination locations of conduit prior to rough-in.
- C. Conduit routing is shown on Drawings in approximate locations unless dimensioned. Route as required to complete wiring system.

PART 2 - PRODUCTS

2.1 CONDUIT REQUIREMENTS

- A. Minimum Size: 3/4-inch for all branch circuits located above ceiling. Contractor may use 1/2-inch conduit down the wall to receptacles and light switches.
- B. Wet and Damp Locations above grade: Use rigid steel or liquid tight flexible conduit.
- C. Dry Locations: Use electrical metallic tubing for concealed and exposed locations.
- D. Below Slab: Non-metallic PVC conduit is acceptable within limitations specified.
- E. Below Grade: Use only PVC coated rigid galvanized steel, wrapped rigid steel, or non-metallic PVC conduit within limitations specified.
- F. MC Cable: Shall not be utilized on this Project.

2.2 METAL CONDUIT

- A. Manufacturers:
 - 1. Allied.
 - 2. Wheatland.
 - 3. Substitutions: Under provisions of Section 01 60 00 "Product Requirements."
- B. Rigid Steel Conduit: ANSI C80.1.
- C. Fittings and Conduit Bodies: ANSI/NEMA FB 1; all steel fittings.

2.3 FLEXIBLE METAL CONDUIT

- A. Manufacturers:
 - 1. Allied Tube.
 - 2. Electri-Flex.
 - 3. Greenfield.
 - 4. Substitutions: Under provisions of Section 01 60 00 "Product Requirements."
- B. Description: Interlocked steel construction. Aluminum is not permitted.

- C. Fittings: ANSI/NEMA FB 1 with fittings approved for steel flex.
- D. Applications: Use for final connections to motorized equipment, connections to recessed lighting fixtures located in accessible ceilings, and connections to dry type transformers. Utilization of 3/8-inch in lieu of the minimum 1/2-inch is acceptable under the limitations of the National Electrical Code.

2.4 LIQUIDTIGHT FLEXIBLE METAL CONDUIT

- A. Manufacturers:
 - 1. Electri-flex.
 - 2. Ultratite.
 - 3. Substitutions: Under provisions of Section 01 60 00 "Product Requirements."
- B. Description: Interlocked steel construction with PVC jacket.
- C. Fittings: ANSI/NEMA FB 1.
- D. Applications: Use for final connections to motorized equipment in exterior locations and areas subjected to moisture (kitchen).

2.5 ELECTRICAL METALLIC TUBING (EMT)

- A. Manufacturers:
 - 1. Allied.
 - 2. Substitutions: Under provisions of Section 01 60 00 "Product Requirements."
- B. Description: ANSI C80.3; galvanized tubing.
- C. Fittings and Conduit Bodies: ANSI/NEMA FB 1; all steel, compression or set screw.
- D. Applications: Do not use below grade or in exterior locations. Use only in interior locations.

2.6 PVC COATED METAL CONDUIT

- A. Manufacturers:
 - 1. Levy.
 - 2. Robroy Industries.
 - 3. Substitutions: Under provisions of Section 01 60 00 "Product Requirements."
- B. Description: NEMA RN-1, rigid steel conduit with external PVC coating, 20 mil thick.
- C. General: Protective layer may be factory applied or galvanized rigid steel conduit may be applied with two layers of corrosion resistant tape.
- D. Fittings and Conduit Bodies: ANSI/NEMA FB 1; steel fittings with external PVC coatings to match conduit.

2.7 NON-METALLIC PVC CONDUIT

- A. Manufacturers:
 - 1. Allied.
 - 2. Carlon.
 - 3. Substitutions: Under provisions of Section 01 60 00 "Product Requirements."
- B. Description: NEMA TC2; Schedule 40 PVC. Flame retardant type resistant to bending and cracking.
- C. Fittings and conduit bodies: NEMA TC3.
- D. Vertical risers and ells installed below grade shall be rigid steel with wrapping.
- E. Do not use above grade.

- F. Joints made with PVC fittings shall be applied with solvent compound after thorough cleaning.
- G. Refer to Part 3. Do not use PVC conduit for conduits passing vertically through the slab.

PART 3 - EXECUTION

3.1 INSTALLATION

- A. Install conduit in accordance with NECA "Standard of Installation."
- B. Install nonmetallic conduit in accordance with manufacturer's instructions.
- C. Arrange supports to prevent misalignment during wiring installation.
- D. Support conduit using coated steel or malleable iron straps, lay-in adjustable hangers, clevis hangers, and split hangers.
- E. Group related conduits; support using conduit rack. Construct rack using steel channel.
- F. Fasten conduit supports to building structure and surfaces under provisions of Section 26 05 29 "Supporting Devices."
- G. Do not support conduit with wire or perforated pipe straps. Remove wire used for temporary supports.
- H. Do not attach conduit to ceiling support wires.
- I. Arrange conduit to maintain headroom and present neat appearance.
- J. Route exposed conduit parallel and perpendicular to walls.
- K. Route conduit installed above accessible ceilings parallel and perpendicular to walls.
- L. Maintain adequate clearance between conduit and piping.
- M. Maintain 12-inch clearance between conduit and surfaces with temperatures exceeding 104 degrees F.
- N. Cut conduit square using saw or pipecutter; de-burr cut ends.
- O. Bring conduit to shoulder of fittings; fasten securely.
- P. Use conduit hubs or sealing locknuts to fasten conduit to sheet metal boxes in damp and wet locations and to cast boxes.
- Q. Install no more than equivalent of three 90-degree bends between boxes. Use conduit bodies to make sharp changes in direction, as around beams. Use factory elbows for bends in metal conduit larger than 2-inch size.
- R. Avoid moisture traps; provide junction box with drain fitting at low points in conduit system.
- S. Provide suitable fittings to accommodate expansion and deflection where conduit crosses control and expansion joints.
- T. Provide suitable pull string in each empty conduit except sleeves and nipples.
- U. Use suitable caps to protect installed conduit against entrance of dirt and moisture.
- V. Ground and bond conduit under provisions of Section 26 05 26 "Grounding and Bonding."
- W. Identify conduit under provisions of Section 26 05 53 "Electrical Identification."
- X. Ducts shall be cleaned with a flexible mandrel assembly.
- Y. All conduits passing vertically through slabs or through earth on grade shall be PVC-coated, rigid steel. Rigid steel conduits shall be applied with protective coatings as indicated herein. All transitions from PVC to rigid steel shall occur below the slab.
- Z. Underground branch circuit extensions to parking lot lighting fixtures and other branch circuits may be direct buried PVC conduit. Service entrance PVC conduit shall be concrete encased in accordance with the Drawings unless otherwise approved by Engineer.

- AA. Minimum cover for underground conduits shall be 24 inches unless otherwise noted.
- BB. All conduit shall be routed concealed as much as possible including conduit serving roof-mounted equipment. Roof penetrations for conduits shall adhere to the requirements and details as indicated on the Architectural Drawings.

3.2 INTERFACE WITH OTHER PRODUCTS

- A. Install conduit to preserve fire resistance rating of partitions and other elements.
- B. Route conduit through roof openings for piping and ductwork or through suitable roof jack with pitch pocket. Coordinate location with roofing installation.

END OF SECTION

SECTION 26 05 33.16 - BOXES

PART 1 - GENERAL

1.1 SUMMARY

- A. Section Includes:
 - 1. Wall and ceiling outlet boxes.
 - 2. Pull and junction boxes.
- B. Related Requirements:
 - 1. Division 01 Specification Sections apply to Work of this Section.
 - 2. Section 26 07 26 "Wiring Devices" for wall plates in finished areas.

1.2 REFERENCES

- A. NECA - Standard of Installation.
- B. NEMA FB 1 - Fittings and Supports for Conduit and Cable Assemblies.
- C. NEMA OS 1 - Sheet-Steel Outlet Boxes, Device Boxes, Covers, and Box Supports.
- D. NEMA 250 - Enclosures for Electrical Equipment (1,000 Volts Maximum).
- E. NFPA 70 - National Electrical Code.

1.3 SUBMITTALS FOR CLOSEOUT

- A. Refer to Section 01 70 00 "Execution and Closeout Requirements" for Submittals for Project closeout.
- B. Record actual locations and mounting heights of outlet, pull, and junction boxes on Project record documents.

1.4 REGULATORY REQUIREMENTS

- A. Conform to requirements of NFPA 70.
- B. Provide Products listed and classified by UL as suitable for the purpose specified and indicated.

PART 2 - PRODUCTS

2.1 WALL AND CEILING OUTLET BOXES

- A. Sheet Metal Outlet Boxes: NEMA OS 1, galvanized steel.
- B. Luminaire and Equipment Supporting Boxes: Rated for weight of equipment supported; include 1/2-inch male fixture studs where required.
- C. Cast Boxes: NEMA FB 1, Type FD, cast ferrous alloy. Provide gasketed cover by box manufacturer.
- D. Wall Plates for Finished Areas: As specified in Section 26 07 26 "Wiring Devices."

2.2 PULL AND JUNCTION BOXES

- A. Sheet Metal Boxes: NEMA OS 1, galvanized steel.
- B. Surface Mounted Cast Metal Box: NEMA 250, Type 4; flat-flanged, surface mounted junction box.
- C. Material: Galvanized cast iron.
- D. Cover: Furnish with ground flange, neoprene gasket, and stainless-steel cover screws.
- E. Fiberglass boxes are allowed in landscaping areas. Equipment shall be pedestrian rated.

PART 3 - EXECUTION

3.1 EXAMINATION

- A. Verify locations of outlets in all locations areas prior to rough-in.

3.2 INSTALLATION

- A. Install boxes in accordance with NECA "Standard of Installation."
- B. Install in locations as shown on Drawings, and as required for splices, taps, wire pulling, equipment connections and compliance with regulatory requirements.
- C. Set wall mounted boxes at elevations to accommodate mounting heights specified in Section for outlet device.
- D. Electrical boxes are shown on Drawings in approximate locations unless dimensioned. Adjust box location up to 10 feet if required to accommodate intended purpose.
- E. Orient boxes to accommodate wiring devices oriented as specified in Section 26 27 26 "Wiring Devices."
- F. Maintain headroom and present neat mechanical appearance.
- G. Install pull boxes and junction boxes above accessible ceilings and in unfinished areas only.
- H. Inaccessible Ceiling Areas: Install outlet and junction boxes no more than 6 inches from ceiling access panel or from removable recessed luminaire.
- I. Install boxes to preserve fire resistance rating of partitions and other elements, using materials and methods specified in Section 07 84 13 "Penetration Firestopping."
- J. Coordinate mounting heights and locations of outlets mounted above counters, benches, and backsplashes with Architectural Drawings and other trades.
- K. Locate outlet boxes to allow luminaires positioned as shown on reflected ceiling plan.
- L. Align adjacent wall mounted outlet boxes for switches, thermostats, and similar devices.
- M. Use flush mounting outlet box in finished areas.
- N. Locate flush mounting box in masonry wall to require cutting of masonry unit corner only. Coordinate masonry cutting to achieve neat opening.
- O. Do not install flush mounting box back-to-back in walls; provide minimum 6-inch separation. Provide minimum 24-inch separation in acoustic rated walls.
- P. Secure flush mounting box to interior wall and partition studs. Accurately position to allow for surface finish thickness.
- Q. Use stamped steel bridges to fasten flush mounting outlet box between studs.
- R. Install flush mounting box without damaging wall insulation or reducing its effectiveness.
- S. Use adjustable steel channel fasteners for hung ceiling outlet box.
- T. Do not fasten boxes to ceiling support wires.

- U. Support boxes independently of conduit.
- V. Use gang box where more than one device is mounted together. Do not use sectional box.
- W. Use gang box with plaster ring for single device outlets.
- X. Use cast outlet box in exterior locations exposed to the weather and wet locations and at all locations serving kitchen equipment.
- Y. Large Pull Boxes: Use hinged enclosure in interior dry locations, surface-mounted cast metal box in other locations.
- Z. Coordinate with other trades for box rough-in, such that control devices are grouped (i.e., thermostats, wall switches, volume controls, etc.).

3.3 INTERFACE WITH OTHER PRODUCTS

- A. Coordinate installation of outlet box for equipment connected under Section 26 05 19 "Equipment Wiring Systems."

3.4 ADJUSTING

- A. Refer to Section 01 70 00 "Execution and Closeout Requirements" for adjusting installed Work.
- B. Adjust flush-mounting outlets to make front flush with finished wall material.
- C. Install knockout closures in unused box openings.

3.5 CLEANING

- A. Refer to Section 01 70 00 "Execution and Closeout Requirements" for cleaning installed Work.
- B. Clean interior of boxes to remove dust, debris, and other material.
- C. Clean exposed surfaces and restore finish.

3.6 REPAIR

- A. Repair any areas or surfaces damaged during conduit installation.
- B. Paint (resurface) to original condition.

END OF SECTION

SECTION 26 05 53 - ELECTRICAL IDENTIFICATION

PART 1 - GENERAL

1.1 SUMMARY

- A. Section Includes:
 - 1. Nameplates and labels.
 - 2. Wire, conduit, and box markers.
- B. Related Requirements:
 - 1. Division 01 Specification Sections apply to Work of this Section.

1.2 REFERENCES

- A. ANSI/NFPA 70 - National Electrical Code.

PART 2 - PRODUCTS

2.1 NAMEPLATES AND LABELS

- A. Nameplates and Labels: Engraved three-layer laminated plastic, white letters on black background.
- B. Locations:
 - 1. Each electrical distribution and control equipment enclosure.
 - 2. Communication cabinets and computer cabinets.
 - 3. Field disconnects, start stop stations, control panels.
- C. Letter Size:
 - 1. Use 1/4-inch letters for identifying individual equipment and loads.
 - 2. Use 1/4-inch letters for identifying grouped equipment and loads.
 - 3. Use 3/8-inch letters for identifying main disconnect equipment.
 - 4. Use 1/4-inch letters for identifying receptacle and light switches.

2.2 WIRE, CONDUIT, AND BOX MARKERS

- A. Description: Brady B-321 Heat-Shrink Polyolefin markers. Typed label to identify each termination end point of the conductor. DC conductors shall identify polarity.
- B. Locations: Each conductor at wireway, pull boxes, outlet and junction boxes, and each load connection. All conduit penetrations identifying the location of each end.
- C. Legend:
 - 1. Power and Lighting Circuits: Branch circuit or feeder number indicated on Drawings.
- D. Boxes:
 - 1. Label each junction box in accessible locations to indicate the type of system (i.e.; security; power circuit - 1, 3, 5; etc.).
 - 2. Provide label in each light switch and receptacle back box.

- E. Panelboards:
 - 1. Provide phenolic label with maximum available fault current at main switchboard. Utilize number as indicated in panel schedule.
 - 2. Provide warning labels with arc-flash hazard warning for all electrical equipment as indicated in Article 110.16 of NEC.

PART 3 - EXECUTION

3.1 PREPARATION

- A. Degrease and clean surfaces to receive nameplates and labels.

3.2 APPLICATION

- A. Install nameplate and label parallel to equipment lines.
- B. Secure nameplate to equipment front using screws or rivets.
- C. Identify underground conduits using underground warning tape. Install one tape per trench at 12 inches below finished grade. Identify all conduit at exposed locations into all boxes, cabinets, etc. (see Specification Section 26 05 00 "Basic Electrical Methods").
- D. Identify all conductors at every termination indicating endpoints of termination and tag identification as required.

120-208 Volts	Phase	277/480 Volts
Black	A	Brown
Red	B	Orange
Blue	C	Yellow
White	Neutral	Gray
Green	Ground	Green

- E. Conductor phase and voltage identification shall be made by color-coded insulation for all conductors smaller than No. 6 AWG. For conductors No. 6 AWG and larger, identification shall be made by color-coded insulation, or conductors with black insulation may be furnished and identified by colored electrical tape. Conductor identification shall be provided within each enclosure where a tap, splice, or termination is made.

END OF SECTION

SECTION 26 18 39 - ENCLOSED MOTOR CONTROLLERS

PART 1 - GENERAL

1.1 SUMMARY

- A. Section Includes:
 - 1. Manual controllers.
 - 2. Automatic controllers.
 - 3. Disconnects.
- B. Related Requirements:
 - 1. Division 01 Specification Sections apply to Work of this Section.

1.2 REFERENCES

- A. NFPA 70 - National Electrical Code.
- B. UL 1 98C - High-Interrupting Capacity Fuses; Current Limiting Type.
- C. UL 1 98E - Class R Fuses.
- D. NECA "Standard of Installation," published by National Electrical Contractors Association.
- E. NEMA ICS 2 - Industrial Control Devices, Controllers, and Assemblies.
- F. NEMA ICS 6 - Enclosures for Industrial Controls and Systems.
- G. NEMA KS 1 - Enclosed Switches.

1.3 SUBMITTALS

- A. Submit under provisions of Section 01 33 00 "Submittal Procedures."
- B. Product Data: Provide catalog sheets showing voltage, controller size, ratings and size of switching and overcurrent protective devices, short circuit ratings, dimensions, and enclosure details.
- C. Test Reports: Indicate field test and inspection procedures and test results.
- D. Manufacturer's Installation Instructions: Indicate application conditions and limitations of use stipulated by product testing agency specified under Regulatory Requirements. Include instructions for storage, handling, protection, examination, preparation, installation, and starting of product.

1.4 QUALITY ASSURANCE

- A. Perform Work in accordance with NECA Standard of Installation.
- B. Maintain one copy of each document on-site.

1.5 QUALIFICATIONS

- A. Manufacturer: Company specializing in manufacturing products specified in this Section with minimum 3 years' documented experience.

1.6 REGULATORY REQUIREMENTS

- A. Conform to requirements of NFPA 70.
- B. Furnish products listed and classified by UL as suitable for purpose specified and indicated.

PART 2 - PRODUCTS

2.1 MANUAL CONTROLLERS

- A. Manual Motor Controller: NEMA ICS 2, AC general-purpose Class A manually operated, full-voltage controller with overload element, NO auxiliary contact, and toggle operator.
- B. Fractional Horsepower Manual Controller: NEMA ICS 2, AC general-purpose Class A manually operated, full-voltage controller for fractional horsepower induction motors, with thermal Overload unit, and toggle operator.
- C. Enclosure: NEMA ICS 6; Type 1.

2.2 AUTOMATIC CONTROLLERS

- A. Magnetic Motor Controllers: NEMA ICS 2, AC general-purpose Class A magnetic controller for induction motors rated in horsepower.
- B. Coil Operating Voltage: 120 volts, 60 Hertz.
- C. Overload Relay: NEMA ICS; electronic type; with phase loss and unbalance protection.
- D. Enclosure: NEMA ICS 6, Type 1.

2.3 PRODUCT OPTIONS AND FEATURES

- A. Auxiliary Contacts: NEMA ICS 2, 2 each field convertible contacts in addition to seal-in contact.
- B. Cover Mounted Pilot Devices: NEMA ICS 2, heavy duty type.
- C. Pushbuttons: Recessed type.
- D. Indicating Lights: LED type.
- E. Selector Switches: Rotary type.
- F. Relays: NEMA ICS 2.
- G. Control Power Transformers: 120 volt secondary. Provide fused primary and secondary, and bond unfused leg of secondary to enclosure.

2.4 DISCONNECTS

- A. Combination Controllers: Combine motor controllers with fusible switch disconnect in common enclosure.
- B. Fusible Switch Assemblies: NEMA KS 1, enclosed knife switch with externally operable handle. Fuse clips: Designed to accommodate Class R fuses.

2.5 FUSES

- A. Description: Dual element, current limiting, time delay, one-time fuse, 250V volt, UL 198E, Class RK 5.
- B. Interrupting Rating: 200,000 rms amperes.

PART 3 - EXECUTION

3.1 INSTALLATION

- A. Install enclosed controllers where indicated, in accordance with manufacturer's instructions. Provide a motor controller for all equipment not furnished as integral with equipment. Coordinate actual motor loads with overload protection.
- B. Install enclosed controllers plumb. Provide supports in accordance with Section 26 05 29 "Supporting Devices."
- C. Height: 5 feet to operating handle.
- D. Install fuses in fusible switches.
- E. Select and install overload heater elements in motor controllers to match installed motor characteristics.
- F. Provide engraved plastic nameplates under the provisions of Section 26 05 53 "Electrical Identification."
- G. Provide neatly typed label inside each motor controller door identifying motor served, nameplate horsepower, full load amperes, code letter, service factor, and voltage/phase rating.

3.2 FIELD QUALITY CONTROL

- A. Field inspection and testing will be performed under provisions of other Sections.
- B. Inspect and test each enclosed controller to NEMA ICS 2.

END OF SECTION

SECTION 26 24 16 - PANELBOARDS

PART 1 - GENERAL

1.1 SUMMARY

- A. Section Includes:
 - 1. Distribution and branch circuit panelboards.
- B. Related Requirements:
 - 1. Division 01 Specification Sections apply to Work of this Section.
 - 2. Section 26 05 29 "Supporting Devices."
 - 3. Section 26 05 53 "Electrical Identification" for engraved nameplates.

1.2 REFERENCES

- A. NECA (National Electrical Contractors Association) "Standard of Installation."
- B. NEMA AB 1 - Molded Case Circuit Breakers.
- C. NEMA ICS 2 - Industrial Control Devices, Controllers, and Assemblies.
- D. NEMA KS 1 - Enclosed Switches.
- E. NEMA PB 1 - Panelboards.
- F. NEMA PB-2 - Switchboards.
- G. NEMA PB 1.1 - Instructions for Safe Installation, Operation and Maintenance of Panelboards Rated 600 Volts or Less.
- H. NFPA 70 - National Electrical Code.

1.3 SUBMITTALS

- A. Shop Drawings: Indicate outline and support point dimensions, voltage, main bus ampacity, integrated short circuit ampere rating, circuit breaker, fusible switch arrangement, and sizes.
- B. Manufacturer's Installation Instructions: Indicate application conditions and limitations of use stipulated by product testing agency. Include instructions for storage, handling, protection, examination, preparation, installation, and starting of product.
- C. Switchboard and panelboard manufacturer shall provide short circuit and arc fault calculations per NEC requirements. Equipment shall be rated per calculations.

1.4 PROJECT RECORD DOCUMENTS

- A. Submit under provisions of General Conditions. Record actual locations of products; indicate actual branch circuit arrangement.

1.5 OPERATION AND MAINTENANCE DATA

- A. Submit under provisions of General Conditions. Maintenance Data: Include spare parts data listing; and recommended maintenance procedures and intervals.

1.6 QUALITY ASSURANCE

- A. Perform Work in accordance with NECA Standard of Installation.

1.7 QUALIFICATIONS

- A. Manufacturer: Company specializing in manufacturing products specified in this Section with minimum 5 years' experience.

1.8 REGULATORY REQUIREMENTS

- A. Conform to requirements of NFPA 70. Furnish products listed and classified by UL as suitable for purpose specified and indicated.

1.9 FIELD MEASUREMENTS

- A. Verify that field measurements are as indicated.

1.10 MAINTENANCE MATERIALS

- A. Provide maintenance materials under provisions of General Conditions. Provide two of each panelboard key if required.

PART 2 - PRODUCTS

2.1 PANELBOARDS

- A. Manufacturers:
 - 1. Eaton.
 - 2. G.E.
 - 3. Siemens.
 - 4. Square-D.
- B. Description: NEMA PB-1, circuit breaker type.
- C. Panelboard Bus: Copper with ratings as indicated. Provide a copper ground bus in each panelboard.
- D. Minimum integrated short circuit rating: Fully rated devices with minimum levels as indicated. Series rated systems will not be allowed. Minimum calculated values are labeled on each panelboard and are indicated as "AIC."
- E. Molded Case Circuit Breakers: NEMA AB 1, bolt-on, circuit breakers with integral thermal and instantaneous magnetic trip in each pole. Provide circuit breakers UL listed as type HACR for air-conditioning equipment loads and type SWD for switching applications.
- F. Enclosure: NEMA PB-1, Type 1.
- G. Cabinet Front: Surface or recessed type as indicated on the Drawings, fastened with concealed trim clamps, hinged door with flush lock, metal directory frame, and finished in manufacturer's standard gray enamel.

PART 3 - EXECUTION

3.1 INSTALLATION

- A. Install panelboards in accordance with NEMA PB 1.1. Install panelboards plumb. Provide supports in accordance with drawings and Section 26 05 29 "Supporting Devices." Height: 6-foot maximum to top of panelboard. Provide filler plates for unused spaces in panelboards. Provide typed circuit directory for each branch circuit panelboard. Revise directory to reflect circuiting changes required to balance phase loads. Spare slots shall be labeled as such in erasable pencil on directory. Provide engraved plastic nameplates under the provisions of Section 26 05 53 "Electrical Identification."
- B. Provide two empty 1-inch conduits from each recessed panelboard to an accessible location above and label as "spare."
- C. Ground each panelboard in accordance with Section 26 05 26 "Grounding and Bonding."
- D. Provide a 4-inch concrete housekeeping pad for switchboard.

3.2 FIELD QUALITY CONTROL

- A. Field inspection and test for grounds on each circuit after installation is completed. Measure steady state load currents at each panelboard feeder; rearrange circuits in the panelboard to balance the phase loads to within 20 percent of each other. Maintain proper phasing for multi-wire branch circuits.
- B. Visual and Mechanical Inspection: Inspect for physical damage, proper alignment, anchorage, and grounding. Check proper installation and tightness of connections for circuit breakers, fusible switches, and fuses.

END OF SECTION

SECTION 26 27 26 - WIRING DEVICES

PART 1 - GENERAL

1.1 SUMMARY

- A. Section Includes:
 - 1. Wall switches.
 - 2. Receptacles.
 - 3. Wall plates.
- B. Related Requirements:
 - 1. Division 01 Specification Sections apply to Work of this Section.
 - 2. Section 26 05 33.16 "Boxes."

1.2 REFERENCES

- A. NECA - Standard of Installation.
- B. NEMA WD 1 - General Requirements for Wiring Devices.
- C. NEMA WD 6 - Wiring Device - Dimensional Requirements.
- D. NFPA 70 - National Electrical Code.

1.3 SUBMITTALS FOR REVIEW

- A. Refer to Section 01 33 00 "Submittal Procedures."
- B. Product Data: Provide manufacturer's catalog information showing dimensions, colors, and configurations.
- C. Manufacturers with similar catalog numbers will not be considered as a basis for an equivalent product.

1.4 QUALIFICATIONS

- A. Manufacturer: Company specializing in manufacturing products specified in this Section with minimum 3 years' documented experience.

1.5 REGULATORY REQUIREMENTS

- A. Conform to requirements of NFPA 70.
- B. Provide products listed and classified by UL as suitable for the purpose specified and indicated.

PART 2 - PRODUCTS

2.1 WALL SWITCHES

- A. Manufacturers:
 - 1. Hubbell PRO 1221-W.
 - 2. Substitutions: Refer to Section 01 60 00 "Product Requirements."
- B. Description: NEMA WD 1, 20 amp, Heavy-Duty, AC only general-use snap switch.

- C. Body and Handle: Nylon white handle.
- D. Utilize equivalent series of manufacturer's numbers above for three-way, four-way, and two-pole applications.
- E. Refer to drawings for Lighting Control Sequence Matrix for additional lighting control devices and requirements. Lighting Controls shall be equal to Acuity Brands, nLight system. All devices shall be white.

2.2 RECEPTACLES

- A. Manufacturers:
 - 1. Hubbell PRO 5352-W.
 - 2. Substitutions: Refer to Section 01 60 00 "Product Requirements." Equivalent.
- B. Description: NEMA WD 1, Heavy-duty, general-use receptacle, with triple wipe contacts and grounding contacts integral with backstrap (no rivets).
- C. Device Body: White plastic.
- D. Configuration: NEMA WD 6, type as specified and indicated.
- E. Convenience Receptacle: Type 5-20.
- F. GFCI Receptacle: Convenience receptacle with integral ground fault circuit interrupter to meet regulatory requirements. Hubbell GF5352-W or equivalent.

2.3 WALL PLATES

- A. Decorative Cover Plate: Stainless steel.
- B. Weatherproof Cover Plate: Gasketed cast metal with gasketed device cover on exterior devices.
- C. Surface Mounted Plates: Galvanized steel plates.

PART 3 - EXECUTION

3.1 EXAMINATION

- A. Refer to Section 01 30 00 "Administrative Requirements" for verification of existing conditions prior to beginning Work.
- B. Verify that outlet boxes are installed at proper height.
- C. Verify that wall openings are neatly cut and will be completely covered by wall plates.
- D. Verify that branch circuit wiring installation is completed, tested, and ready for connection to wiring devices.
- E. Verify installation location of all boxes to be installed in millwork with Engineer.

3.2 PREPARATION

- A. Provide extension rings to bring outlet boxes flush with finished surface.
- B. Clean debris from outlet boxes.

3.3 INSTALLATION

- A. Install in accordance with NECA "Standard of Installation."
- B. Install devices plumb and level.
- C. Install switches with OFF position down.
- D. Do not share neutral conductor on load side of dimmers.

- E. Install receptacles with grounding pole located on the bottom as required by Owner.
- F. Connect wiring device grounding terminal to branch circuit equipment grounding conductor.
- G. Install decorative plates on switch, receptacle, and blank outlets in finished areas.
- H. Connect wiring devices by wrapping conductor around screw terminal.
- I. Use jumbo size plates for outlets installed in masonry walls.
- J. Install galvanized steel plates on outlet boxes and junction boxes in unfinished areas, above accessible ceilings, and on surface mounted outlets.
- K. Install blank cover plate to match other wall plates on all unused boxes.

3.4 INTERFACE WITH OTHER PRODUCTS

- A. Coordinate locations of outlet boxes provided under Section 26 05 33.16 "Boxes" to obtain mounting heights specified and indicated on Drawings.
- B. Install all wall switches, thermostats, and fire alarm pull stations at 48 inches above finished floor.
- C. Install convenience receptacle 18 inches above finished floor.
- D. Install convenience receptacle 6 inches above backsplash of counter unless otherwise directed by Engineer.
- E. Install telephone jack 18 inches above finished floor.
- F. Install telephone for jack wall telephone to position top of telephone at 48 inches above finished floor.

3.5 FIELD QUALITY CONTROL

- A. Refer to Section 01 40 00 "Quality Requirements" for field inspection, testing, adjusting, and balancing.
- B. Inspect each wiring device for defects.
- C. Operate each wall switch with circuit energized and verify proper operation.
- D. Verify that each receptacle device is energized.
- E. Test each receptacle device for proper polarity.
- F. Test each GFCI receptacle device for proper operation.

3.6 ADJUSTING

- A. Refer to Section 01 70 00 "Execution and Closeout Requirements" for adjusting installed work.
- B. Adjust devices and wall plates to be flush and level.

3.7 CLEANING

- A. Refer to Section 01 70 00 "Execution and Closeout Requirements" for cleaning installed Work.
- B. Clean exposed surfaces to remove splatters and restore finish.

END OF SECTION

SECTION 26 28 16.16 - ENCLOSED SWITCHES

PART 1 - GENERAL

1.1 SUMMARY

- A. Section Includes:
 - 1. Fusible switches.
 - 2. Non-fusible switches.
 - 3. Fuses.
- B. Related Requirements:
 - 1. Division 01 Specification Sections apply to Work of this Section.

1.2 REFERENCES

- A. NEMA KS 1 - Enclosed Switches.
- B. NFPA 70 - National Electrical Code.
- C. UL 198C - High-Interrupting Capacity Fuses; Current Limiting Type.
- D. UL 198E - Class R Fuses.
- E. NEMA AB 1 - Molded Case Circuit Breakers.
- F. NECA - Standard of Installation.

1.3 SUBMITTALS

- A. Submit under provisions of Section 01 33 00 "Submittal Procedures."
- B. Product Data: Provide switch ratings and enclosure dimensions.

1.4 QUALITY ASSURANCE

- A. Perform Work in accordance with NECA Standard of Installation.

1.5 QUALIFICATIONS

- A. Manufacturer: Company specializing in manufacturing products specified in this Section with minimum 3 years' documented experience.

1.6 REGULATORY REQUIREMENTS

- A. Conform to requirements of NFPA 70.
- B. Furnish products listed and classified by UL as suitable for purpose specified and shown.

PART 2 - PRODUCTS

2.1 MANUFACTURERS

- A. Eaton.
- B. General Electric.
- C. Siemens.
- D. Square D.

2.2 ENCLOSED SWITCHES

- A. Fusible or Non-fusible as indicated.
- B. Switch Assemblies: NEMA KS 1, Type HD load interrupter enclosed knife switch with externally operable handle interlocked to prevent opening front cover with switch in ON position. Handle lockable in OFF position.
- C. Fuse Clips: Designed to accommodate NEMA FU1, class R fuses.
- D. Enclosures: NEMA KS 1.
- E. Interior Dry Locations: Type 1.
- F. Exterior Locations: Type 3R or 4.
- G. NEMA ratings of enclosures as specified on Drawings take precedence over location Specification.
- H. Current rating of switch to be equal to or greater than that of the circuit it is interrupting.

2.3 FUSES

- A. Manufacturers:
 - 1. Bussman.
 - 2. Gould Shawmut.
 - 3. Littlefuse.
- B. Dimensions and Performance: NEMA FU 1, Class as specified or indicated.
- C. Voltage: Provide fuses with suitable voltage ratings for phase to phase voltages.
- D. Service Entrance: Class L, Bussman Low-peak or equivalent.
- E. General Purpose Loads: Class RK1, Bussman Low-peak or equivalent.
- F. Motor Loads: Class RK5, Bussman Fusetron or equivalent.

PART 3 - EXECUTION

3.1 INSTALLATION

- A. Install in accordance with NECA Standard of Installation.
- B. Install fuses in all fusible disconnects.
- C. Apply adhesive tag on the inside door of all disconnects indicating the NEMA class fuse and size installed.
- D. Provide a disconnect switch for all equipment where indicated or required by the National Electrical Code. Coordinate with other disciplines to determine where disconnects are furnished with equipment.

END OF SECTION

SECTION 26 51 00 - INTERIOR LIGHTING

PART 1 - GENERAL

1.1 SUMMARY

- A. Section Includes:
 - 1. Luminaires.
 - 2. Exit signs.
- B. Related Requirements:
 - 1. Division 01 Specification Sections apply to Work of this Section.

1.2 REFERENCES

- A. NEMA WD 6 - Wiring Devices-Dimensional Requirements.
- B. NFPA 70 - National Electrical Code.
- C. NFPA 101 - Life Safety Code.

1.3 SUBMITTALS

- A. Refer to Section 01 33 00 "Submittal Procedures" for Submittals.
- B. Shop Drawings: Indicate dimensions and components for each luminaire that is not a standard product of the manufacturer.
- C. Product Data: Provide dimensions, ratings, and performance data.

1.4 SUBSTITUTIONS

- A. Refer to Section 26 05 00 "Basic Electrical Methods" for requirements.

1.5 CLOSEOUT SUBMITTALS

- A. Refer to Section 01 70 00 "Execution and Closeout Requirements" for Submittals for Project closeout.
- B. Operation and Maintenance Data: Submit manufacturer's operation and maintenance instructions for each product.

1.6 QUALIFICATIONS

- A. Manufacturer: Company specializing in manufacturing products specified in this Section with minimum 3 years' documented experience.

1.7 REGULATORY REQUIREMENTS

- A. Conform to requirements of NFPA 70.
- B. Conform to requirements of NFPA 101.
- C. Products: Listed and classified by UL as suitable for the purpose specified and indicated.

PART 2 - PRODUCTS

2.1 LUMINAIRES

- A. Furnish products as scheduled. Refer to Section 01 60 00 "Product Requirements" for substitutions and product options.

2.2 EXIT SIGNS

- A. Furnish products as scheduled.

PART 3 - EXECUTION

3.1 INSTALLATION

- A. Install suspended luminaires using pendants supported from swivel hangers. Provide pendant length required to suspend luminaire at indicated height.
- B. Locate recessed ceiling luminaires as indicated on reflected ceiling plan.
- C. Install surface mounted luminaires and exit signs plumb and adjust to align with building lines and with each other. Secure to prevent movement.
- D. Exposed Grid Ceilings: Support surface mounted luminaires on grid ceiling directly from building structure.
- E. Install recessed luminaires to permit removal from below.
- F. Install recessed luminaires using accessories and firestopping materials to meet regulatory requirements for fire rating in locations where fire rated ceilings are present.
- G. Install clips to secure recessed grid-supported luminaires in place.
- H. Install wall mounted luminaires, emergency lighting units and exit signs at height as indicated on the Drawings or as scheduled.
- I. Install accessories furnished with each luminaire.
- J. Make wiring connections to branch circuit using building wire with insulation suitable for temperature conditions within luminaire.
- K. Bond products and metal accessories to branch circuit equipment grounding conductor.
- L. Install specified lamps in each emergency lighting unit, exit sign, and luminaire.

3.2 FIELD QUALITY CONTROL

- A. Refer to Section 01 40 00 "Quality Requirements" for field inspection, testing, and adjusting.
- B. Operate each luminaire after installation and connection. Inspect for proper connection and operation.

3.3 ADJUSTING

- A. Refer to Section 01 70 00 "Execution and Closeout Requirements" for adjusting installed work.
- B. Aim and adjust luminaires as directed.
- C. Position exit sign directional arrows as indicated.
- D. Contractor shall readjust occupancy sensor (time and sensitivity) at or before the end of 1-year warranty period.

3.4 CLEANING

- A. Refer to Section 01 70 00 "Execution and Closeout Requirements" for cleaning installed Work.
- B. Clean electrical parts to remove conductive and deleterious materials.
- C. Remove dirt and debris from enclosures.
- D. Clean photometric control surfaces as recommended by manufacturer.
- E. Clean finishes and touch up damage.

3.5 DEMONSTRATION AND INSTRUCTIONS

- A. Refer to Section 01 70 00 "Execution and Closeout Requirements" for demonstrating installed Work.

3.6 PROTECTION OF FINISHED WORK

- A. Refer to Section 01 70 00 "Execution and Closeout Requirements" for protecting installed Work.
- B. Replace luminaires that have failed prior to Substantial Completion.

END OF SECTION

SECTION 27 13 43 - TELEPHONE COMMUNICATIONS CABLING

PART 1 - GENERAL

1.1 SUMMARY

- A. Section Includes:
 - 1. Fiber optic cable.
 - 2. Fiber optic patch panel.
 - 3. Optical fiber adapters.
 - 4. Optical fiber connectors.
 - 5. Jacks and patch panels.
 - 6. Equipment racks.
- B. Related Requirements:
 - 1. Division 01 Specification Sections apply to Work of this Section.

1.2 REFERENCES

- A. Design, installation, and testing of all passive components shall be in compliance with the following referenced documents using latest edition, including any errata or additions:
 - 1. TIA J-STD-607 (2002a) - Commercial Building Grounding (Earthing) and Bonding Requirements for Telecommunications.
 - 2. TIA-526-14 (2010b) - OFSTP-14A Optical Power Loss Measurements of Installed Multimode Fiber Cable Plant.
 - 3. TIA-568-2 (2009c; Errata 2010) - Commercial Building Telecommunications Cabling Standard - Part 2: Balanced Twisted Pair Cable Components.
 - 4. TIA-568-C.1 (2009) - Commercial Building Telecommunications Cabling Standard.
 - 5. TIA-568-C.3 (2008; Corrections 2008) - Optical Fiber Cabling Components Standard.
 - 6. TIA-569 (2004b; Add 1 2009) - Commercial Building Standard for Telecommunications Pathways and Spaces.

1.3 SYSTEM DESCRIPTION AND DEFINITIONS

- A. The communication system shall include Category 6 patch panels, Category 6 back bone cables, telephone and data outlets, equipment racks, and connecting hardware. Connecting hardware shall be rated for operation under ambient conditions of 32 degrees Fahrenheit to 140 degrees Fahrenheit.
- B. All Work under this Section shall be performed by and all equipment shall be furnished and installed by a qualified telecommunications contractor, hereafter referred to as Contractor. Contractor shall have minimum of 3 years' experience in the application, installation, and testing of the specified systems and equipment.
- C. The equipment and hardware provided under this Contract will be from manufacturers that have a minimum of 3 years' experience in producing the types of systems and equipment specified.

D. Cable Requirements and Definitions:

1. Horizontal Distribution Wiring - Category 6 UTP:

- a. Intra-building cable that cross-connects the workstation data jack to the designated equipment closet. Horizontal wiring shall be four pair, 100-ohm plenum grade Unshielded Twisted Pair (UTP) cable meeting, at a minimum, Category 6 standards. RJ-45 modular connectors will be wired to meet EIA/TIA-568B standards and color code tables. Each connection shall include all eight wires of the four pair cable. All termination patch panels will comply with Category 6 standards. Additionally, all equipment selected will meet the manufacturer's end-to-end solution requirements for warranty. All horizontal wiring shall be secured and/or protected to safeguard against damage. All cables that drop below ceiling level will be concealed conduit.

- E. Patch Panels: RJ-45 patch panels shall support all of the RJ-45 connections for a designated LAN zone. Provide fiber optic patch panel. Each port shall be labeled designating the port's destination outlet and port number. All conductors of all cables shall be terminated at both ends. Provide 48 port patch panels and quantity of patch panels required to support communication cables required plus 2010 spare parts.

- F. Data Outlets: Provide Category 6 RJ-45 Outlet as indicated on Drawings.

1.4 SUBMITTALS

- A. Product Data: Submit for Category 6 outlet, Category 6 cable, Category 6 patch panel.
B. Test Reports: Reports shall show the field test performed to verify compliance with the specified performance criteria. Test reports shall include record of the physical parameters verified during testing.

PART 2 - PRODUCTS

2.1 HORIZONTAL DISTRIBUTION WIRING SYSTEM REQUIREMENTS

- A. The horizontal cable for communication outlet wiring is defined as multi-conductor, thermoplastic-insulated, copper cable, 24 AWG air core, with four unshielded twisted pairs rated to a performance criteria of Category 6.
B. Cable protection will be of the highest concern. The cable sheath shall be protected from sharp edges. Where cables pass over a sharp edge, a bushing or grommet shall be inserted to protect the cable.
C. To reduce EMI induced into the cabling from fluorescent lights, cable sheath shall be installed in a hanging pathway in the area above the drop ceilings to maintain proper clearance of 5 inches from fluorescent lights.
D. Testing after installation and termination will be required to ensure a rating to Category 6 performance.
E. The cable's outer sheath shall be "blue" in color for data.
F. Horizontal cabling shall be installed in a star topology. Each work area outlet must be cabled directly to a horizontal cross connect in the appropriate equipment closet.
G. Splices shall not be permitted for twisted-pair horizontal cabling.
H. Bridged taps (multiple appearances of the same cable pairs at several distribution points) shall not be permitted in the horizontal cable.
I. In all cases where the overall cable length allows, an additional 5 feet of slack shall be allowed for in the equipment closet.

- J. In all cases where the overall cable length allows, an additional 12 inches of cable slack shall be allowed for at the outlet location.
- K. In no case shall the slack allowances cause the overall length of the cable to exceed the limits as described in this Section.
- L. Horizontal Cable Lengths: The maximum horizontal cable length from the cross connect panel to the workstation outlet shall not exceed 295 feet. An additional 33-foot allowance has been made for the combined length of patch cables and cables used to connect equipment in the work area and equipment rack.
- M. Category 6 High Speed LAN Data Specifications:
 - 1. Electrical Specifications: Impedance 100 ohm plus or minus 15 percent.
 - 2. See testing specification for Category 6 performance - Execution for Attenuation and NEXT requirements.
 - 3. Mutual Capacitance: 17 pico Farad per foot maximum.

2.2 FIBER OPTIC CABLE

- A. Provide in accordance with ICEA S-83-596, TIA/EI-568-C.3, UL and NFPA 70. Cable shall be imprinted with fiber count, fiber type, and aggregate length at regular intervals not to exceed 40 inches.
- B. EIA TIA/EIA-492AAAA-A, multimode, 50/125- μ m diameter, tight buffered fiber optic cable. Provide a 12 strand multimode fiber optic cable. Provide nonconductive optical fiber general purpose cable (OFN or OFNG), nonconductive optical fiber plenum cable (OFNP), and nonconductive optical fiber riser cable (OFNR) rated cable in accordance with NFPA 70 and UL 910. Type OFNP or OFNR may be substituted for type OFN or OFNG and type OFNP may be substituted for type OFNR in accordance with NFPA 70. The cable cordage jacket, fiber, unit, and group color shall be in accordance with EIA TIA/EIA-598.
- C. Provide fiber optic cable from the main Demark room to the IT room serving the building.

2.3 FIBER OPTIC PATCH PANEL

- A. Provide panel for maintenance and cross-connecting of optical fiber cables. Panel shall be constructed of 16 gauge steel minimum and shall be cabinet mounted and compatible with an EIA-310-D 19-inch equipment rack. Each panel shall be compatible with Type LC connectors. Provide dust cover for unused adapters. The rear of each panel shall have a cable management tray a minimum of 8 inches deep with removable cover, incoming cable strain-relief, and routing guides. Panels shall have each adapter factory numbered and be equipped with laminated plastic nameplates above each adapter. Provide fiber optic patch panel in each LAN hub enclosure.

2.4 OPTICAL FIBER ADAPTERS

- A. Provide optical fiber adapters suitable for LC connectors. Provide dust cover for adapters. Optical fiber adapters shall comply with EIA TIA-455-21-A for 500 mating cycles.

2.5 OPTICAL FIBER CONNECTORS

- A. Provide in accordance with EIA TIA-455-21-A. Optical fiber connectors shall be type LC in accordance with applicable EIA/TIA standards. The connectors shall provide a maximum attenuation of 0.3 dB at 850, 1,300, 1,310 and 1,550 μ m with less than a 0.2 dB change after 500 mating cycles.

2.6 JACKS AND PATCH PANELS

- A. Category 6 rating shall be applied to all connecting hardware appropriate for use with UTP cables specified in the EIA/TIA-568-C3. Components used shall be characterized up to a minimum 6 certification and typically intended for emerging technologies and applications. Provide a minimum of 10 percent spare ports in patch panel. Provide separate patch panels for telephone and data wiring.

2.7 EQUIPMENT RACKS

- A. Provide 19-inch, 7-foot tall, 4-post. Refer to Drawings for additional rack information.
- B. Provide number of racks to support equipment required including spaces as indicated.
- C. Provide Cable Management System for each rack as manufactured by Panduit.
- D. Provide rack with all associated hardware.

2.8 SUPPORT PRODUCTS

- A. All data/telephone cabling shall be in conduit or cable tray.

PART 3 - EXECUTION

3.1 GENERAL

- A. Contractor shall provide Category 6 cable, Category 6 patch panels, fiber optic patch panel, fiber optic cable, Category 6 outlets, equipment rack, and mounting hardware for LAN HUB. All communication cables shall be terminated and tested.

3.2 CABLE DISTRIBUTION

- A. Contractor shall wire the building as indicated on the Contract Drawings in accordance with standards. The building shall be wired using a universal wire plan that must accommodate the cables described in this Specification. The wiring plan is designed to provide adequate pairs to support the campus LAN system's high-speed data connections.
 - 1. Two four-pair Category 6, 100-ohm plenum rated UTP cables shall be provided for each data port. Cable shall be rated CMP.
 - 2. Category 6, RJ-45 modular connections shall be wired to meet TIA/EIA 568-C.1 and TIA/EIA 568-C.2 pin, pair and color designation.
 - 3. Each connection shall include all eight conductors of each of the four pair cable.

4. Placement relative to nearby noise sources, such as electric power wiring, radio frequency (RF) sources, large motors and generators, induction heaters, fluorescent light ballast, etc., shall be avoided. If necessary, place exposed cables not closer than 4 feet from large motors or transformers, 1-foot from conduit and cables used for electrical power distribution and 5 inches from fluorescent lighting.
5. Unless otherwise instructed by this Specification installation shall be in compliance with EIA/TIA-568-C1, TIA-568-2, TIA-569, NFPA 70, UL Standards, Telecommunications Cabling Standard, EIA/TIA-569 Commercial Building Standard for Telecommunications Pathways and Spaces, and ANSI/NFPA 70 National Electric Code. Installation shall also meet any additional manufacturer's requirements to fulfill warranty Specifications.
6. Provide a minimum of 5 feet of cable slack in the equipment cabinets and 12 inches at the outlet for each cable run to accommodate for future cabling system changes.

3.3 USER WORK AREA

- A. Distribution of drop locations will be as indicated on the Contract Documents. Provide the following at each outlet location: Minimum telephone/data: Two Category 6 jack (RJ-45) at each outlet (with two blue cables). Provide number of drops per outlet as indicated on Drawings.
 1. 1,000 Mbite/Sec, Fast Ethernet, Lockable.
 2. Labeling:
 - a. All data outlets, patch panel ports, and both ends of each cable shall be clearly and neatly labeled. Two cable identification schemes will be used, one for the end of the cable in the work area, and one for the end of the cable at the patch panel. The labeling schemes shall be as follows:
 3. Work Area Scheme: The first digit of the I.D. number will use a numeric character, designating the LAN zone in which the jack is located. The first digit will be followed by a dash (-). The next character will be an alphabetic designator to identify the patch panel in which the cable is terminated. This character will be followed by a dash (-). The last digit will be a numeric designator corresponding with the patch panel port into which the cable is terminated. For example: The cable to the first port in the first patch panel in LAN Zone 1, will be designated as 1-A-1. The cable to the second port will be 1-A-2. Cables to the second patch panel will be labeled 1-B-1, 1-B-2, 1-B-3, etc. Contractor will be responsible for clearly and visibly labeling each patch panel in accordance with the scheme described above.

4. Patch Panel Scheme: The first portion of the I.D. number will correspond with the room number to which the cable runs. This number will be followed by a dash (-). The next portion of the I.D. number will be an alphabetic designator to identify the faceplate in the work area where the cable is terminated. This character will be followed by a dash (-). The last portion of the I.D. number will be a numeric designator that corresponds with the faceplate jack in which the cable is terminated. For example: The cable to the first jack in the first faceplate in Room 32 will be designated as 32-A-1. The cable to the second jack will be 32-A-2. Cables to the next faceplate in Room 32 will be labeled 32-B-1, 32-B-2, 32-B-3, etc. Contractor will be responsible for clearly and visibly labeling each faceplate in accordance with the scheme described above. Faceplates should be lettered in a clockwise sequence beginning at the main entrance into the room. Jacks on each faceplate will be sequenced in a clockwise direction beginning from the upper left-hand side of the faceplate. In situations where cable is run to an unnumbered room, Contractor will be responsible for coordinating with the appropriate government representative(s) to assign a number to the room.

3.4 EQUIPMENT CLOSETS

- A. Equipment racks shall be bolted to the floor slab. Cable guides shall be bolted or screwed to racks. Racks shall be installed level.
 1. Patch Panels: High density, low profile patch panels shall be used in all locations. Patch panels may vary in number of ports provided, but shall be of the same manufacturer and series, for all closets. All patch panels will be populated with port counts that equal or exceed total ports needed, plus 10 percent, for each closet.
 - a. UTP Patch Panels: All patch panels used to terminate UTP cables shall comply with selected vendors channel rating for Category 6.
 - 1) Patch cables connecting data work ports to the LAN switches shall be Category 6 compliant, both cordage and couplers. Patch cables shall be constructed of stranded cable. Although the switches and other active components will be provided by the Owner, all patch cables shall be provided by Contractor to provide connection to these active components. Contractor shall also provide each Site a quantity of spare patch cables equal to 10 percent of the total used at that Site. Patch cables shall be appropriately sized to allow for a neat and maintainable system.
 - 2) All ports will be labeled in accordance with the labeling scheme described in this Specification.

3.5 TESTING

- A. Horizontal Wiring Testing: Testing of all data horizontal UTP cables shall be performed in accordance with EIA/TIA TSB-1152 to ensure rating of Category 6 performance. Test parameters shall include wire mapping, attenuation, NEXT, and noise measurements to verify a limit below 100 megavolts.

1. All distribution plant facilities associated with the new wiring system shall be tested and verified after installation activities and all major plant rearrangements have been completed. Tested copper pairs shall conform to the design guidelines as specified, as well as manufacturer's standards. Cable plant testing of the data jack will diagnose the presence of all open-loop conductors, noisy lines and distortion, low-loop current, high-loop loss, ringer failures, grounded, shorted or crossed conductors, dB loss, split connections, attenuation range, and/or near-end cross-talk. Contractor will supply complete testing and correction reports/information and explanation to the government, or designated representative, for review prior to acceptance of the system(s). Contractor and the government or designated representative will develop a mutually acceptable format for recording and reporting of testing results prior to the start of testing activities. All errors are to be corrected at Contractor's expense prior to providing the completed records.
 - a. Perform Category 6 link tests in accordance with EIA TIA/EIA-568-C.1 and EIA TIA/EIA-568-C.2. Tests shall include wire map, length, insertion loss, NEXT, PSNEXT, ELFEXT, PSELFEXT, return loss, propagation delay, and delay skew.
 2. A wire map test will be performed as per TIA/EIA TSB-568-C.3. This test will be used to verify pair to pin termination at each end and check for installation connectivity errors.
- B. Horizontal Wiring Testing (Test from Both Ends):
1. The following parameters will be measured from both sides of the link:
 - a. Attenuation: A measure of signal loss in the link.
 - b. Near-End Crosstalk Loss (NEXT): A measure of signal coupling from one pair to another within a UTP cabling link and is derived from swept/stepping frequency voltage measurements.
- C. Noise Testing:
1. The noise level testing associated with the data circuit will only be required if problems occur with the previous test procedures, or if the manufacturer requests it for warranty purposes. If tested, it shall be measured over seven different frequencies.
 - a. Noise will be measured by recording interference from all outside sources (for example, power cables). The noise is generally steady throughout the entire frequency range and permanently exists. Acceptable levels will be the lower of the manufacturer's specifications or less than 100 megavolts.
 - b. Noise peaks will be measured by adjusting a threshold. All peaks that exceed the threshold will be documented. Acceptable peaks will be determined by the manufacturer's specifications, or by IEEE 802.3 10BaseT Ethernet Standards.
- D. Additional Testing:
1. Any additional testing and/or documentation required by the manufacturer to show full compliance with warranty requirements shall be provided to the government by Contractor. Final test results will meet manufacturer's guidelines for the cabling channel.

- E. Telecommunications Cabling Testing:
1. Perform telecommunications cabling inspection, verification, and performance tests in accordance with TIA-568-C.1, EIA TIA/EIA-568-C.2, EIA TIA/EIA-568-C.3, and TIA-568-2. Perform optical fiber field inspection tests via attenuation measurements on factory reels and provide results along with manufacturer certification for factory reel tests. Remove failed cable reels from Project Site upon attenuation test failure. All fiber optic, data, and telephone cables shall be terminated and tested.
 2. For multimode optical fiber, perform optical fiber end-to-end attenuation tests in accordance with EIA TIA/EIA-568-C.3 and EIA TIA/EIA-526-14 using Method A, Optical Power Meter and Light Source for multimode optical fiber.

END OF SECTION

SECTION 28 15 00 - INTEGRATED ACCESS CONTROL HARDWARE DEVICES

PART 1 - GENERAL

1.1 SUMMARY

- A. This Section includes access control door hardware for the following:
 - 1. Swinging doors.
 - 2. Other doors to the extent indicated.
 - 3. Security or High Security keyed cylinders, including provisions for temporary construction keying, for mechanical override at access control locking hardware to be furnished under Division 08 71 00 "Door Hardware."
 - 4. Electrified and integrated access control card key door hardware.
 - 5. Security or high security keyed cylinders, including provisions for temporary construction keying, for mechanical override at access control locking hardware to be furnished under Division 08 71 00 "Door Hardware."
- B. Related Requirements:
 - 1. Division 01 Specification Sections apply to Work of this Section.
 - 2. Division 08 11 13 "Hollow Metal Doors and Frames."
 - 3. Division 08 41 13 "Aluminum-Framed Entrances and Storefronts."
 - 4. Division 08 71 00 "Door Hardware."
 - 5. Division 26 Section "Electrical" for connections to electrical power system and for low-voltage wiring work.
 - 6. Division 27 Section "Telephone Communications Cabling" for connections to the LAN.

1.2 REFERENCES

- A. ANSI A117.1 (1998) - Accessible and Usable Buildings and Facilities.
- B. IBC - International Building Code
- C. NFPA 70 (2002) - National Electrical Code.
- D. NFPA 80 (1999) - Fire Doors and Windows.
- E. NFPA 101 (2006) - Life Safety Code.
- F. UL 294 - Access Control Systems.
- G. UL 1076 - Proprietary Burglar Alarm Units and Systems.

1.3 SUBMITTALS

- A. Product Data: Manufacturer's product data sheets including installation details, material descriptions, dimensions of individual components and profiles, operational descriptions, and finishes.
- B. System Operational Descriptions: Complete system operational narratives for the integrated access controlled openings defining the owner's prescribed requirements for the opening functionality. Narratives include, but are not limited to, the following situations: normal secured/unsecured state of door; authorized access; authorized egress; unauthorized access; unauthorized egress; fire alarm and loss of power conditions, and interfaces with other building control systems.

- C. Shop Drawings: Details of electrified integrated locking hardware and access control firmware, indicating the following:
 - 1. Wiring Diagrams: Upon receipt of approved schedules, submit detailed system wiring diagrams for power, signaling, monitoring, communication, and control of the access control system electrified hardware and firmware. Differentiate between manufacturer-installed and field-installed wiring. Include the following:
 - a. Elevation diagram of each unique access controlled opening showing location and interconnection of major system components with respect to their placement in the respective door openings.
 - b. Complete (risers, point-to-point) access control system block wiring diagrams.
 - 2. Electrical Coordination: Coordinate with related Electrical Sections the voltages and wiring details required at electrically controlled and operated hardware openings.
- D. Proof of Certification: Upon request provide a copy of manufacturer's official certification or accreditation document indicating proof of status as a qualified and authorized provider of the primary access control components.
- E. Operating and Maintenance Manuals: Provide manufacturers operating and maintenance manuals for each item comprising the complete access control and site management installation in quantity as required in Division 01, Closeout Submittals. Manual to include name, address, and telephone number of the supplier/integrator providing the installation and the nearest service representatives for each item of equipment included in the system. The final copies delivered after completion of the installation test to include "as built" modifications made during installation, checkout, and acceptance.
 - 1. As-Built Drawings: During system installation, the Contractor to maintain a separate hard copy set of drawings, elevation diagrams, and wiring diagrams of the access control system to be used for record Drawings. This set to be kept up to date by the Contractor with all changes and additions to the access control system accurately recorded.
- F. Warranties and Maintenance: Special warranties and maintenance agreements specified in this Section.

1.4 QUALITY ASSURANCE

- A. Manufacturers Qualifications: Engage qualified manufacturers with a minimum of 5 years of documented experience in providing access control and security systems equipment and software similar to that indicated for this Project and that have a proven record of successful in-service performance.
 - 1. Software and access control systems components to have been previously and thoroughly tested together with proven installations similar in size and functionality to the design requirements indicated for this Project.
- B. Supplier Qualifications: Supplier/dealers, verifiably authorized and in good standing with the primary product manufacturers, with a minimum of 3 years of experience supplying integrated access control systems similar in material, design, and scope to that indicated for this Project and whose work has resulted in construction with a proven record of successful in-service performance.

- C. System Integrator Qualifications: Systems integrators, verifiably factory trained and certified by the primary product manufacturers, with a minimum of 3 years documented experience installing complete integrated access control systems similar in material, design, and scope to that indicated for this Project and whose work has resulted in construction with a proven record of successful in-service performance. Qualifications include, but are not necessarily limited, to the following:
1. References: Provide a list of references for similar projects including contact name, phone number, name and type of project.
 2. Professional Staffing: Firms to have a dedicated access control systems integration department with full time, experienced professionals on staff experienced in providing on-site consulting services for both electrified door hardware and integrated access control systems installations.
 3. Factory Training: Installation and service technicians are to be competent factory trained and certified personnel capable of maintaining the system.
 4. Service Center: Firms to have a service center capable of providing training, in-stock parts, and emergency maintenance and repairs at the Project Site with 24-hour/7-days a week maximum response time.
- D. Installer Qualifications: Certified technicians, verifiably authorized with the primary product manufacturers for installation of IP-Enabled, Wireless, and Power-over-Ethernet Access Control products in accordance with documented instructions and NFPA 80.
1. ASSA ABLOY access control products are required to be installed only through designated "Preferred Installers."
- E. Source Limitations: Obtain the access control door hardware, system firmware, and application software specified in this Section from a single source, qualified supplier/integrator unless otherwise indicated.
1. Electrified modifications or enhancements made to a source manufacturer's product line by a secondary or third party source will not be accepted.
 2. Provide integrated access control door hardware from the same manufacturer as mechanical door hardware, unless otherwise indicated.
- F. Regulatory Requirements: Comply with NFPA 70, NFPA 80, NFPA 101 and ANSI A117.1 requirements and guidelines as directed in the model building code including, but not limited to, the following:
1. Comply with NFPA 70 "National Electrical Code", including electrical components, devices, and accessories listed and labeled as defined in Article 100 by a testing agency acceptable to authorities having jurisdiction, and marked for intended use.
 2. Where indicated to comply with accessibility requirements, comply with Americans with Disabilities Act (ADA), "Accessibility Guidelines for Buildings and Facilities (ADAAG)," ANSI A117.1.
 3. Comply with NFPA 101 "Life Safety Code" for doors in a means of egress.
 4. Comply with NFPA 80 "Fire Doors and Windows" for fire labeled opening assemblies.
 5. The installed access control system shall conform to all local jurisdiction requirements.
- G. Keying Conference: Reference Section 08 71 00 "Door Hardware."

- H. Pre-Submittal Conference: Conduct conference with attendance by representatives of supplier/dealer, systems integrator, and Contractor to review proper methods and procedures for receiving, handling, and installing the access control system hardware. At completion of installation, provide written documentation that components were applied to manufacturer's instructions and recommendations and according to approved schedules.
 - 1. Inspect and discuss Division 26 electrical roughing-in and similar preparatory Work performed by other trades.
 - 2. Review and verify sequence of operation descriptions for each unique access controlled opening.
 - 3. Review and finalize construction schedule and verify availability of materials.
 - 4. Review the required inspecting, testing, commissioning, and demonstration procedures.

1.5 DELIVERY, STORAGE, AND HANDLING

- A. Do not store electronic access control hardware, software or related accessories at Project Site without prior authorization.
 - 1. Access Control Firmware and Software: Where approved and directed, inventory upon receipt and store electronic access control equipment in a secure, temperature and humidity controlled environment in original manufacturer's sealed containers.
- B. Tag each item or package separately with identification related to the final access control door Schedule, and include basic installation instructions with each item or package.
- C. Deliver permanent keys, cores, access control credentials, software, and related accessories directly to Owner via registered mail or overnight package service. Instructions for delivery to the Owner established at the "Pre-Submittal Conference."

1.6 COORDINATION

- A. Coordinate quantity and arrangement of assemblies with ceiling space configuration and with components occupying ceiling space, including structural members, pipes, air-distribution components, raceways, cable trays, recessed lighting fixtures, and other items.
- B. Access Control System Electrical Coordination: Coordinate the layout and installation of scheduled electrified door hardware, and related access control equipment, with required connections to source power junction boxes, power supplies, detection and monitoring hardware, and fire alarm system.
 - 1. Door Hardware Interface: The card key access control system to interface and be connected to electronic door control hardware (electromechanical locks, electric strikes, magnetic locks, door position switches, other monitoring contacts, and related auxiliary control devices) as described under Section 08 71 00 "Door Hardware." Coordinate the installation and configuration of specified door hardware being monitored or controlled with the controls, software, and access control hardware specified in this Section.
- C. Templates: Obtain and distribute to the parties involved templates for doors, frames, and other work specified to be factory prepared for installing electrified door hardware and access control system components. Check Shop Drawings of other Work to confirm that adequate provisions are made for locating and installing access control system hardware to comply with indicated requirements.

- D. Door and Frame Preparation: Reference Division 08, Openings: Doors and corresponding frames are to be prepared, reinforced and pre-wired (if applicable) to receive the installation of the specified electrified, monitoring, signaling, and access control system hardware without additional in-field modifications.

1.7 WARRANTY

- A. General Warranty: Reference Division 01, General Requirements. Special warranties specified in this Article will not deprive Owner of other rights Owner may have under other provisions of the Contract Documents and are in addition to, and run concurrent with, other warranties made by Contractor under requirements of the Contract Documents.
- B. Warranty Period: Written warranty, executed by manufacturer(s), agreeing to repair or replace components of the installed access control system hardware and software that fails in materials or workmanship, including all related parts and labor, within specified warranty period after final testing and acceptance by the Owner. Failures include, but are not limited to, the following:
 - 1. Structural failures including excessive deflection, cracking, or breakage.
 - 2. Faulty operation of the hardware.
 - 3. Deterioration of metals, metal finishes, and other materials beyond normal weathering.
 - 4. Electrical component defects and failures within the systems operation.
- C. Standard Warranty Period: One year from date of Substantial Completion, unless otherwise indicated.
- D. Special Warranty Periods (Electrified Access Control Door Hardware):
 - 1. Two years for Electrified, Wiegand Output, and IP-Enabled Access Control Door Hardware.
- E. Maintenance Support and Extended Service Agreement: Submit for Owner's consideration an optional extended Service Agreement for the installed access control system, including support for software related issues. The extended service agreement is considered elective and is without manufacturer's requirement stipulating mandatory coverage for Owner and/or vendor system support.
 - 1. A published copy of this agreement to be included with the Submittal package.
 - 2. Support for the installed access control system components is provided through the vendor under a 24 hour technical assistance program.
 - 3. Access control and management system components are to be available on a one-day turn around time frame from the manufacturer.
 - 4. Primary systems manufacturer to offer and provide remote modem or internet access for direct factory support to the vendor. The factory level support to include diagnostics and troubleshooting support on systems related issues at no additional cost to the owner.
- F. Access Control Software Upgrades: Version upgrades and "fix" releases to the access control system software are available at no extra charge as long as the version of software provided under this specification remains the current manufacturer's version or for up to 2 years after a new version release.
 - 1. Major access control software revisions that provide new functionality to the product provided free of charge for up to 1 year from the date of Substantial Completion.

2. Access control system software is to be upgradable as may be required or as necessary, to expand and manage the Owner's Site or Sites. Upgrades are to be offered at a published flat fee for the primary system software, with single license modules included in the primary fee structure. System upgrades offered at a costing structure based upon the original number of licensed modules issued, or on those to be purchased at a future date, are not allowed.
3. As part of the Submittal package, provide a list of available software upgrades and/or expansions modules. List to identify related costs for upgrades, or expansions to the original system, up to the next qualifying operational level.

1.8 MAINTENANCE SERVICE

- A. Maintenance Tools and Instructions: Furnish a complete set of specialized tools and maintenance instructions as needed for Owner's continued adjustment, maintenance, and removal and replacement of the installed access control system hardware and components.
- B. Maintenance Service: Beginning at Substantial Completion, and running concurrent with the specified warranty period, provide continuous 6 months full maintenance by skilled employees of the systems integrator. Include repair or replacement of worn or defective components, lubrication, cleaning, and adjusting as required for proper door opening operation. Provide parts and supplies as used in the manufacture and installation of original products.

1.9 SCOPE OF WORK

- A. On-Line Electronic Access Control System: Furnish and install at the indicated locations the specified electrified and integrated door hardware and access control firmware and software for a completely operational access control and security site management system. System includes, but is not necessarily limited, to the following:
 1. Electrified integrated card reader locks and exit hardware, permanent and temporary override cylinders, network control processors, reader controller panels, I/O monitor/control interfaces, door position switches, remote card readers, keypads, and display terminals, access cards and credentials, system application software, special tools, operating manuals, and required cabling and accessories as detailed below and listed in the Access Control Hardware Sets at the end of Part 3.
 - a. Provide the appropriate number of reader controller panels and I/O monitoring/control expansion interfaces as needed to handle the number of card readers, locking devices, door status devices, and identified alarm inputs specified in this section, and as shown on the security Drawings.
 - b. Provide manufacturer approved integrated card reader locks, exit hardware, and remote mounted card readers, keypads, and display terminals that are functionally compatible with the specified access control equipment interfaces.
 2. Access control system equipment to be installed in an enclosure box compatible with the specified components. This enclosure to include, but is not necessarily limited to, the network control processor, I/O monitor/control interface panels, power supplies, terminal strips, wire ducts, keyed lock cylinder, integrated outlet for A/C power, and standoffs.
 - a. Enclosure box to be located in the designated IT/Telecom room(s) with connection to local area network for communication back to the central server host.

3. Owner to provide the following:
 - a. Central server host computer, client workstations, and hardware peripherals to be from an approved, major line computer manufacturer. Specific information detailing compliance with system requirements to be included in the Project Submittal package as specified.
 - b. Owner will be responsible for ensuring that each computer hardware component includes the required interfaces, expansion boards, and peripherals that will be necessary to allow the system to operate as described within this Specification and as indicated on the Drawings.
 - c. Power Sourcing and Network Switches: Quantity as required to accommodate installed access control (and video surveillance) devices.
 - d. Network Control Processor Connections:
 - 1) LAN/Ethernet communication ports (jacks) and network interface cards as needed, CAT5e cabling from network router/switch to network control processor, outlet and cover plates, and/or patch cables required for network connection within each designated IT/Telecom room.
 - 2) Required static IP addresses.
4. Power Supplies, including battery back up and separately fused surge protection, required for the electrified door hardware and access control equipment.
5. Installation, final configuration, and commissioning of electrified door and access control system hardware, communication firmware, power supplies, and related accessories.
6. System application software including installation, programming, and end user training of the access control system demonstrating operating, repair, and maintenance procedures. Include no fewer than 8 hours of on-site central server training for designated personnel (facilities maintenance, security, IT, administration) by a factory certified representative.
7. Provide manufacturer required power controllers, interface boards, and programming that may be required for approved electric latch retraction exit devices supplied under Section 08 71 00 "Door Hardware."
8. Electrical Contractor to provide the following:
 - a. Source power wiring (120VAC) as required for the electrified locking and access control hardware, equipment, accessories, and power supplies. This includes quad outlets as required on a dedicated circuit in the designated IT/Telecom room(s) and the related conduit, stub-in, junction boxes, and connectors required for the source power delivery and connections.
 - b. Provide required conduit, stub-in, junction, and back boxes for both the electrified locking hardware and access control equipment at each of the access controlled or monitored openings per plan drawings and specs. Supply and install conduit between each of the aforementioned devices and between the electrical junction boxes, power supplies, and access control equipment located on or above the door opening.
 - 1) At wall mounted remote readers, provide conduit on the secured side of the door 36 inches from the finish floor and 6 inches from the edge of the frame, to the related power supplies and access control equipment.
 - 2) At electrical hardware power transfers, provide conduit on the secured side of the opening from the power transfer, thru-wire hinge, or serviceable panel location on the frame jamb to the related power supplies and access control equipment.
 - c. Electrical Contractor to provide all 120VAC cabling connections and terminations from the electrical junction boxes to these electrical devices.

9. Access Control System Integrator to provide the following:
 - a. Low voltage wiring (12/24VDC) and communication cabling (RS-232/RS-485) from network control processors to reader controllers, I/O monitor/control interface panels, electrified and integrated locking hardware, remote card readers, keypads, or display terminals, monitoring and signaling switches, and power supplies. Work includes related connectors, final terminations, and hook-ups required for a complete and functional access controlled opening in accordance with applicable codes and specified system operational narratives.
10. Elevator Contractor to provide the following:
 - a. Interface or landing of interface cable onto the elevator call button will be performed by a certified elevator Contractor.
 - b. Coordinate with access control systems integrator provisions for a card reader with output allowing the elevator call button to be activated. A validated card read will be required for activation.
11. Full and seamless integration of the Site intrusion alarm service if applicable, with the installed Site access control system software.
12. Final connections to fire alarm system, if required, by electrical and fire alarm system Contractors.
13. Provide permits, submittals, and approvals required by the authority having jurisdiction prior to commencing with Work.
14. Provide manufacturer required power controllers, interface boards, and programming that may be required for approved electric latch retraction exit devices supplied under Section 08 71 00 "Door Hardware."
15. Electrical Contractor Provides the Following:
 - a. Provide required conduit, stub-in, junction, and back boxes for both the electrified locking hardware and access control equipment at each of the access controlled or monitored openings per plan drawings and specs. Supply and install conduit between each of the aforementioned devices and between the electrical junction boxes, power supplies, and access control equipment located on or above the door opening.
 - 1) At off-line remote readers, provide conduit on the secured side of the door 36 inches from the finish floor and 6 inches from the edge of the frame to the related power supplies and access control equipment.
 - 2) At electrified hardware power transfers provide conduit on the secured side of the opening from the power transfer, thru-wire hinge, or serviceable panel location on the frame jamb to the related power supplies and access control equipment.
 - b. Electrical Contractor to provide all 120VAC cabling connections and terminations from the electrical junction boxes to these electrical devices.
16. Access Control System Supplier Provide the Following:
 - a. Low voltage wiring (12/24VDC) for the electrified locking hardware, remote card readers, monitoring and signaling switches, and power supplies. Work includes related connectors, final terminations and hook-ups required for a complete and functional access controlled opening in accordance with applicable codes and specified system operational narratives.
17. Typical System Requirements (Owner Provided): Central server host computer, client workstations, and hardware peripherals to be from an approved, major line computer manufacturer. Specific information detailing compliance with system requirements to be included in the Project Submittal package as specified.

PART 2 - PRODUCTS

2.1 CABLES AND WIRING

- A. Data Line Supervision: System to include alarm initiation capability in response to opening, closing, shorting, or grounding of data transmission lines.
- B. Install appropriate number of conductor pairs, in the wire gage (AWG) recommended by manufacturer, corresponding to the electronic locking functions specified, amperage drawn and distances covered between the power supplies, power transfer devices, electrified hardware, and access control equipment.

2.2 ACCESS CONTROL HARDWARE FINISHES

- A. Standard: Comply with BHMA A156.18.
- B. Protect mechanical finishes on exposed surfaces from damage by applying temporary protective coverings before shipping.
- C. Where specified, finishes on integrated card key locksets or exit hardware to incorporate an FDA recognized antimicrobial coating (i.e., MicroShield™) listed for use on equipment as a suppressant to the growth and spread of a broad range of bacteria, algae, fungus, mold and mildew.
- D. BHMA Designations: Comply with base material and finish as specified.

PART 3 - EXECUTION

3.1 EXAMINATION

- A. Examine scheduled openings, with Installer present, for compliance with requirements for installation tolerances, labeled fire door assembly construction, wall and floor construction, and other conditions affecting performance of the installed access control system.
- B. Examine roughing-in for electrical source power to verify actual locations of wiring connections before electrified and integrated access control door hardware installation.
- C. Examine roughing-in for LAN and control cable conduit systems to PCs, controllers, card readers, and other cable-connected devices to verify actual locations of conduit and back boxes before device installation.
- D. Notify Engineer of any discrepancies or conflicts between the Specifications, Drawings and scheduled access controlled hardware. Proceed only after such discrepancies or conflicts have been resolved in writing.

3.2 PREPARATION

- A. Doors and frames at scheduled access controlled openings to be properly prepared to receive specified electrified and access control hardware and connections without additional in-field modifications.

3.3 INSTALLATION

- A. Install each item of electronic integrated door hardware and access control equipment to comply with manufacturer's written instructions and according to Specifications.

- B. Mounting Heights: Mount electronic integrated door hardware units at heights indicated in following applicable publications, unless specifically indicated or required to comply with governing regulations:
 - 1. Standard Steel Doors and Frames: DHI's "Recommended Locations for Engineerural Hardware for Standard Steel Doors and Frames."
 - 2. Wood Doors: DHI WDHS.3, "Recommended Locations for Engineerural Hardware for Wood Flush Doors."
 - 3. Where indicated to comply with accessibility requirements, comply with ANSI A117.1 "Accessibility Guidelines for Buildings and Facilities."
- C. Boxed Power Supplies: Verify locations.
 - 1. Configuration: Provide the least number of power supplies required to adequately serve doors with access control hardware and equipment.
- D. Final connect the system control switches (integrated card key locking hardware, remote readers, keypads, display terminals, biometrics), and monitoring, and signaling equipment to the related controller devices at each opening to properly operate the electrified door and access control hardware according to system operational narratives.
- E. Retrofitting: Install each door hardware and access control item to comply with manufacturer's published templates and written instructions. Where cutting and fitting are required to install door hardware onto or into surfaces that are later to be painted or finished in another way, coordinate removal, storage, and reinstallation of surface protective trim units with finishing work specified in Division 9 Sections. Do not install surface-mounted items until finishes have been completed on substrates involved.
- F. System Application Software: Install and test application(s) software and databases for the complete and proper operation of systems involved. Assign software license(s) to Owner.

3.4 FIELD QUALITY CONTROL

- A. Field Inspection (Punch Report): Reference Sections 01 70 00 "Execution and Closeout Requirements." Produce Project punch report for each installed door opening indicating compliance with approved Submittals and verification hardware is properly installed, operating, and adjusted. Include list of items to be completed and corrected, indicating the reasons or deficiencies causing the Work to be incomplete or rejected.
 - 1. Organization of List: Include separate door opening and deficiencies, and corrective action lists organized by mark, opening remarks and comments, and related opening images and video recordings.
- B. Commissioning and Testing Schedule: Prior to final acceptance of the access control system installation, the following testing and documentation to be performed and provided to the Owner.
 - 1. Inspection: Verify that units and controls are properly installed, connected, and labeled and that interconnecting wires and terminals are identified.
 - 2. Pre-testing: Program and adjust the system and pretest all components, wiring, and functions to verify they conform to specified requirements. Provide testing reports indicating devices tested, pass/fail status, and actions taken to resolve problem(s) on failed tests.
 - 3. Acceptance Test Schedule: Correct deficiencies identified by tests and observations and retest until specified requirements are met.
 - 4. Provide "as designed" Drawings showing each device and wiring connection and electronic enclosure legends indicating cabling in and out.
 - 5. Provide a complete set of operating instructions for access control hardware devices and a complete software user manual. The documentation includes module reference guides for each electronic enclosure.

3.5 ADJUSTING

- A. Adjust and check each operating item of integrated access control door hardware, and each door opening to ensure proper secured operation and function of every unit. Replace units that cannot be adjusted to operate as intended.

3.6 CLEANING AND PROTECTION

- A. Clean adjacent surfaces soiled by access control system installation.
- B. Clean operating items as necessary to restore proper finish and provide final protection and maintain conditions that ensure access control door hardware is without damage or deterioration at time of owner occupancy.

3.7 DEMONSTRATION

- A. Engage an authorized systems manufacturer representative to train Owner's maintenance personnel to adjust, operate, and maintain electronic integrated door hardware and the access control system.

3.8 ACCESS CONTROL HARDWARE SETS

- A. The access control system hardware sets listed below represent the design intent and direction of the Owner, Engineer, and security consultant (as applicable). They are intended as a guideline only and should not be considered a detailed opening Schedule. Discrepancies, conflicting, and missing items should be brought to the attention of the Engineer with corrections made prior to the bidding process. Omitted items not included in a hardware set should be scheduled with the appropriate additional hardware required for proper application and functionality.
- B. The supplier is responsible for handling and sizing all products and providing the correct option for the appropriate door type and material where more than one is presented in the hardware sets. Quantities listed are for each pair of doors or for each single door.
- C. Refer to Section 08 71 00 "Door Hardware" for hardware sets.

END OF SECTION

SECTION 31 10 00 - SITE CLEARING

PART 1 - GENERAL

1.1 SUMMARY

- A. Section Includes:
 - 1. Removing surface debris.
 - 2. Removing above- and below-grade site improvements.
 - 3. Removing designated trees, shrubs, and other plant life.
 - 4. Disconnecting, capping or sealing.
- B. Related Requirements:
 - 1. Division 01 Specification Sections apply to Work of this Section.
 - 2. Section 01 50 00 "Temporary Facilities and Controls" for temporary erosion- and sedimentation-control measures.

1.2 DEFINITIONS

- A. Subsoil: Soil beneath the level of subgrade; soil beneath the topsoil layers of a naturally occurring soil profile typified by less than 1 percent organic matter and few soil organisms.
- B. Surface Soil: Soil that is present at the top layer of the existing soil profile. In undisturbed areas, surface soil is typically called "topsoil," but in disturbed areas, such as urban environments, the surface soil can be subsoil.
- C. Topsoil: Top layer of the soil profile consisting of existing native surface topsoil or existing in-place surface soil; the zone where plant roots grow.
- D. Topsoil: Top layer of the soil profile consisting of existing native surface topsoil or existing in-place surface soil; the zone where plant roots grow. Its appearance is generally friable, pervious, and black or a darker shade of brown, gray, or red than underlying subsoil; reasonably free of subsoil, clay lumps, gravel, and other objects larger than 2 inches in diameter; and free of weeds, roots, toxic materials, or other nonsoil materials.
- E. Plant-Protection Zone: Area surrounding individual trees, groups of trees, shrubs, or other vegetation to be protected during construction and indicated on Drawings.
- F. Tree-Protection Zone: Area surrounding individual trees or groups of trees to be protected during construction and indicated on Drawings.
- G. Vegetation: Trees, shrubs, groundcovers, grass, and other plants.

1.3 PREINSTALLATION MEETINGS

- A. Preinstallation Conference: Conduct conference at Project site.

1.4 MATERIAL OWNERSHIP

- A. Except for materials indicated to be stockpiled or otherwise remain Owner's property, cleared materials shall become Contractor's property and shall be removed from Project site.

1.5 SUBMITTALS

- A. Section 01 33 00 "Submittal Procedures" for requirements for submittals.
- B. Product Data: Submit data for herbicide. Indicate compliance with applicable codes for environmental protection.

1.6 INFORMATIONAL SUBMITTALS

- A. Existing Conditions: Documentation of existing trees and plantings, adjoining construction, and site improvements that establishes preconstruction conditions that might be misconstrued as damage caused by site clearing.
 - 1. Use sufficiently detailed photographs or video recordings.
 - 2. Include Plans and notations to indicate specific wounds and damage conditions of each tree or other plant designated to remain.
- B. Topsoil stripping and stockpiling program.
- C. Rock stockpiling program.
- D. Record Drawings: Identifying and accurately showing locations of capped utilities and other subsurface structural, electrical, and mechanical conditions.
- E. Burning: Documentation of compliance with burning requirements and permitting of authorities having jurisdiction. Identify location(s) and conditions under which burning will be performed.

1.7 QUALITY ASSURANCE

- A. Conform to applicable codes for disposal of debris.
- B. Perform Work in accordance with State of Texas Highways standard.
- C. Topsoil Stripping and Stockpiling Program: Prepare a written program to systematically demonstrate the ability of personnel to properly follow procedures and handle materials and equipment during the Work. Include dimensioned diagrams for placement and protection of stockpiles.
- D. Rock Stockpiling Program: Prepare a written program to systematically demonstrate the ability of personnel to properly follow procedures and handle materials and equipment during the Work. Include dimensioned diagrams for placement and protection of stockpiles.

1.8 FIELD CONDITIONS

- A. Traffic: Minimize interference with adjoining roads, streets, walks, and other adjacent occupied or used facilities during site-clearing operations.
 - 1. Do not close or obstruct streets, walks, or other adjacent occupied or used facilities without permission from Owner and authorities having jurisdiction.
 - 2. Provide alternate routes around closed or obstructed trafficways if required by Owner or authorities having jurisdiction.
- B. Improvements on Adjoining Property: Authority for performing site clearing indicated on property adjoining Owner's property will be obtained by Owner before award of Contract.
 - 1. Do not proceed with work on adjoining property until directed by Engineer.
- C. Salvageable Improvements: Carefully remove items indicated to be salvaged and store on Owner's premises where indicated.
- D. Utility Locator Service: Notify utility locator service for area where Project is located before site clearing.

- E. Do not commence site clearing operations until temporary erosion- and sedimentation-control measures are in place.
- F. Soil Stripping, Handling, and Stockpiling: Perform only when the soil is dry or slightly moist.

PART 2 - PRODUCTS

2.1 MATERIALS

- A. Satisfactory Soil Material: Requirements for satisfactory soil material are specified in Section 31 20 00 "Earth Moving."
 - 1. Obtain approved borrow soil material off-site when satisfactory soil material is not available on-site.

PART 3 - EXECUTION

3.1 PREPARATION

- A. Call Local Utility Line Information service not less than 3 working days before performing Work.
 - 1. Request underground utilities to be located and marked within and surrounding construction areas.

3.2 PREPARATION

- A. Protect and maintain benchmarks and survey control points from disturbance during construction.
- B. Verify that trees, shrubs, and other vegetation to remain or to be relocated have been flagged and that protection zones have been identified and enclosed according to requirements in Section 01 56 39 "Temporary Tree and Plant Protection."
- C. Protect existing site improvements to remain from damage during construction.
 - 1. Restore damaged improvements to their original condition, as acceptable to Owner.
- D. Identify waste area for placing removed materials.

3.3 TEMPORARY EROSION AND SEDIMENTATION CONTROL

- A. Provide temporary erosion- and sedimentation-control measures to prevent soil erosion and discharge of soil-bearing water runoff or airborne dust to adjacent properties and walkways according to erosion- and sedimentation-control Drawings and requirements of authorities having jurisdiction.
- B. Inspect, maintain, and repair erosion- and sedimentation-control measures during construction until permanent vegetation has been established.
- C. Remove erosion and sedimentation controls and restore and stabilize areas disturbed during removal.

3.4 EXISTING UTILITIES

- A. Owner will arrange for disconnecting and sealing indicated utilities that serve existing structures before site clearing, when requested by Contractor.
 - 1. Verify that utilities have been disconnected and capped before proceeding with site clearing.
- B. Locate, identify, disconnect, and seal or cap utilities indicated to be removed.
 - 1. Arrange with utility companies to shut off indicated utilities.
 - 2. Owner will arrange to shut off indicated utilities when requested by Contractor.
- C. Locate, identify, disconnect, cut, and plug utilities indicated to in place.
- D. Interrupting Existing Utilities: Do not interrupt utilities serving facilities occupied by Owner or others, unless permitted under the following conditions, then only after arranging to provide temporary utility services according to requirements indicated:
 - 1. Notify Engineer not less than 2 days in advance of proposed utility interruptions.
 - 2. Do not proceed with utility interruptions without Engineer's written permission.
- E. Excavate for and remove underground utilities indicated to be removed.
- F. Removal of underground utilities is included in earthwork sections, in applicable fire suppression, plumbing, HVAC, electrical, communications, electronic safety and security, and utilities sections.

3.5 CLEARING AND GRUBBING

- A. Remove obstructions, trees, shrubs, and other vegetation to permit installation of new construction.
 - 1. Do not remove trees, shrubs, and other vegetation indicated to remain or to be relocated.
 - 2. Grind down stumps and remove roots larger than 2 inches in diameter, obstructions, and debris to a depth of 18 inches below exposed subgrade.
 - 3. Use only hand methods or air spade for grubbing within protection zones.
 - 4. Chip removed tree branches and stockpile in areas approved by Engineer.
 - 5. Clear undergrowth and deadwood without disturbing subsoil.
 - 6. Apply herbicide to remaining remaining stumps to inhibit growth.
- B. Fill depressions caused by clearing and grubbing operations with satisfactory soil material unless further excavation or earthwork is indicated.
 - 1. Place fill material in horizontal layers not exceeding a loose depth of 8 inches and compact each layer to a density equal to adjacent original ground.

3.6 TOPSOIL STRIPPING

- A. Remove sod and grass before stripping topsoil.
- B. Strip topsoil to depth indicated on Drawings in a manner to prevent intermingling with underlying subsoil or other waste materials.
 - 1. Remove subsoil and nonsoil materials from topsoil including clay lumps, gravel, other objects larger than 2 inches in diameter, trash, debris, weeds, roots, and other waste materials.
- C. Stockpile topsoil away from edge of excavations without intermixing with subsoil or other materials. Grade and shape stockpiles to drain surface water. Cover to prevent windblown dust and erosion by water.
 - 1. Limit height of topsoil stockpiles to 72 inches.

2. Do not stockpile topsoil within protection zones.
3. Dispose of surplus topsoil. Surplus topsoil is that which exceeds quantity indicated to be stockpiled or reused.
4. Stockpile surplus topsoil to allow for resspreading deeper topsoil.
5. Stockpile sufficient quantities of on-site topsoil to later spread a minimum 6-inch-thickness off topsoil on landscaped (non-paved) Project areas.

3.7 SITE IMPROVEMENTS

- A. Remove existing above- and below-grade improvements as indicated and necessary to facilitate new construction.
- B. Remove slabs, paving, curbs, gutters, and aggregate base as indicated.
 1. Unless existing full-depth joints coincide with line of demolition, neatly saw-cut along line of existing pavement to remain before removing adjacent existing pavement. Saw-cut faces vertically.
 2. Paint cut ends of steel reinforcement in concrete to remain with 2 coats of antirust coating following coating manufacturer's written instructions. Keep paint off surfaces that will remain exposed.

3.8 DISPOSAL OF SURPLUS AND WASTE MATERIALS

- A. Remove surplus soil material, unsuitable topsoil, obstructions, demolished materials, and waste materials including trash and debris and legally dispose of them off Owner's property.

END OF SECTION

SECTION 31 20 00 - EARTH MOVING

PART 1 - GENERAL

1.1 SUMMARY

- A. Section Includes:
 - 1. Excavating and filling for rough grading the Site.
 - 2. Preparing subgrades for slabs-on-grade, walks, pavements, turf and grasses, and plants.
 - 3. Excavating and backfilling for buildings and structures.
 - 4. Drainage course for concrete slabs-on-grade.
 - 5. Subbase course for concrete pavements.
 - 6. Subbase course and base course for asphalt paving.
 - 7. Subsurface drainage backfill for walls and trenches.
 - 8. Excavating and backfilling trenches for utilities and pits for buried utility structures.
- B. Related Requirements:
 - 1. Division 01 Specification Sections apply to Work of this Section.
 - 2. Section 31 10 00 "Site Clearing" for site stripping, grubbing, stripping and stockpiling topsoil, and removal of above- and below-grade improvements and utilities.

1.2 DEFINITIONS

- A. Backfill: Soil material or controlled low-strength material used to fill an excavation.
 - 1. Initial Backfill: Backfill placed beside and over pipe in a trench including haunches to support sides of pipe.
 - 2. Final Backfill: Backfill placed over initial backfill to fill a trench.
- B. Base Course: Aggregate layer placed between the subbase course and hot-mix asphalt paving.
- C. Bedding Course: Aggregate layer placed over the excavated subgrade in a trench before laying pipe.
- D. Borrow Soil: Satisfactory soil imported from off-site for use as fill or backfill.
- E. Drainage Course: Aggregate layer supporting the slab-on-grade that also minimizes upward capillary flow of pore water.
- F. Excavation: Removal of material encountered above subgrade elevations and to lines and dimensions indicated.
 - 1. Authorized Additional Excavation: Excavation below subgrade elevations or beyond indicated lines and dimensions as directed by Engineer. Authorized additional excavation and replacement material will be paid for according to Contract provisions for changes in the Work.
 - 2. Bulk Excavation: Excavation more than 10 feet in width and more than 30 feet in length.
 - 3. Unauthorized Excavation: Excavation below subgrade elevations or beyond indicated lines and dimensions without direction by Engineer. Unauthorized excavation, as well as remedial Work directed by Engineer shall be without additional compensation.
- G. Fill: Soil materials used to raise existing grades.

- H. Rock: Rock material in beds, ledges, unstratified masses, conglomerate deposits, and boulders of rock material 3/4 cubic yards or more in volume that exceed a standard penetration resistance of 100 blows/2 inches when tested by a geotechnical testing agency according to ASTM D1586.
- I. Structures: Buildings, footings, foundations, retaining walls, slabs, tanks, curbs, mechanical and electrical appurtenances, or other man-made stationary features constructed above or below the ground surface.
- J. Subbase Course: Aggregate layer placed between the subgrade and base course for hot-mix asphalt pavement or aggregate layer placed between the subgrade and a cement concrete pavement or a cement concrete or hot-mix asphalt walk.
- K. Subgrade: Uppermost surface of an excavation or the top surface of a fill or backfill immediately below subbase, drainage fill, drainage course, or topsoil materials.
- L. Utilities: On-site underground pipes, conduits, ducts, and cables as well as underground services within buildings.

1.3 INFORMATIONAL SUBMITTALS

- A. Qualification Data: For qualified testing agency.
- B. Material Test Reports: For each on-site and borrow soil material proposed for fill and backfill as follows:
 - 1. Classification according to ASTM D2487.
 - 2. Laboratory compaction curve according to ASTM D698.
- C. Preexcavation Photographs or Videotape: Show existing conditions of adjoining construction and site improvements including finish surfaces that might be misconstrued as damage caused by earth-moving operations. Submit before earth moving begins.

1.4 FIELD CONDITIONS

- A. Traffic: Minimize interference with adjoining roads, streets, walks, and other adjacent occupied or used facilities during earth-moving operations.
 - 1. Do not close or obstruct streets, walks, or other adjacent occupied or used facilities without permission from Owner and authorities having jurisdiction.
 - 2. Provide alternate routes around closed or obstructed traffic ways if required by Owner or authorities having jurisdiction.
- B. Utility Locator Service: Notify utility locator service for area where Project is located before beginning earth-moving operations.
- C. Do not commence earth-moving operations until temporary site fencing and erosion- and sedimentation-control measures specified in Section 01 50 00 "Temporary Facilities and Controls" and Section 31 10 00 "Site Clearing" are in place.

PART 2 - PRODUCTS

2.1 SOIL MATERIALS

- A. General: Provide borrow soil materials when sufficient satisfactory soil materials are not available from excavations.
- B. Satisfactory Soils: Soil Classification Groups GW, GP, GM, SW, SP, and SM according to ASTM D2487, or a combination of these groups; free of rock or gravel larger than 3 inches in any dimension, debris, waste, frozen materials, vegetation, and other deleterious matter.

- C. Unsatisfactory Soils: Soil Classification Groups GC, SC, CL, ML, OL, CH, MH, OH, and PT according to ASTM D2487, or a combination of these groups.
 - 1. Unsatisfactory soils also include satisfactory soils not maintained within 2 percent of optimum moisture content at time of compaction.
- D. Subbase Material: Naturally or artificially graded mixture of natural or crushed gravel, crushed stone, and natural or crushed sand; ASTM D2940; with at least 90 percent passing a 1-1/2-inch sieve and not more than 12 percent passing a No. 200 sieve.
- E. Base Course: Naturally or artificially graded mixture of natural or crushed gravel, crushed stone, and natural or crushed sand; ASTM D2940; with at least 95 percent passing a 1-1/2-inch sieve and not more than 8 percent passing a No. 200 sieve.
- F. Engineered Fill: Naturally or artificially graded mixture of natural or crushed gravel, crushed stone, and natural or crushed sand; ASTM D2940; with at least 90 percent passing a 1-1/2-inch sieve and not more than 12 percent passing a No. 200 sieve.
- G. Bedding Course: Naturally or artificially graded mixture of natural or crushed gravel, crushed stone, and natural or crushed sand; ASTM D2940; except with 100 percent passing a 1-inch sieve and not more than 8 percent passing a No. 200 sieve.
- H. Drainage Course: Narrowly graded mixture of washed crushed stone, or crushed or uncrushed gravel; ASTM D448; coarse-aggregate grading Size 57; with 100 percent passing a 1-1/2-inch sieve and zero to 5 percent passing a No. 8 sieve.
- I. Filter Material: Narrowly graded mixture of natural or crushed gravel, or crushed stone and natural sand; ASTM D448; coarse-aggregate grading Size 67; with 100 percent passing a 1-inch sieve and zero to 5 percent passing a No. 4 sieve.
- J. Sand: ASTM C33; fine aggregate.
- K. Impervious Fill: Clayey gravel and sand mixture capable of compacting to a dense state.

2.2 ACCESSORIES

- A. Detectable Warning Tape: Acid- and alkali-resistant, polyethylene film warning tape manufactured for marking and identifying underground utilities, a minimum of 6 inches-wide and 4 mils thick, continuously inscribed with a description of the utility, with metallic core encased in a protective jacket for corrosion protection, detectable by metal detector when tape is buried up to 30 inches deep; colored as follows:
 - 1. Red: Electric.
 - 2. Yellow: Gas, oil, steam, and dangerous materials.
 - 3. Orange: Telephone and other communications.
 - 4. Blue: Water systems.
 - 5. Green: Sewer systems.

PART 3 - EXECUTION

3.1 PREPARATION

- A. Protect structures, utilities, sidewalks, pavements, and other facilities from damage caused by settlement, lateral movement, undermining, washout, and other hazards created by earth-moving operations.
- B. Protect and maintain erosion and sedimentation controls during earth-moving operations.
- C. Protect subgrades and foundation soils from freezing temperatures and frost. Remove temporary protection before placing subsequent materials.

3.2 DEWATERING

- A. Provide dewatering system of sufficient scope, size, and capacity to control hydrostatic pressures and to lower, control, remove, and dispose of ground water and permit excavation and construction to proceed on dry, stable subgrades.
- B. Prevent surface water and ground water from entering excavations, from ponding on prepared subgrades, and from flooding Project site and surrounding area.
- C. Protect subgrades from softening, undermining, washout, and damage by rain or water accumulation.
 - 1. Reroute surface water runoff away from excavated areas. Do not allow water to accumulate in excavations. Do not use excavated trenches as temporary drainage ditches.
- D. Dispose of water removed by dewatering in a manner that avoids endangering public health, property, and portions of Work under construction or completed. Dispose of water and sediment in a manner that avoids inconvenience to others.

3.3 EXPLOSIVES

- A. Explosives: Do not use explosives.

3.4 EXCAVATION, GENERAL

- A. Unclassified Excavation: Excavate to subgrade elevations regardless of the character of surface and subsurface conditions encountered. Unclassified excavated materials may include rock, soil materials, and obstructions. No changes in the Contract Sum or the Contract Time will be authorized for rock excavation or removal of obstructions.
 - 1. If excavated materials intended for fill and backfill include unsatisfactory soil materials and rock, replace with satisfactory soil materials.
 - 2. Remove rock to lines and grades indicated to permit installation of permanent construction without exceeding the following dimensions:
 - a. 24 inches outside of concrete forms other than at footings.
 - b. 12 inches outside of concrete forms at footings.
 - c. 6 inches outside of minimum required dimensions of concrete cast against grade.
 - d. Outside dimensions of concrete walls indicated to be cast against rock without forms or exterior waterproofing treatments.
 - e. 6 inches beneath bottom of concrete slabs-on-grade.
 - f. 6 inches beneath pipe in trenches and the greater of 24 inches wider than pipe or 42 inches wide.

3.5 EXCAVATION FOR STRUCTURES

- A. Excavate to indicate elevations and dimensions within a tolerance of plus or minus 1-inch. If applicable, extend excavations a sufficient distance from structures for placing and removing concrete formwork, for installing services and other construction, and for inspections.
 - 1. Excavations for Footings and Foundations: Do not disturb bottom of excavation. Excavate by hand to final grade just before placing concrete reinforcement. Trim bottoms to required lines and grades to leave solid base to receive other Work.

2. Pile Foundations: Stop excavations 6 to 12 inches above bottom of pile cap before piles are placed. After piles have been driven, remove loose and displaced material. Excavate to final grade leaving solid base to receive concrete pile caps.
3. Excavation for Underground Tanks, Basins, and Mechanical or Electrical Utility Structures: Excavate to elevations and dimensions indicated within a tolerance of plus or minus 1-inch. Do not disturb bottom of excavations intended as bearing surfaces.

3.6 EXCAVATION FOR WALKS AND PAVEMENTS

- A. Excavate surfaces under walks and pavements to indicated lines, cross sections, elevations, and subgrades.

3.7 EXCAVATION FOR UTILITY TRENCHES

- A. Excavate trenches to indicated gradients, lines, depths, and elevations.
 1. Beyond building perimeter, excavate trenches to allow installation of top of pipe below frost line.
- B. Excavate trenches to uniform widths to provide the following clearance on each side of pipe or conduit. Excavate trench walls vertically from trench bottom to 12 inches higher than top of pipe or conduit unless otherwise indicated.
 1. Clearance: 12 inches each side of pipe or conduit.
- C. Trench Bottoms: Excavate and shape trench bottoms to provide uniform bearing and support of pipes and conduit. Shape subgrade to provide continuous support for bells, joints, and barrels of pipes and for joints, fittings, and bodies of conduits. Remove projecting stones and sharp objects along trench subgrade.
 1. For pipes and conduit less than 6 inches in nominal diameter, hand-excavate trench bottoms and support pipe and conduit on an undisturbed subgrade.
 2. For pipes and conduit 6 inches or larger in nominal diameter, shape bottom of trench to support bottom 90 degrees of pipe or conduit circumference. Fill depressions with tamped sand backfill.
 3. For flat-bottomed, multiple-duct conduit units, hand-excavate trench bottoms and support conduit on an undisturbed subgrade.
 4. Excavate trenches 6 inches deeper than elevation required in rock or other unyielding bearing material to allow for bedding course.

3.8 SUBGRADE INSPECTION

- A. Notify Engineer when excavations have reached required subgrade.
- B. If Engineer determines that unsatisfactory soil is present, continue excavation and replace with compacted backfill or fill material as directed.
- C. Proof-roll subgrade below the building slabs and pavements with a pneumatic-tired and loaded 10-wheel, tandem-axle dump truck weighing not less than 15 tons to identify soft pockets and areas of excess yielding. Do not proof-roll wet or saturated subgrades.
 1. Completely proof-roll subgrade in 1 direction, repeating proof-rolling in direction perpendicular to first direction. Limit vehicle speed to 3 mph.
 2. Excavate soft spots, unsatisfactory soils, and areas of excessive pumping or rutting, as determined by Engineer, and replace with compacted backfill or fill as directed.
- D. Authorized additional excavation and replacement material will be paid for according to Contract provisions for changes in the Work.

- E. Reconstruct subgrades damaged by freezing temperatures, frost, rain, accumulated water, or construction activities, as directed by Engineer, without additional compensation.

3.9 UNAUTHORIZED EXCAVATION

- A. Fill unauthorized excavation under foundations or wall footings by extending bottom elevation of concrete foundation or footing to excavation bottom, without altering top elevation. Lean concrete fill, with 28-day compressive strength of 2,500 psi, may be used when approved by Engineer.
 - 1. Fill unauthorized excavations under other construction, pipe, or conduit as directed by Engineer.

3.10 STORAGE OF SOIL MATERIALS

- A. Stockpile borrow soil materials and excavated satisfactory soil materials without intermixing. Place, grade, and shape stockpiles to drain surface water. Cover to prevent windblown dust.
 - 1. Stockpile soil materials away from edge of excavations. Do not store within drip line of remaining trees.

3.11 BACKFILL

- A. Place and compact backfill in excavations promptly, but not before completing the following:
 - 1. Construction below finish grade including, where applicable, subdrainage, dampproofing, waterproofing, and perimeter insulation.
 - 2. Surveying locations of underground utilities for Record Documents.
 - 3. Testing and inspecting underground utilities.
 - 4. Removing concrete formwork.
 - 5. Removing trash and debris.
 - 6. Removing temporary shoring, bracing, and sheeting.
 - 7. Installing permanent or temporary horizontal bracing on horizontally supported walls.
- B. Place backfill on subgrades free of mud, frost, snow, or ice.

3.12 UTILITY TRENCH BACKFILL

- A. Place backfill on subgrades free of mud, frost, snow, or ice.
- B. Place and compact bedding course on trench bottoms and where indicated. Shape bedding course to provide continuous support for bells, joints, and barrels of pipes and for joints, fittings, and bodies of conduits.
- C. Trenches under Footings: Backfill trenches excavated under footings and within 18 inches of bottom of footings with satisfactory soil; fill with concrete to elevation of bottom of footings. Concrete is specified in Section 03 30 00 "Cast-in-Place Concrete."
- D. Trenches under Roadways: Provide 4-inch thick, concrete-base slab support for piping or conduit less than 30 inches below surface of roadways. After installing and testing, completely encase piping or conduit in a minimum of 4 inches of concrete before backfilling or placing roadway subbase course. Concrete is specified in Section 03 30 00 "Cast-in-Place Concrete."
- E. Backfill voids with satisfactory soil while removing shoring and bracing.

- F. Initial Backfill:
 - 1. Soil Backfill: Place and compact initial backfill of satisfactory soil, free of particles larger than 1 inch in any dimension, to a height of 12 inches over the pipe or conduit.
 - a. Carefully compact initial backfill under pipe haunches and compact evenly up on both sides and along the full length of piping or conduit to avoid damage or displacement of piping or conduit. Coordinate backfilling with utilities testing.
 - 2. Controlled Low-Strength Material: Place initial backfill of controlled low-strength material to a height of 12 inches over the pipe or conduit. Coordinate backfilling with utilities testing.
- G. Final Backfill:
 - 1. Soil Backfill: Place and compact final backfill of satisfactory soil to final subgrade elevation.
- H. Warning Tape: Install warning tape directly above utilities 12 inches below finished grade except 6 inches below subgrade under pavements and slabs.

3.13 SOIL FILL

- A. Plow, scarify, bench, or break up sloped surfaces steeper than 1 vertical to 4 horizontal so fill material will bond with existing material.
- B. Place and compact fill material in layers to required elevations as follows:
 - 1. Under grass and planted areas, use satisfactory soil material.
 - 2. Under walks and pavements, use satisfactory soil material.
 - 3. Under steps and ramps, use engineered fill.
 - 4. Under building slabs, use engineered fill.
 - 5. Under footings and foundations, use engineered fill.
- C. Place soil fill on subgrades free of mud, frost, snow, or ice.

3.14 SOIL MOISTURE CONTROL

- A. Uniformly moisten or aerate subgrade and each subsequent fill or backfill soil layer before compaction to within 2 percent of optimum moisture content.
 - 1. Do not place backfill or fill soil material on surfaces that are muddy, frozen, or contain frost or ice.
 - 2. Remove and replace, or scarify and air dry, otherwise satisfactory soil material that exceeds optimum moisture content by 2 percent and is too wet to compact to specified dry unit weight.

3.15 COMPACTION OF SOIL BACKFILLS AND FILLS

- A. Place backfill and fill soil materials in layers not more than 8 inches in loose depth for material compacted by heavy compaction equipment and not more than 4 inches in loose depth for material compacted by hand-operated tampers.
- B. Place backfill and fill soil materials evenly on all sides of structures to required elevations and uniformly along the full length of each structure.
- C. Compact soil materials to not less than the following percentages of maximum dry unit weight according to ASTM D698:

1. Under structures, building slabs, steps, and pavements, scarify and recompact top 12 inches of existing subgrade and each layer of backfill or fill soil material at 95 percent.
2. Under walkways, scarify and recompact top 6 inches below subgrade and compact each layer of backfill or fill soil material at 92 percent.
3. Under turf or unpaved areas, scarify and recompact top 6 inches below subgrade and compact each layer of backfill or fill soil material at 85 percent.
4. For utility trenches, compact each layer of initial and final backfill soil material at 85 percent.

3.16 GRADING

- A. General: Uniformly grade areas to a smooth surface, free of irregular surface changes. Comply with compaction requirements and grade to cross sections, lines, and elevations indicated.
 1. Provide a smooth transition between adjacent existing grades and new grades.
 2. Cut out soft spots, fill low spots, and trim high spots to comply with required surface tolerances.
- B. Site Rough Grading: Slope grades to direct water away from buildings and to prevent ponding. Finish subgrades to elevations required to achieve indicated finish elevations, within the following subgrade tolerances:
 1. Turf or Unpaved Areas: Plus or minus 1 inch.
 2. Walks: Plus or minus 1 inch.
 3. Pavements: Plus or minus 1/2-inch.
- C. Grading inside Building Lines: Finish subgrade to a tolerance of 1/2-inch when tested with a 10-foot straightedge.

3.17 SUBBASE AND BASE COURSES UNDER PAVEMENTS AND WALKS

- A. Place subbase course and base course on subgrades free of mud, frost, snow, or ice.
- B. On prepared subgrade, place subbase course and base course under pavements and walks as follows:
 1. Place base course material over subbase course under hot-mix asphalt pavement.
 2. Shape subbase course and base course to required crown elevations and cross-slope grades.
 3. Place subbase course and base course 6 inches or less in compacted thickness in a single layer.
 4. Place subbase course and base course that exceeds 6 inches in compacted thickness in layers of equal thickness with no compacted layer more than 6 inches thick or less than 3 inches thick.
- C. Pavement Shoulders: Place shoulders along edges of subbase course and base course to prevent lateral movement. Construct shoulders, at least 12 inches wide of satisfactory soil materials and compact simultaneously with each subbase and base layer to not less than 95 percent of maximum dry unit weight according to ASTM D698.

3.18 FIELD QUALITY CONTROL

- A. Testing Agency: Owner will engage a qualified geotechnical engineering testing agency to perform tests and inspections.

- B. Allow testing agency to inspect and test subgrades and each fill or backfill layer. Proceed with subsequent earth moving only after test results for previously completed Work comply with requirements.
- C. Footing Subgrade: At footing subgrades, at least 1 test of each soil stratum will be performed to verify design bearing capacities. Subsequent verification and approval of other footing subgrades may be based on a visual comparison of subgrade with tested subgrade when approved by Engineer.
- D. Testing agency will test compaction of soils in place according to ASTM D1556, ASTM D2167, ASTM D2937, and ASTM D6938, as applicable. Tests will be performed at the following locations and frequencies:
 - 1. Paved and Building Slab Areas: At subgrade and at each compacted fill and backfill layer, at least 1 test for every 2,000 sq. ft. or less of paved area or building slab but in no case fewer than 3 tests.
 - 2. Foundation Wall Backfill: At each compacted backfill layer, at least 1 test for every 100 feet or less of wall length but no fewer than 2 tests.
 - 3. Trench Backfill: At each compacted initial and final backfill layer, at least 1 test for every 150 feet or less of trench length but no fewer than 2 tests.
- E. When testing agency reports that subgrades, fills, or backfills have not achieved degree of compaction specified, scarify and moisten or aerate, or remove and replace soil materials to depth required; recompact and retest until specified compaction is obtained.

3.19 PROTECTION

- A. Protecting Graded Areas: Protect newly graded areas from traffic, freezing, and erosion. Keep free of trash and debris.
- B. Repair and reestablish grades to specified tolerances where completed or partially completed surfaces become eroded, rutted, settled, or where they lose compaction due to subsequent construction operations or weather conditions.
 - 1. Scarify or remove and replace soil material to depth as directed by Engineer; reshape and recompact.
- C. Where settling occurs before Project correction period elapses, remove finished surfacing, backfill with additional soil material, compact, and reconstruct surfacing.
 - 1. Restore appearance, quality, and condition of finished surfacing to match adjacent Work, and eliminate evidence of restoration to greatest extent possible.

3.20 DISPOSAL OF SURPLUS AND WASTE MATERIALS

- A. Remove surplus satisfactory soil and waste materials, including unsatisfactory soil, trash, and debris, and legally dispose of them off Owner's property.

END OF SECTION

SECTION 31 22 13 - ROUGH GRADING

PART 1 - GENERAL

1.1 SUMMARY

- A. Section Includes:
 - 1. Excavating topsoil.
 - 2. Excavating subsoil.
 - 3. Cutting, grading, filling, rough contouring, and compacting site for site structures and building pads.
- B. Related Sections:
 - 1. Division 01 Specification Sections apply to Work of this Section.
 - 2. Section 31 10 00 "Site Clearing" for excavating topsoil.
 - 3. Section 31 23 23 "Fill" for general building area backfilling.

1.2 REFERENCES

- A. ASTM International:
 - 1. ASTM C136 - Standard Test Method for Sieve Analysis of Fine and Coarse Aggregates.
 - 2. ASTM D698 - Standard Test Method for Laboratory Compaction Characteristics of Soil Using Standard Effort (12,400 ft-lbf/ft³ (600 kN-m/m³).
 - 3. ASTM D1556 - Standard Test Method for Density and Unit Weight of Soil in Place by the Sand-Cone Method.
 - 4. ASTM D1557 - Standard Test Methods for Laboratory Compaction Characteristics of Soil Using Modified Effort (56,000 ft-lbf/ft³ (2,700 kN-m/m³).
 - 5. ASTM D2167 - Standard Test Method for Density and Unit Weight of Soil in Place by the Rubber Balloon Method.
 - 6. ASTM D2419 - Standard Test Method for Sand Equivalent Value of Soils and Fine Aggregate.
 - 7. ASTM D2434 - Standard Test Method for Permeability of Granular Soils (Constant Head).
 - 8. ASTM D2922 - Standard Test Method for Density of Soil and Soil-Aggregate in Place by Nuclear Methods (Shallow Depth).
 - 9. ASTM D3017 - Standard Test Method for Water Content of Soil and Rock in Place by Nuclear Methods (Shallow Depth).

1.3 SUBMITTALS

- A. Section 01 33 00 "Submittal Procedures."
- B. Samples: Submit, in air-tight containers, 10-pound sample of each type of fill to testing laboratory.
- C. Materials Source: Submit name of imported materials suppliers.
- D. Manufacturer's Certificate: Certify Products meet or exceed specified requirements.

1.4 SUSTAINABLE DESIGN SUBMITTALS

- A. Manufacturer's Certificate: Certify products meet or exceed specified sustainable design requirements.

1.5 CLOSEOUT SUBMITTALS

- A. Section 01 70 00 "Execution and Closeout Requirements" for requirements for submittals.
- B. Project Record Documents: Accurately record actual locations of utilities remaining by horizontal dimensions, elevations or inverts, and slope gradients.

1.6 QUALITY ASSURANCE

- A. Perform Work in accordance with ASTM C136, ASTM D2419, and ASTM D2434.
- B. Perform Work in accordance with Highways standard.

PART 2 - PRODUCTS

2.1 MATERIALS

- A. Topsoil: Type S3 as specified in Section 31 05 13 "Soils for Earthwork."
- B. Subsoil Fill: Type as specified in Section 31 05 13 "Soils for Earthwork."
- C. Structural Fill: Type as specified in Section 31 05 13 "Soils for Earthwork."

PART 3 - EXECUTION

3.1 EXAMINATION

- A. Section 01 30 00 "Administrative Requirements" for verification of existing conditions before starting work.
- B. Verify survey benchmark and intended elevations for Work are as indicated on Drawings.

3.2 PREPARATION

- A. Call Local Utility Line Information service not less than 3 working days before performing Work.
 - 1. Request underground utilities to be located and marked within and surrounding construction areas.
- B. Identify required lines, levels, contours, and datum.
- C. Notify utility company to remove and relocate utilities.
- D. Protect utilities indicated to remain from damage.

- E. Protect plant life, lawns, rock outcropping, and other features remaining as portion of final landscaping.
- F. Protect bench marks, sidewalks, paving, and curbs from excavating equipment and vehicular traffic.

3.3 SUBSOIL EXCAVATION

- A. Excavate subsoil from areas to be further excavated, relandscaped, or regraded.
- B. Do not excavate wet subsoil or excavate and process wet material to obtain optimum moisture content.
- C. When excavating through roots, perform Work by hand and cut roots with sharp axe.
- D. Remove excess subsoil not intended for reuse from site.
- E. Stockpile subsoil in area designated on site to depth not exceeding 8 feet and protect from erosion.
- F. Benching Slopes: Horizontally bench existing slopes greater than 1:4 to key placed fill material to slope to provide firm bearing.
- G. Stability: Replace damaged or displaced subsoil as specified for fill.

3.4 FILLING

- A. Fill areas to contours and elevations with unfrozen materials.
- B. Install Work in accordance with Highways standards.

3.5 TOLERANCES

- A. Section 01 40 00 "Quality Requirements" for tolerances.
- B. Top Surface of Subgrade: Plus or minus 1/10-foot from required elevation.

3.6 FIELD QUALITY CONTROL

- A. Section 01 40 00 "Quality Requirements" for field inspecting, testing, adjusting, and balancing.
- B. Perform laboratory material tests in accordance with ASTM D1557.
- C. Perform in place compaction tests in accordance with the following:
 - 1. Density Tests: ASTM D2922.
 - 2. Moisture Tests: ASTM D3017.
- D. When tests indicate Work does not meet specified requirements, remove Work, replace and retest.
 - 1. Paved and Building Slab Areas: At subgrade and at each compacted fill and backfill layer, at least one test for every 2,000 square feet or less of paved area or building slab, but in no case fewer than three tests.
 - 2. Foundation Walk Backfill: At each compacted backfill layer, at least one test for every 100 feet or less of wall length, but no fewer than two tests.
 - 3. Trench Backfill: At each compacted initial and final backfill layer, at least one test for every 150 feet or less of trench length but no fewer than two tests.

END OF SECTION

SECTION 31 23 23 - FILL

PART 1 - GENERAL

1.1 SUMMARY

- A. Section Includes:
 - 1. Backfilling building perimeter to subgrade elevations.
 - 2. Backfilling site structures to subgrade elevations.
 - 3. Fill under slabs on grade.
 - 4. Fill under paving.
 - 5. Fill for over-excavation.
- B. Related Requirements:
 - 1. Division 01 Specification Sections apply to Work of this Section.
 - 2. Section 03 30 00 "Cast-in-Place Concrete" for concrete materials.
 - 3. Section 31 22 13 "Rough Grading" for Site filling.

1.2 REFERENCE STANDARDS

- A. American Association of State Highway and Transportation Officials:
 - 1. AASHTO T 180 - Standard Method of Test for Moisture-Density Relations of Soils Using a 4.54-kg Rammer and a 457-mm Drop.
- B. ASTM International:
 - 1. ASTM D698 - Standard Test Methods for Laboratory Compaction Characteristics of Soil Using Standard Effort (12,400 ft-lbf/ft³).
 - 2. ASTM D1556 - Standard Test Method for Density and Unit Weight of Soil in Place by Sand-Cone Method.
 - 3. ASTM D1557 - Standard Test Methods for Laboratory Compaction Characteristics of Soil Using Modified Effort (56,000 ft-lbf/ft³).
 - 4. ASTM D2167 - Standard Test Method for Density and Unit Weight of Soil in Place by the Rubber Balloon Method.
 - 5. ASTM D6031 - Standard Test Method for Logging In Situ Moisture Content and Density of Soil and Rock by the Nuclear Method in Horizontal, Slanted, and Vertical Access Tubes.
 - 6. ASTM D6938 - Standard Test Method for In-Place Density and Water Content of Soil and Soil-Aggregate by Nuclear Methods (Shallow Depth).

PART 2 - PRODUCTS (Not Used)

PART 3 - EXECUTION

3.1 EXAMINATION

- A. Section 01 70 00 "Execution and Closeout Requirements" for installation examination.
- B. Verify that subdrainage, dampproofing, and waterproofing installations have been inspected.
- C. Verify that underground tanks are anchored to their own foundations to avoid flotation after backfilling.

- D. Verify structural integrity of unsupported walls to support loads imposed by fill.

3.2 PREPARATION

- A. Section 01 70 00 "Execution and Closeout Requirements" for installation preparation.
- B. Compact subgrade to specified density requirements for subsequent backfill materials.
- C. Soft Subgrade:
 - 1. Cut out soft areas of subgrade not capable of compaction in place.
 - 2. Backfill with structural fill and compact to density equal to or greater than specified requirements for subsequent fill material.
- D. Scarify subgrade surface to depth of 6 inches.

3.3 BACKFILLING

- A. Backfill areas to contours and elevations.
- B. Systematically backfill to allow maximum time for natural settlement.
- C. Do not backfill over porous, wet, frozen, or spongy subgrade surfaces and do not backfill with frozen materials.
- D. Place fill material in continuous layers and compact.
- E. Use placement method that does not disturb or damage utilities in trench.
- F. Maintain optimum moisture content of fill materials to attain required compaction density.
- G. Structures:
 - 1. Backfill against supported foundation walls.
 - 2. Backfill simultaneously on each side of unsupported foundation walls until supports are in place.
 - 3. Slope grade away from building minimum 2 percent slope for minimum distance of 10 feet.
- H. Make gradual grade changes and blend slope into level areas.
- I. Remove surplus backfill materials from Site.
- J. Leave fill material stockpile areas free of excess fill materials.

3.4 TOLERANCES

- A. Section 01 40 00 "Quality Requirements" for tolerances.
- B. Top Surface of Backfilling within Building Areas: Plus or minus 1 inch from required elevations.
- C. Top Surface of Backfilling under Paved Areas: Plus or minus 1 inch from required elevations.
- D. Top Surface of General Backfilling: Plus or minus 1 inch from required elevations.

3.5 PROTECTION

- A. Section 01 70 00 "Execution and Closeout Requirements" for protecting finished Work.
- B. Reshape and recompact fills subjected to vehicular traffic during construction.

END OF SECTION

SECTION 32 11 23 - AGGREGATE BASE COURSES

PART 1 - GENERAL

1.1 SUMMARY

- A. Section Includes:
 - 1. Aggregate subbase.
 - 2. Aggregate base course.
- B. Related Sections:
 - 1. Division 01 Specification Sections apply to Work of this Section.
 - 2. Section 31 22 13 "Rough Grading" for preparation of site for base course.
 - 3. Section 32 05 16 "Aggregates for Exterior Improvements."
 - 4. Section 32 12 16 "Asphalt Paving;" Finish asphalt courses.

1.2 REFERENCES

- A. American Association of State Highway and Transportation Officials:
 - 1. AASHTO M288 - Standard Specification for Geotextile Specification for Highway Applications.
- B. ASTM International:
 - 1. ASTM D1556 - Standard Test Method for Density and Unit Weight of Soil in Place by the Sand-Cone Method.
 - 2. ASTM D2167 - Standard Test Method for Density and Unit Weight of Soil in Place by the Rubber Balloon Method.
 - 3. ASTM D2922 - Standard Test Method for Density of Soil and Soil-Aggregate in Place by Nuclear Methods (Shallow Depth).
 - 4. ASTM D2940 - Standard Specification for Graded Aggregate Material For Bases or Subbases for Highways or Airports.
 - 5. ASTM D3017 - Standard Test Method for Water Content of Soil and Rock in Place by Nuclear Methods (Shallow Depth).

1.3 SUBMITTALS

- A. Section 01 33 00 "Submittal Procedures."
- B. Product Data:
 - 1. Submit data for geotextile fabric and herbicide.
- C. Samples: Submit, in air-tight containers, 10-pound sample of each type of aggregate fill to testing laboratory.
- D. Materials Source: Submit name of aggregate materials suppliers.
- E. Manufacturer's Certificate: Certify products meet or exceed specified requirements.

1.4 QUALITY ASSURANCE

- A. Furnish each aggregate material from single source throughout the Work.
- B. Perform Work according to State of Texas Highways standards.
- C. Maintain 1 copy of each document on site.

PART 2 - PRODUCTS

2.1 AGGREGATE MATERIALS

- A. Conform with requirements of Type A, Grades 1 or 2, Item 247 of the TxDOT Standard Specifications for Construction of Highways, Street, and Bridges.

PART 3 - EXECUTION

3.1 EXAMINATION

- A. Section 01 30 00 "Administrative Requirements" for verification of existing conditions before starting Work.
- B. Verify compacted substrate is dry.
 - 1. Proof roll substrate with in minimum 3 perpendicular passes to identify soft spots.
 - 2. Remove soft substrate and replace with compacted fill as specified in Section 31 23 23 "Fill."
- C. Verify substrate has been inspected, gradients and elevations are correct.

3.2 PREPARATION

- A. Correct irregularities in substrate gradient and elevation by scarifying, reshaping, and re-compacting.
- B. Do not place fill on soft, muddy, or frozen surfaces.

3.3 AGGREGATE PLACEMENT

- A. Spread aggregate over prepared substrate to total compacted thickness indicated on Drawings.
- B. Roller compact aggregate to 95 percent maximum density.
- C. Level and contour surfaces to elevations, profiles, and gradients indicated.
- D. Add small quantities of fine aggregate to coarse aggregate when required to assist compaction.
- E. Maintain optimum moisture content of fill materials to attain specified compaction density.
- F. Use mechanical tamping equipment in areas inaccessible to compaction equipment.

3.4 TOLERANCES

- A. Section 01 40 00 "Quality Requirements" for tolerances.
- B. Maximum Variation From Flat Surface: 1/2-inch measured with 10-foot straight edge.
- C. Maximum Variation From Thickness: 1/4-inch.
- D. Maximum Variation From Elevation: 1/2-inch.

3.5 FIELD QUALITY CONTROL

- A. Section 01 70 00 "Execution and Closeout Requirements" for field inspecting, testing, adjusting, and balancing.
- B. Compaction testing will be performed according to ASTM D1557.

- C. When tests indicate Work does not meet specified requirements, remove Work, replace and retest.
- D. Frequency of Tests: One test for every 1,000 square yards of each layer compacted aggregate.

3.6 COMPACTION

- A. Compact materials to 98 percent of maximum density as determined from test strip, according to ASTM D2940.

END OF SECTION

SECTION 32 12 16 - ASPHALT PAVING

PART 1 - GENERAL

1.1 SUMMARY

- A. Section Includes:
 - 1. Asphalt materials.
 - 2. Aggregate materials.
 - 3. Aggregate subbase.
 - 4. Asphalt paving base course, binder course, and wearing course.
 - 5. Asphalt paving overlay for existing paving.
 - 6. Surface slurry.
- B. Related Requirement:
 - 1. Division 01 Specification Sections apply to Work of this Section.
 - 2. Section 31 22 13 "Rough Grading" for preparation of site for paving.
 - 3. Section 32 11 23 "Aggregate Base Courses" for compacted subbase for paving.

1.2 REFERENCE STANDARDS

- A. AASHTO M17 - Standard Specification for Mineral Filler for Bituminous Paving Mixtures.
- B. AASHTO M29 - Standard Specification for Fine Aggregate for Bituminous Paving Mixtures.
- C. AASHTO M140 - Standard Specification for Emulsified Asphalt.
- D. AASHTO M208 - Standard Specification for Cationic Emulsified Asphalt.
- E. AASHTO M288 - Standard Specification for Geotextile Specification for Highway Applications.
- F. AASHTO M320 - Standard Specification for Performance-Graded Asphalt Binder.
- G. AASHTO M324 - Standard Specification for Joint and Crack Sealants, Hot Applied, for Concrete and Asphalt Pavements.
- H. AASHTO MP1a - Standard Specification for Performance-Graded Asphalt Binder.
- I. AI MS-2 - Mix Design Methods for Asphalt Concrete and Other Hot-Mix Types.
- J. AI MS-19 - Basic Asphalt Emulsion Manual.
- K. AI SP-2 - Superpave Mix Design.
- L. ASTM C1371-2004a - Standard Test Method for Determination of Emittance of Materials Near Room Temperature Using Portable Emissometers.
- M. ASTM C1549-16 - Standard Test Method for Determination of Solar Reflectance Near Ambient Temperature Using a Portable Solar Reflectometer.
- N. ASTM D242 - Standard Specification for Mineral Filler For Bituminous Paving Mixtures.
- O. ASTM D692 - Standard Specification for Coarse Aggregate for Bituminous Paving Mixtures.
- P. ASTM D946 - Standard Specification for Penetration-Graded Asphalt Cement for Use in Pavement Construction.
- Q. ASTM D977 - Standard Specification for Emulsified Asphalt.
- R. ASTM D1073 - Standard Specification for Fine Aggregate for Bituminous Paving Mixtures.

- S. ASTM D1188 - Standard Test Method for Bulk Specific Gravity and Density of Compacted Bituminous Mixtures Using Coated Samples
- T. ASTM D2027 - Standard Specification for Cutback Asphalt (Medium-Curing Type).
- U. ASTM D2397 - Standard Specification for Cationic Emulsified Asphalt.
- V. ASTM D2726 - Standard Test Method for Bulk Specific Gravity and Density of Non-Absorptive Compacted Bituminous Mixtures.
- W. ASTM D2950 - Standard Test Method for Density of Bituminous Concrete in Place by Nuclear Methods.
- X. ASTM D3381 - Standard Specification for Viscosity-Graded Asphalt Cement for Use in Pavement Construction.
- Y. ASTM D3515 - Standard Specification for Hot-Mixed, Hot-Laid Bituminous Paving Mixtures.
- Z. ASTM D3549 - Standard Test Method for Thickness or Height of Compacted Bituminous Paving Mixture Specimens.
- AA. ASTM D3910 - Standard Practices for Design, Testing, and Construction of Slurry Seal.
- BB. ASTM D6690 - Standard Specification for Joint and Crack Sealants, Hot Applied, for Concrete and Asphalt Pavements.
- CC. ASTM E408-2019 - Standard Test Methods for Total Normal Emittance of Surfaces Using Inspection-Meter Techniques.
- DD. ASTM E903-2012 - Standard Test Method for Solar Absorptance, Reflectance, and Transmittance of Materials Using Integrating Spheres.
- EE. ASTM E1918-2016 - Standard Test Method for Measuring Solar Reflectance of Horizontal and Low-Sloped Surfaces in the Field.
- FF. ASTM E1980-2019 - Standard Practice for Calculating Solar Reflectance Index of Horizontal and Low-Sloped Opaque Surfaces.
- GG. Texas Department of Transportation (TxDOT) Standard Specifications for Construction of Highways, Streets, and Bridges, 2014 edition.

1.3 SUBMITTALS

- A. Section 01 33 00 "Submittal Procedures."
- B. Product Data:
 - 1. Submit product information for asphalt and aggregate materials.
 - 2. Submit mix design with laboratory test results supporting design.
- C. Manufacturer's Certificate: Certify Products meet or exceed specified requirements.

1.4 QUALITY ASSURANCE

- A. Mixing Plant: Conform to State of Texas Highways standard.

1.5 QUALIFICATIONS

- A. Installer: Company specializing in performing Work of this Section with minimum 5 years' documented experience.

1.6 AMBIENT CONDITIONS

- A. Section 01 50 00 "Temporary Facilities and Controls" for ambient conditions control facilities for product storage and installation.
- B. Do not place asphalt mixture between November 1 and March 1.
- C. Do not place asphalt mixture when ambient air or base surface temperature is less than 40 degrees F, or surface is wet or frozen.
- D. Place asphalt mixture when temperature is not more than 15 degrees F less than initial mixing temperature.

PART 2 - PRODUCTS

2.1 ASPHALT PAVING

- A. Performance / Design Criteria:
 - 1. Paving: Design for movement of trucks up to 30,000 pounds.
- B. Asphalt Materials:
 - 1. Asphalt Binder: In accordance with State of Texas Highways standards.
 - 2. Primer: ASTM D2027, MC-70; medium curing, cutback asphalt. In accordance with State of Texas Highways standards.
 - 3. Tack Coat: In accordance with State of Texas Highways standards.
 - 4. Reclaimed Asphalt Pavement (RAP): Processed material obtained by milling or full depth removal of existing asphalt paving.
 - 5. Oil: In accordance with Municipality of Highways standards.
- C. Aggregate Materials:
 - 1. Coarse Aggregate: In accordance with State of Texas Highways standards.
 - 2. Fine Aggregate: ASTM D1073; natural sand or sand manufactured from stone, gravel, or blast furnace slag.
- D. Aggregate Subbase: Specified in Section 32 11 23 "Aggregate Base Courses."

2.2 MIXES

- A. Use dry material to avoid foaming. Mix uniformly.
- B. Asphalt Paving Mixtures: Designed in accordance with State of Texas Highways standards with maximum 5 percent by weight reclaimed asphalt pavement.
 - 1. Base Course: Type A, Grades 1 or 2 of Item 247 of the TxDOT Standard Specifications for Construction of Highways, Street, and Bridges..
 - 2. Surface Course.

2.3 ACCESSORIES

- A. Geotextile Fabric: AASHTO M288; non-woven, polypropylene.
- B. Sealant: ASTM D6690, Type I; hot applied type.

2.4 SOURCE QUALITY CONTROL

- A. Section 01 40 00 "Quality Requirements" for testing, inspection and analysis requirements.
- B. Submit proposed mix design of each class of mix for review prior to beginning of Work.
- C. Test samples in accordance with AI MS-2.

PART 3 - EXECUTION

3.1 EXAMINATION

- A. Section 01 70 00 "Execution and Closeout Requirements:" Requirements for installation examination.
- B. Verify utilities indicated under paving are installed with excavations and trenches backfilled and compacted.
- C. Verify compacted subgrade subbase is dry.
 - 1. Proof roll subbase with in minimum 2 perpendicular passes to identify soft spots.
 - 2. Remove soft subbase and replace with compacted fill as specified in Section 31 23 23 "Fill."
- D. Verify gradients and elevations of base are correct.

3.2 PREPARATION

- A. Prepare subbase in accordance with State of Texas Highways standards. TxDOT Standard Specifications of Construction of Highways, Streets, and Bridges.

3.3 INSTALLATION

- A. Subbase:
 - 1. Aggregate Subbase: Install as specified in Section 32 11 23 "Aggregate Base Courses."
 - 2. Prepare subbase in accordance with State of Texas Highways standards.
- B. Primer:
 - 1. Apply primer in accordance with AI MS-2. State of Texas Highways standards.
- C. Tack Coat:
 - 1. Apply tack coat in accordance with AI State of Texas Highways standards.
- D. Single Course Asphalt Paving:
 - 1. Install Work in accordance with State of Texas Highways standards.
 - 2. Place asphalt within 24 hours of applying primer or tack coat.
 - 3. Place asphalt wearing course to thickness indicated on Drawings.
 - 4. Compact paving by rolling to specified density. Do not displace or extrude paving from position. Hand compact in areas inaccessible to rolling equipment.
 - 5. Perform rolling with consecutive passes to achieve even and smooth finish without roller marks.
- E. Double Course Asphalt Paving:
 - 1. Place asphalt binder course within 24 hours of applying primer or tack coat.
 - 2. Place binder course to thickness indicated on Drawings.
 - 3. Place wearing course within 24 hours of placing and compacting binder course. When binder course is placed more than 24 hours before placing wearing course, clean surface and apply tack coat before placing wearing course.
 - 4. Place wearing course to thickness indicated on Drawings.
 - 5. Compact each course by rolling to specified density. Do not displace or extrude paving from position. Hand compact in areas inaccessible to rolling equipment.
 - 6. Perform rolling with consecutive passes to achieve even and smooth finish, without roller marks.

- F. Surface Slurry:
 - 1. Install uniform thickness surface slurry over existing paving in accordance with ASTM D3910.
- G. Allow slurry to cure.
 - 1. Roll paving to achieve uniform surface.

3.4 TOLERANCES

- A. Section 01 40 00 "Quality Requirements."
- B. Flatness: Maximum variation of 1/4-inch measured with 10-foot straight edge.
- C. Scheduled Compacted Thickness: Within 1/4-inch.
- D. Variation from Indicated Elevation: Within 1/2-inch.

3.5 FIELD QUALITY CONTROL

- A. Take samples and perform tests including mat density tests in accordance with State of TexasHighways standards.
- B. Asphalt Paving Mix Temperature: Measure temperature at time of placement.
- C. Asphalt Paving Thickness: ASTM D3549; test one core sample from every 1,000 square yards compacted paving.
- D. Asphalt Paving Density: ASTM D1188 or ASTM D2726; test 1 core sample from every 1,000 square yards compacted paving.

3.6 PROTECTION

- A. Section 01 70 00 "Execution and Closeout Requirements" for protecting finished Work.
- B. Immediately after placement, protect paving from mechanical injury for 8 hours or until surface temperature is less than 140 degrees F.

END OF SECTION

SECTION 32 13 13 - CONCRETE PAVING

PART 1 - GENERAL

1.1 SUMMARY

- A. Section Includes concrete pavement, curb and gutter.
- B. Section Applies:
 - 1. Where Contractor elects to remove, or required to remove, and replace concrete pavement, curb and gutter, driveway (alleys), and sidewalks.
 - 2. For repair or replacing facilities otherwise damaged by Contractor operations.
- C. Related Requirements:
 - 1. Division 01 Specification Sections apply to Work of this Section.
 - 2. Section 03 30 00 "Cast-in-Place Concrete."
 - 3. Section 32 12 16 "Asphalt Paving."

1.2 DEFINITIONS

- A. Cementitious Materials: Portland cement alone or in combination with one or more of blended hydraulic cement, expansive hydraulic cement, fly ash and other pozzolans, ground granulated blast-furnace slag, and silica fume.
- B. TxDOT: Texas Department of Transportation "Standard Specifications for Construction and Maintenance of Highways, Streets, and Bridges" 2014.
- C. DMS: TxDOT Department of Material Specifications.

1.3 SUBMITTALS

- A. Submit product data per Section 01 33 00 "Submittal Procedures."
- B. Product Data: For each type of manufactured material and product indicated.
- C. Design Mixes: For each concrete pavement mix. Include alternate mix designs when characteristics of materials, Project conditions, weather, test results, or other circumstances warrant adjustments. Design shall indicate target unit weight of mix. Mix design shall not be in excess of 30 days old without Engineer approval.
- D. Design mix submittals shall include:
 - 1. Fine aggregate gradation.
 - 2. Course aggregate gradation.
 - 3. Loss from five-cycle magnesium sulfate or sodium sulfate test on all aggregate.
 - 4. Cement content.
 - 5. Fly ash content.
 - 6. Water content.
 - 7. All admixtures.
 - 8. Maximum slump.
 - 9. Percent air entrainment.
 - 10. Seven-day flexural strength.
 - 11. Seven-day compressive strength.
 - 12. 28-day compressive strength.

- E. Material Test Reports: From a qualified testing agency indicating and interpreting test results for compliance of the following with requirements indicated, based on flexural and comprehensive testing of current materials:
 - 1. Cementitious materials and aggregates.
 - 2. Steel reinforcement and reinforcement accessories.
 - 3. Fiber reinforcement.
 - 4. Admixtures.
 - 5. Curing compounds.
 - 6. Applied finish materials.
 - 7. Bonding agent or adhesive.
 - 8. Joint fillers.
- F. Paving and Quality Control Plan (PQCP): Submit a PQCP for approval before beginning pavement construction operations. Include details of all operations in concrete paving process, including longitudinal construction joint layout, sequencing, curing, lighting, early opening, leave-outs, sawing, inspection, testing, construction methods, other details and description of all equipment. List certified personnel performing testing. Submit revisions to PQCP for approval.

1.4 QUALITY ASSURANCE

- A. Installer Qualifications: Experienced installer who completed pavement work similar in material, design, and extent to that indicated for Project and whose work resulted in construction with a record of successful in-service performance.
- B. Manufacturer Qualifications: Manufacturer of ready-mixed concrete products complying with ASTM C94 requirements for production facilities and equipment.
 - 1. Manufacturer must be certified per National Ready-Mix Concrete Association's Plant Certification Program.
 - 2. Inspection report signed and sealed by a licensed Professional Engineer showing concrete measuring, mixing, and delivery equipment meets all requirements of ASTM C94. New certification or signed/sealed report required every time plant is moved. Provide copy of certification or signed/sealed inspection report to Engineer.
 - 3. When equipment or facilities fail to meet specification requirements, remove from service until corrected.
- C. Testing Agency Qualifications: Independent testing agency, acceptable to authorities having jurisdiction.
- D. Source Limitations: Obtain each type or class of cementitious material of same brand from same manufacturer's plant and each aggregate from one source. For changes in material, brand, source, or chemical admixtures, reevaluate mix as a new mix design.
- E. ACI Publications: Comply with ACI 301, "Specification for Structural Concrete," unless modified by Contract Document requirements. Refer to Section 03 30 00 "Cast-In-Place Concrete," for additional codes and standards.
- F. Concrete Testing Service: Engage a qualified independent testing agency to perform material evaluation tests and design concrete mixes.

1.5 PROJECT CONDITIONS

- A. Traffic Control: Maintain access for vehicular and pedestrian traffic as required for other construction activities and emergency services.

PART 2 - PRODUCTS

2.1 FORMS

- A. Pavement Forms: Provide metal side forms of sufficient cross section, strength and rigidity to support paving equipment and resist impact and vibration of operation without visible springing or settlement. Use forms free from kinks, bonds, or warps that affect ride quality or alignment.
 - 1. Use flexible or curved forms for curves of a radius 100 feet or less.
 - 2. Forms should be no less than 10 feet in length.

2.2 PLACING, CONSOLIDATING, AND FINISHING EQUIPMENT

- A. Provide approved self-propelled paving equipment to uniformly distribute concrete with minimal segregation and provide a smooth machine-finished consolidated concrete pavement conforming to plan line and grade. Provide approved automatic grade control system on slip-forming equipment. Provide approved mechanically-operated finishing floats to produce a uniformly-smooth pavement surface. Provide equipment to provide fine, light-water fog mist.
- B. Provide mechanically-operated vibratory equipment to adequately consolidate concrete. Provide immersion vibrators on paving equipment at sufficiently close intervals to provide uniform vibration and consolidation of concrete over entire width and depth of pavement per manufacturer recommendations. Provide immersion vibrator units to operate at least 8,000 cycles per minute frequency in air. Provide enough hand-operated immersion vibrators for timely and proper consolidation of concrete along forms, at joints, and areas not covered by other vibratory equipment. Surface vibrators may be used to supplement equipment-mounted immersion vibrators. Provide tachometers to verify proper operation of all vibrators.
- C. For small/irregular areas or when approved, paving equipment described herein not required.

2.3 REINFORCING STEEL INSERTING EQUIPMENT

- A. Inserting equipment may not be used in place of two-piece tie bars or drilled and epoxy bars.

2.4 TEXTURING EQUIPMENT

- A. Carpet Drag. Provide carpet drag mounted on Work bridge or moveable support system. Provide single piece of carpet of sufficient transverse length to span full width of pavement placed and adjustable so a sufficient longitudinal length of carpet is in contact with concrete placed to produce desired texture. Obtain approval to vary length and width of carpet to accommodate specific applications. Use artificial grass-type carpet with molded polyethylene pile face with a 5/8- to 1-inch blade length, minimum 70-ounce-per-square-yard weight, and strong, durable, rot-resistant backing material bonded to facing.

- B. Tining Equipment. Provide self-propelled transverse metal tine device equipped with 4- to 6-inch steel tines and with cross-section approximately 1/32-inch thick by 1/12-inch wide, spaced at 1 inch center-to-center. Only use hand-operated tining equipment to produce equivalent texture on small or irregularly-shaped areas or, when permitted, in emergencies due to equipment breakdown.

2.5 CURING EQUIPMENT

- A. Provide self-propelled machine for applying membrane curing compound using mechanically-pressurized spraying equipment with atomizing nozzles. Provide equipment and controls to maintain required uniform rate of application over entire paving area. Provide curing equipment independent of all other equipment when production rates are so the first application of membrane curing compound cannot be accomplished immediately after texturing and after free moisture disappears. Only use hand-operated pressurized spraying equipment with atomizing nozzles on small or irregular areas or, when permitted, in emergencies due to equipment breakdown.

2.6 SAWING EQUIPMENT

- A. Provide power-driven concrete saws to saw joints shown on Plans. Provide standby power-driven concrete saws during concrete sawing operations. Provide adequate illumination for nighttime sawing.

2.7 GRINDING EQUIPMENT

- A. When required, provide self-propelled powered grinding equipment specifically designed to smooth and texture concrete pavement using circular diamond blades. Provide equipment with automatic grade control to grind at least a 3-foot-width longitudinally in each pass without damaging concrete.

2.8 TESTING EQUIPMENT

- A. Provide testing equipment regardless of job-control testing responsibilities per TxDOT Item 421, "Hydraulic Cement Concrete," unless otherwise shown in Plans or specified.

2.9 CORING EQUIPMENT

- A. When required, provide coring equipment to extract cores per requirements of Tex-424-A.

2.10 MISCELLANEOUS EQUIPMENT

- A. Furnish both 10- and 15-foot steel or magnesium long-handled standard straightedges. Furnish enough Work bridges, long enough to span pavement, for finishing and inspection operations. Furnish date stencils to impress pavement placement dates into fresh concrete, with numerals approximately 2 inches high by 1 inch wide by 1/4-inch deep.

2.11 STEEL REINFORCEMENT

- A. Plain-Steel Welded Wire Fabric: ASTM A185, fabricated from as-drawn steel wire into flat sheets, shall be 6- by 6-inch, 10-gauge welded wire fabric, or as shown on Plans.
- B. Reinforcement Bars: ASTM A615, Grade 60, deformed.

- C. Joint Dowel Bars: Plain steel bars, ASTM A615, Grade 60. Cut bars true to length with ends square and free of burrs.
- D. Tie Bars: ASTM A615, Grade 60, deformed.
- E. Hook Bolts: ASTM A307, Grade A, internally and externally threaded. Design hook-bolt joint assembly to hold coupling against pavement form and in position during concreting operations, and permit removal without damage to concrete or hook bolt.
- F. Bar Supports: Bolsters, chairs, spacers, and other devices for spacing, supporting, and fastening reinforcement bars, welded-wire fabric, and dowels in place. Manufacture bar supports per CRSI "Manual of Standard Practice," from steel wire, plastic, or precast concrete or fiber-reinforced concrete of greater compressive strength than concrete, and:
 - 1. Equip wire bar supports with sand plates or horizontal runners where base material will not support chair legs.
 - 2. Space reinforcing supports at 5-foot maximum in any direction.
 - 3. Place vertical reinforcement supports drilled into sub-base material to prevent horizontal movement of reinforcing steel.

2.12 CONCRETE MATERIALS

- A. Use same brand and type of cementitious material from same manufacturer throughout Project.
- B. Portland Cement: ASTM C150, Types I, II, or III or ASTM G176 IA, IIA, or IIIA for air entrained. Fly ash may be substituted at up to a 30 percent rate by absolute volume of cement. Portland cement concrete should have minimum seven-day compressive strength of 3,500 psi or minimum 28-day compressive strength of 4,400 psi. Concrete material should comply with TXDOT Standard Specifications 2014, Item 360.
- C. Aggregate: ASTM C33, uniformly graded, from a single source, as follows:
 - 1. Class: 4M.
 - 2. Maximum Aggregate Size: 1-1/2 inches nominal.
 - 3. Coarse aggregate for Class C or D concrete shall be crushed limestone (Brownwood type or equivalent). Aggregate shall be graded fine-to-coarse and conform to ASTM C136. Gradation for aggregate shall meet these requirements by weight:

FINE AGGREGATE		COARSE AGGREGATE	
Sieve	Percent Passing	Sieve	Percent Passing
3/8-inch	100	2 inch	100
No. 4	95-100	1-1/2 Inch	100
No. 8	80-100		
No. 16	50-85	3/4-inch	35-70
No. 30	25-60	3/8-inch	10-30
No. 50 ¹	5-30	No. 4	0-5
No. 100	0-10		
No. 200 ²	0-3		

¹ Range is 6-35 when sand equivalent volume is greater than 85.

² Range is 0-6 for manufactured sand.

- a. Maximum amounts of organic impurities shall conform to ASTM C40 and C87. Maximum amounts of impurities finer than #200 sieve shall conform to ASTM C117. Maximum amounts of soft particles shall conform to ASTM C123. Maximum amounts of friable particles shall conform to ASTM C142.
- b. Fine aggregate shall have sand equivalent at least 80 per Tex-203-F. Provide fine aggregate with fineness modules 2.3 - 3.1 per ASTM C33.

- c. Protect stockpiles from dusty conditions by drift fences or other methods approved by Engineer. Stockpiling methods used shall not allow aggregate to roll down slope as added to existing stockpiles. Build stockpiles in layers of uniform thickness. Equipment not permitted to operate over same lift repeatedly.
 - 4. Coarse aggregate shall have maximum 18 percent loss when subjected to five cycles of magnesium sulfate soundness test or maximum 12 percent loss when subjected to five cycles of a sodium sulfate soundness test (ASTM C88).
 - 5. Percentage of wear shall be no more than 40 when tested per ASTM C131 or C535.
 - 6. Aggregates delivered to mixer shall consist of crushed stone, crushed gravel, or natural sand. Crushing shall result in a product where coarse aggregate shall have at least 95 percent by weight of particles with one or more fractured faces and 75 percent by weight of particles with two or more fractured faces. Aggregate shall be composed of sound, tough, durable particles and meet requirements for deleterious substances given in ASTM C33. Aggregate in any size group shall not contain more than 8 percent by weight of flat or elongated pieces. A flat or elongated particle has a ratio between maximum and minimum dimensions of circumscribing rectangular prism exceeding 3 to 1.
- D. Water: ASTM C94.

2.13 ADMIXTURES

- A. Admixtures certified by manufacturer to contain no more than 0.1 percent water-soluble chloride ions by mass of cement and compatible with other admixtures.
- B. Air-Entraining Admixture: ASTM C260. Certified by manufacturer compatible with other required admixtures.
- C. Water-Reducing Admixture: ASTM C494, Type A.
- D. High-Range, Water-Reducing Admixture: ASTM C494, Types F or G.
- E. Water-Reducing and Accelerating Admixture: ASTM C494, Type E.
- F. Water-Reducing and Retarding Admixture: ASTM C494, Type D.

2.14 FIBER REINFORCEMENT

- A. Only use fiber reinforcement in place of wire mesh if approved by Engineer and Owner.
- B. Fiber reinforcement shall be 100 percent virgin polypropylene, collated, fibrillated fibers, made for use as concrete reinforcement, containing no reprocessed olefin materials, and conforming to ASTM C1116, Type III.
- C. Specific gravity: .91.
- D. Tensile Strength: 70,000 - 100,000 psi.
- E. Length: 2 inches.

2.15 CURING COMPOUND

- A. Liquid-type membrane-forming curing compound with white pigment complying with ASTM C309, Type 2, Class A. Moisture loss not more than 1.0 pound per square yard when applied at 200 square feet per gallon.

2.16 EPOXY

- A. Provide Type III epoxy per DMS-6100, "Epoxies and Adhesives," for installing all drilled-in reinforcing steel.

2.17 EVAPORATION RETARDANT

- A. Provide evaporation retardant per DMS-4650, "Hydraulic Cement Concrete Curing Materials and Evaporation Retardants."

2.18 JOINT SEALANTS AND FILLERS

- A. Provide Class 5 or 8 joint-sealant materials and fillers unless otherwise shown on Plans or approved and other sealant materials of size, shape, and type shown on Plans per DMS-6310, "Joint Sealants and Fillers."

2.19 RELATED MATERIALS

- A. Expansion- and Isolation-Joint-Filler Strips: ASTM D1751, asphalt-saturated cellulosic fiber.
- B. Texture Surface for Ramps
 - 1. Meet requirements of Texas Accessibility Standards.
 - 2. Concrete paver units shall meet all requirements of ASTM C936 and C33 and laid in a two by two-unit basket-weave pattern.
 - 3. Color as selected by Owner but a contrasting color with adjacent surfaces.
 - 4. Durabak with Safti-Traxx Detachable Warning System by Cote-L Distribution Company, or approved equal.
 - 5. Owner may modify texture surface requirements for ramps by Owner any time to comply with Texas Accessibility Standards. No additional compensation made for such modification.
- C. Bonding Agent: Polyvinyl acetate or acrylic base.
- D. Sand Cushion: Clean, manufactured, or natural sand with plasticity index of eight or less.

2.20 CONCRETE MIXES

- A. Prepare design mixes, proportioned per ACI 301, for each type and strength of normal-weight concrete determined by laboratory trial mixes or field experience.
- B. Use a qualified independent testing agency for preparing and reporting proposed mix designs for trial batch method. Do not use Owner's field quality-control testing agency as independent testing agency.
- C. Classification. The following classes of concrete shall be used:
- D. Proportion mixes to provide concrete with water-cementitious materials ratio noted.
- E. Mix Design:
 - 1. At least 15 days before beginning any concrete pavement construction, Contractor shall submit the following to Engineer for approval:
 - a. Test certificates from approved commercial testing laboratory on all proposed aggregate. Certificates shall indicate material source, gradation, and loss from five-cycle magnesium sulfate soundness test (not to exceed 18 percent) or loss from five cycles of sodium sulfate soundness test (not to exceed 12 percent).
 - b. Mix design based on water-cement ratio.
 - c. Results of flexural and compression tests per ASTM C39 and/or flexural tests per ASTM C78, made by approved commercial testing laboratory. Tests shall be made on six cylinders/beams at curing times appropriate to concrete class.

2. Engineer will approve/reject mix design and materials based on submittals. This approval is subject to additional testing during construction. Mix designs for various classes of concrete shall conform to:

Class	Maximum Water/Cement Ratio	Maximum Slump Inches
A	.60	4
B	.60	3
C (slip formed)	.45	3
COC (formed)	.45	6
E	.45	as specified by concrete batch plant

3. Strength Requirements: Test at least three sets of design strength specimens with two specimens per set. Various classes of concrete shall conform to the following strengths in psi as determined by average of two test cylinders and beams:

Class	3-Day	COMPRESSIVE		FLEXURAL	
		7-Day	28-Day	7-Day	28-Day
A		2,100	3,000	425	
B	2,500	3,000	-	280	
C		3,500	4,400	750	680
D		-		-	
E	2,600 (24-hr)	Unless otherwise specified		400 (24-hr)	

F. Properties

1. Air Entrainment: 4 percent ASTM C260. If air content is more than 1 percentage points below/above required air, reject load of concrete.
2. Synthetic Fiber: Use manufacturer-recommended rate, but not less than 1.0 pound per cubic yard (where applicable).
3. Fly Ash: Not more than 30 percent by absolute volume of cement.

2.21 CONCRETE MIXING

- A. Ready-Mixed Concrete: Comply with requirements, ASTM C94, and C1116 when synthetic fibers involved.
 1. When air temperature is 85-90 degrees F, reduce mixing and delivery time from 90 to 75 minutes. When air temperature is above 90 degrees F, reduce mixing and delivery time to 60 minutes.
 2. Mixing and delivery time starts at time of batching.
- B. Project-Site Mixing: Comply with requirements and measure, batch, and mix concrete materials and concrete per ASTM C94. Mix concrete materials as appropriate and approved by Engineer.
 1. For mixers of 1 cubic yard or smaller capacity, continue mixing at least 1.5 but not more than 5 minutes after ingredients are in mixer, before releasing any part of batch.
 2. For mixers of capacity larger than 1 cubic yard, increase mixing time by 15 seconds for each additional 1 cubic yard.

3. Provide batch ticket for each batch discharged and used in Work, indicating Project identification name and number, date, mix type, mix time, quantity, and amount of water added. Batch ticket shall also indicate batching operation variances per ACI 304R.
 - a. Cement and supplementary cementitious material within ± 1 percent of desired weight.
 - b. Aggregates measured within ± 2 percent of desired weight (± 1 percent when cumulative weight is taken).
 - c. Allowable water adjusted for free moisture in aggregates.
 - d. Admixtures discharged separately within a volumetric tolerance of ± 3 percent using a method that does not allow concentrated admixtures to contact each other.
4. When using non-agitating equipment for transporting concrete, provide equipment with smooth, mortar-tight metal containers equipped with gates that prevent accidental discharge of concrete.

PART 3 - EXECUTION

3.1 PREPARATION

- A. Proof-roll prepared subbase surface to check for unstable areas and verify need for additional compaction. Proceed with pavement only after nonconforming conditions have been corrected and subgrade is ready to receive pavement.
- B. Remove loose material from compacted subbase surface immediately before placing concrete.

3.2 PLACING AND REMOVING FORMS

- A. Use clean and oiled forms. Secure forms on base or firm subgrade accurately graded providing stable support without deflection and movement by form-riding equipment. Pin every form at least at middle and near each end. Tightly join and key form sections together to prevent relative displacement.
- B. Set side forms far enough in advance of concrete placement to permit inspection. Check conformity of grade, alignment, and stability of forms immediately before placing concrete. Make all necessary corrections. Use a straightedge or other approved method to test top of forms to ensure ride quality requirements for completed pavement is met. Stop paving operations if forms settle or deflect more than 1/8-inch under finishing operations. Reset forms to line and grade and refinish concrete surface to correct grade.
- C. Avoid damage to edge of pavement when removing forms. Repair damage resulting from form removal and honeycombed areas with mortar mix within 24 hours after form removal, unless otherwise approved. Clean joint face and repair honeycombed or damaged areas within 24 hours after bulkhead for transverse construction joint removed, unless otherwise approved. When forms are removed before 72 hours after concrete placement, promptly apply membrane curing compound to edge of concrete pavement.
- D. Forms not the same depth as pavement but within 2 inches of depth are permitted if subbase is trenched or full width and length of form base supported with firm material to produce required pavement thickness. Promptly repair form trench after use. Use flexible/curved wood or metal forms for curves of 100-foot radius or less.

3.3 STEEL REINFORCEMENT

- A. Comply with CRSI "Manual of Standard Practice" for fabricating reinforcement and recommendations in CRSI "Placing Reinforcing Bars" for placing and supporting reinforcement.
- B. Clean reinforcement of loose rust and mill scale, earth, ice, or other bond-reducing materials.
- C. Arrange, space, and securely tie bars and bar supports to hold reinforcement in position during concrete placement. Maintain minimum cover to reinforcement.
- D. Install welded wire fabric in lengths as long as practicable. Lap adjoining pieces at least one full mesh, and lace splices with wire. Offset laps of adjoining widths to prevent continuous laps in either direction.

3.4 JOINTS

- A. Reinforcing Steel and Joint Assemblies: Accurately place and secure in position all reinforcing steel as shown on Plans. Place dowels at mid-depth of pavement slab, parallel to surface. Place dowels for transverse contraction joints parallel to pavement edge. Tolerances for location and alignment of dowels shown on Plans. Stagger longitudinal reinforcement splices to avoid more than one-third of splices within a 2-foot longitudinal length of each lane of pavement. Use multiple-piece tie bars or drill and epoxy grout tie bars at longitudinal construction joints. Verify tie bars drilled and epoxied into concrete at longitudinal construction joints develop a pullout resistance equal to minimum three quarters of yield strength of steel after 7 days. Test fifteen bars using ASTM E488, except alternate approved equipment may be used. All fifteen tested bars must meet required pullout strength. If any test results do not meet required minimum pullout strength, perform corrective measures to provide equivalent pullout resistance. Repair damage from testing. Acceptable corrective measures include but not limited to installation of additional or longer tie bars.
- B. Construct isolation, contraction, construction joints and tool edgings true to line with faces perpendicular to surface plane of concrete. Construct transverse joints at right angles to centerline, unless otherwise indicated. When joining existing pavement, place transverse joints to align with previously placed joints, unless otherwise indicated.
- C. Construction Joints: Set at side and end terminations of pavement and where pavement operations are stopped more than 0.5 hour, unless pavement terminates at isolation joints.
 - 1. Continue reinforcement across construction joints but do not continue reinforcement through sides of pavement strips, unless otherwise indicated.
 - 2. Provide tie bars at sides of pavement strips where indicated.
 - 3. Use bonding agent where fresh concrete is placed against hardened or partially-hardened concrete surfaces.
- D. Isolation Joints: Form of preformed joint-filler strips abutting concrete curbs, catch basins, manholes, inlets, structures, walks, other fixed objects, and where indicated.
 - 1. Extend joint fillers full width and depth of joint.
 - 2. Terminate joint filler less than 1/2- or more than 1 inch below finished surface if joint sealant indicated.
 - 3. Place top of joint filler flush with finished concrete surface if joint sealant not indicated.

4. Furnish joint fillers in one-piece lengths. Where more than one length required, lace or clip joint-filler sections together.
5. Protect top edge of joint filler during concrete placement with metal, plastic, or other temporary preformed cap. Remove protective cap after concrete is placed on both sides of joint.

3.5 CONCRETE DELIVERY

- A. Clean delivery equipment as necessary to prevent accumulation of old concrete before loading fresh concrete. Use agitated delivery equipment for concrete designed with a slump more than 5 inches. Segregated concrete is subject to rejection. Place agitated concrete within 60 minutes after batching. Place non-agitated concrete within 45 minutes after batching. In hot weather or under conditions causing quick setting concrete, times may be reduced by Engineer. Time limitations may be extended if Contractor can demonstrate concrete can be properly placed, consolidated, and finished without additional water.

3.6 CONCRETE PLACEMENT

- A. For all roadway lane pavement, construct pavement with approved slip-form paving machine designed to spread, consolidate, screed, and float-finish freshly-placed concrete in one complete pass of machine so dense and homogeneous pavement is achieved with minimal hand finishing. Paver-finisher shall be heavy duty, self-propelled machine designed specifically for paving and finishing high-quality concrete pavements. Individual placement areas of less than 500 square yards, or irregular areas where inaccessible to slip-form paving equipment, place cement concrete pavement with approved placement and finishing equipment utilizing stationary side forms. Only utilize hand screeding and float finishing on small irregular areas as allowed by Engineer.
- B. Concrete Placement: Do not allow pavement edge to deviate from established paving line by more than 1/2-inch at any point. Place concrete as near as possible to final location, and minimize segregation and rehandling. Where hand spreading necessary, distribute concrete using shovels. Do not use rakes or vibrators to distribute concrete.
 1. Pavement: Consolidate all concrete by approved mechanical vibrators operated on front of paving equipment. Use immersion-type vibrators to simultaneously consolidate full width of placement when machine finishing. Keep vibrators from dislodging reinforcement. Use hand-operated vibrators to consolidate concrete in areas inaccessible to machine-mounted vibrators. Do not operate machine-mounted vibrators while paving equipment is stationary. Vibrator operations subject to review.
- C. Curbs and Gutters: When automatic machine placement is used for curb and gutter placement, submit revised mix design and laboratory test results to meet/exceed requirements. Produce curbs and gutters to required cross section, lines, grades, finish, and jointing as specified for formed concrete. If results not approved, remove and replace with formed concrete.
- D. When adjoining pavement lanes are placed in separate pours, do not operate equipment on concrete until pavement attains 85 percent of 28-day compressive strength.
- E. Cold-Weather Placement: Comply with ACI 306.1. Protect concrete Work from physical damage or reduced strength caused by frost, freezing actions, or low temperatures.
 1. When air temperature falls to, or is expected to fall below, 40 degrees F, uniformly heat water and aggregates before mixing to obtain a concrete mixture temperature not less than 50 nor more than 80 degrees F at point of placement.

2. Do not use frozen materials or materials containing ice or snow.
 3. Do not use calcium chloride, salt, or other materials containing antifreeze agents or chemical accelerators, unless otherwise specified and approved in mix designs.
- F. Hot-Weather Placement: Place concrete per recommendations in ACI 305R and as follows when hot-weather conditions exist:
1. Cool ingredients before mixing to maintain concrete temperature at time of placement below 90 degrees F. Chilled mixing water or chopped ice may be used to control temperature, if water equivalent of ice is calculated to total amount of mixing water. Using liquid nitrogen to cool concrete is Contractor option.
 2. Cover reinforcement steel with water-soaked burlap so steel temperature will not exceed ambient air temperature immediately before embedding in concrete.
 3. Fog-spray forms, reinforcement steel, and subgrade just before placing concrete. Keep subgrade moisture uniform without standing water, soft spots, or dry areas.

3.7 CONCRETE FINISHING

- A. Finish all concrete pavement with approved self-propelled equipment. Use power-driven spreaders, vibrators, and strike-off, screed, or approved alternate equipment. Use transverse finishing equipment to compact and strike off concrete to required section and grade without surface voids. Use float equipment for final finishing. Use concrete with a consistency to allow completion of all finishing operations without addition of water to surface. Use minimal amount of water fog mist necessary to maintain moist surface. Reduce fogging if float or straightedge operations result in excess slurry.
1. Finished Surface: As soon as concrete hardens sufficiently, test pavement surface in transverse direction with 16-foot straightedge or other specified device. Surface smoothness deviations shall not exceed 1/4-inch from 16-foot straightedge at any location, including placement along and spanning any pavement joint or edge.
 - a. Mark areas in slab showing high spots more than 1/4-inch but not exceeding 1/2-inch in 16 feet and immediately grind down with approved grinding machine to elevation that falls within tolerance of 1/4-inch or less. Where departure from correct cross section exceeds 1/2-inch, remove and replace pavement at expense of Contractor when Engineer directs.
 2. Maintain Surface Moisture: Prevent surface drying of pavement before application of curing system. Accomplish by fog application of evaporation retardant on pavement surface. Apply evaporation retardant at manufacturer-recommended rate. Reapply evaporation retardant as needed to maintain concrete surface in a moist condition until curing system applied. Do not use evaporation retardant as finishing aid. Failure to take acceptable precautions to prevent surface drying of pavement is cause for shut down of pavement operations.
 3. Surface Texturing: Perform using combination of carpet drag and metal tining. Complete final texturing before concrete attains initial set. Draw carpet drag longitudinally along pavement surface with carpet contact surface area adjusted to provide a satisfactory coarsely textured surface. Metal-tine texture finish required unless otherwise shown on Plans. Provide metal-tine finish immediately after concrete surface set enough for consistent tining. Operate metal-tine device to obtain grooves spaced at 1 inch, approximately 3/16-inch deep, minimum 1/8-inch depth, and approximately 1/12-inch wide. Do not overlap a previously-tined area. Use manual methods for achieving similar results on ramps and other irregular sections of pavements. Repair damage to edge of slab and joints immediately after texturing. Do not tine pavement to overlay.

- a. Burlap Finish: For sidewalks, drag a seamless strip of damp burlap across float-finished concrete, perpendicular to line of traffic, to provide a uniform, gritty texture.
 - b. Medium-to-Fine-Textured Broom Finish: For curb and gutter, draw a soft bristle broom across float-finished concrete surface perpendicular to line of traffic to provide a uniform, fine-line texture.
 - c. Medium-to-Coarse-Textured Broom Finish: For fillets, driveways, and alleys, provide coarse finish by striating float-finished concrete surface 1/16- to 1/8-inch deep with stiff-bristled broom, perpendicular to line of traffic. Tined Finish: For concrete pavement, perform surface texturing using a combination carpet drag and metal tining. Complete final texturing before concrete attains initial set. Draw carpet drag longitudinally along pavement surface with carpet contact surface area adjusted to provide a satisfactory coarsely-textured surface.
4. Small or Irregular Placements. Where machine placements and finishing concrete pavement not practical, use hand equipment and procedures to produce a consolidated and finished pavement section to line and grade.
 5. Emergency Procedures. Use hand-operated equipment for applying texture, evaporation retardant, and cure in event of equipment breakdown.

3.8 CONCRETE PROTECTION AND CURING

- A. Curing: Keep concrete pavement surface from drying by water fogging until curing material is applied. If forms removed during day of placement, apply curing compound to exposed areas. When placing concrete pavement, place curing compound on backside of curb. Maintain and promptly repair damage to curing materials on exposed surfaces of concrete pavement continuously at least three curing days unless specified otherwise. A curing day is a 24-hour period when temperature taken in shade away from artificial heat is above 50 degrees F at least 19 hours or surface temperature of concrete is maintained above 40 degrees F, 24 hours. Curing begins when concrete curing system is applied. Stop concrete paving if curing compound not applied promptly and maintained adequately.
- B. Protect freshly-placed concrete from excessive cold or hot temperatures. Comply with ACI 306.1 for cold-weather protection and follow recommendations in ACI 305R for hot-weather protection during curing. Submit for approval, proposed measures to protect concrete from anticipated freezing weather for first 72 hours after placement. Repair or replace all concrete damaged by freezing.
- C. Evaporation Retarder: Apply to concrete surfaces if hot, dry, or windy conditions cause moisture loss approaching 0.2-pound per square foot by height before and during finishing operations. Apply per manufacturer-written instructions after placing, screeding, and bull floating or darbying concrete, but before float finishing.
- D. Begin curing after finishing concrete but not before free water disappears from concrete surface.
- E. Curing Methods: Cure concrete by moisture curing, moisture-retaining-cover curing, curing compound, or a combination:
 1. Moisture Curing: Keep surfaces continuously moist no less than seven days with:
 - a. Water.
 - b. Continuous water-fog spray.
 - c. Absorptive cover, water saturated, kept continuously wet. Cover concrete surfaces and edges with 12-inch lap over adjacent absorptive covers.

2. **Moisture-Retaining-Cover Curing:** Cover concrete surfaces with moisture-retaining cover for curing concrete, placed in widest practicable width, with sides and ends lapped at least 12 inches, sealed by waterproof tape or adhesive. Immediately repair any holes or tears during curing period using cover material and waterproof tape. **Curing Compound:** After texturing and immediately after free surface moisture disappears, spray concrete surface uniformly with two coats of membrane-curing compound at individual application rate not more than 180 square feet per gallon. Apply first coat within 10 minutes after completing texturing operations. Apply second coat within 30 minutes after completing texturing operations. Before and during application, maintain curing compounds in uniformly-agitated condition, free of settlement. Do not thin or dilute curing compound. Where coating shows discontinuities, other defects, or rain falls on newly-coated surface before film dries enough to resist damage, apply additional compound at same rate of coverage to correct damage. Ensure curing compound coats sides of tining grooves.
3. **Curing Class E Concrete:** For all Class HES concrete pavement, provide membrane curing per Section 360.4.I.1, "Membrane Curing," followed promptly by moisture curing until opening strength achieved, but not less than 24 hours.

3.9 SAWING JOINTS

- A. Saw joints to depth shown on Plans as soon as sawing accomplished without damage to pavement regardless of time of day or weather conditions. Once sawing commences, continue until completed. All such sawing must be completed within 12 hours of placement. Use chalk line, string line, sawing template, or other approved method to provide a true joint alignment. Provide enough saws to match paving production rate to ensure sawing completion at earliest possible time to avoid uncontrolled cracking. Reduce paving production if necessary to ensure timely sawing of joints. Promptly restore membrane cure damaged within first 72 hours of curing.

3.10 PROTECT PAVEMENT AND OPENING TO TRAFFIC

- A. Testing for early opening is Contractor responsibility regardless of job-control testing responsibilities unless otherwise shown on Plans or directed. Testing result interpretation for opening to traffic is subject to Engineer approval.
 1. **Protect Pavement:** Erect and maintain barricades and other standard and approved devices to exclude all vehicles and equipment from newly-placed pavement for periods specified. Before opening to traffic, protect pavement from damage due to crossings using approved methods. Where detour not readily available or economically feasible, occasional crossing of roadway with overweight equipment may be permitted for relocating equipment only, but not for hauling material. When occasional crossing of overweight equipment permitted, temporary matting or other approved methods may be required. Maintain adequate supply of sheeting or other material to cover and protect fresh concrete surface from weather damage. Apply as needed to protect pavement surface from weather.
 2. **Opening Pavement to All Traffic:** Pavement 7 days old may be opened to all traffic. Before opening to traffic, clean pavement, place stable material against pavement edges, seal joints, and perform all other traffic safety-related Work.

3. Opening Pavement to Construction Equipment: Unless otherwise shown on Plans, concrete pavement may be opened early to concrete paving equipment and related delivery equipment after concrete is at least 48 hours old and opening strength is demonstrated per "Early Opening to All Traffic," before curing complete. Keep delivery equipment at least 2 feet from edge of concrete pavement. Keep tracks of paving equipment at least 1 foot from pavement edge. Protect textured surfaces from paving equipment. Restore damaged membrane curing as soon as possible. Repair pavement damaged by paving or delivery equipment before opening to all traffic.
4. Early Opening to All Traffic: Concrete pavement may be opened after curing is complete and concrete attains a flexural 450-psi strength or 2,800-psi compressive strength, except that pavement using Class HES concrete may be opened after 24 hours if specified strength achieved.
 - a. Strength Testing: Test concrete specimens cured under same conditions as portion of pavement involved.
5. Emergency Opening to Traffic: Under emergency conditions, when pavement is at least 72 hours old, open pavement to traffic when directed in writing. Remove all obstructing materials, place stable material against pavement edges, and perform other Work involved in providing for safety of traffic as required for emergency opening.

3.11 PAVEMENT THICKNESS

- A. Engineer will check thickness per Tex-423-A unless other methods shown on Plans. Engineer will perform one thickness test consisting of one reading at the approximate center of each lane every 500 feet or fraction thereof. Core where directed per Tex-424-A to verify deficiencies more than 0.2 inches from plan thickness and determine limits of deficiencies of more than 0.75 inches from plan thickness. Fill core holes using a concrete mixture and method approved by Engineer.
 1. Thickness Deficiencies Greater than 0.2-inch: When any depth test measured per Tex-423-A is deficient more than 0.2-inch from plan thickness, take one 4-inch diameter core at that location to verify measurement. If core is deficient more than 0.2 but not by more than 0.75-inch from plan thickness, take two additional cores from unit (as defined herein) at intervals at least 150 feet, locations selected by Engineer, and determine thickness of unit for payment purposes by average length of three cores. In calculations of average thickness of this unit of pavement, measure in excess of specified thickness more than 0.2-inch considered specified thickness +0.2 inches.
 2. Thickness Deficiencies Greater than 0.75-inch: If core is deficient more than 0.75, take additional cores at 10-foot intervals in each direction parallel to centerline to determine boundary of deficient area. Engineer will evaluate any area of pavement found deficient in thickness by more than 0.75-inch but not more than 1 inch. As directed, remove and replace deficient areas without additional compensation or retain deficient areas without compensation. Remove and replace any area of pavement found deficient in thickness by more than 1 inch without additional compensation.
 3. Pavement Units for Payment Adjustment: Limits for applying payment adjustment for deficient pavement thickness from 0.20-inch to not more than 0.75 inch, are 500 foot of pavement in each lane. Lane width as shown on typical sections and pavement design standards.

- a. For greater than 0.75-inch deficient thickness, limits for applying zero payment or requiring removal defined by coring or equivalent nondestructive means as Engineer determines. Remaining portion of unit determined less than 0.75-inch deficient subject to payment adjustment based on average core thickness at each end of 10-foot interval investigation as Engineer determines.
 - b. Measure shoulders for thickness unless otherwise shown on Plans. Shoulders 6 feet wide or wider considered lanes. Shoulders less than 6 feet wide considered part of adjacent lane.
 - c. Limits for applying payment adjustment for deficient pavement thickness for ramps, widenings, acceleration and deceleration lanes, and other miscellaneous areas are 500 feet in length. Areas less than 500 feet in length will be individually evaluated for payment adjustment based on plan area.
4. Deficient Thickness Adjustment: Where average thickness of pavement is deficient in thickness more than 0.2-inch but not more than 0.75 inches, payment made using adjustment factor as specified in Table 2 applied to bid price for deficient area for each unit as defined herein.

Table 2 - DEFICIENT THICKNESS PRICE ADJUSTMENT FACTOR	
Deficiency in Thickness Determined by Cores (in.)	Proportional Part of Contract Price Allowed (adjustment factor)
Not deficient	1.00
Over 0.00 through 0.20	1.00
Over 0.20 through 0.30	0.80
Over 0.30 through 0.40	0.72
Over 0.40 through 0.50	0.68
Over 0.50 through 0.75	0.57

3.12 PAVEMENT MARKINGS

- A. Permanent pavement markings shall be reflectorized multipolymer applied per manufacturer recommendations including surface preparation.
- B. Materials and installation for surface markings shall be per TxDOT Specifications.

3.13 FIELD QUALITY CONTROL

- A. Testing Agency: Contractor shall sample materials, perform tests, and submit test reports during concrete placement. Contractor personnel performing testing must be ACI-certified or qualified by recognized equivalent written and performance testing program for tests performed. Sampling and testing for quality control include those specified herein.

- B. Job-Control Testing: Unless otherwise shown on Plans, perform all fresh and hardened concrete job-control testing at specified frequency. Using a commercial laboratory is acceptable. Maintain all testing equipment calibrated per pertinent test methods. Make strength-testing equipment available to Engineer for verification testing. Provide Engineer the opportunity to witness all tests. Engineer may require retest if not given opportunity to witness. Furnish copy of all tests results to Engineer daily. Engineer will direct random job-control sampling and testing. Immediately investigate and take corrective action as approved if any Contractor test results, including tests performed for verification purposes, does not meet specification requirements. When job-control testing by Contractor is waived by Plans, Engineer will perform testing; however, this does not waive Contractor responsibility for providing materials and Work per this Item.
- C. Job-Control Strength: Unless otherwise shown on Plans or permitted by Engineer, use seven-day job-control strength testing per ASTM C78. When job-control concrete strength test value is more than 10 percent below required job-control strength or three consecutive job-control strength values fall below required job-control strength, investigate strength test procedures, quality of materials, concrete production operations, and other possible problem areas to determine cause. Take necessary action to correct problem, including redesigning concrete mix if needed. Owner may suspend concrete paving if Contractor unable to identify, document, and correct cause of low-strength test values in timely manner. If any job-control strength is more than 15 percent below required job-control strength, Engineer will evaluate structural adequacy of pavements. When directed, remove and replace pavements found structurally inadequate at no additional cost.
- D. Testing Services: Performed per the following requirements:
 - 1. Sampling Fresh Concrete: Obtain representative samples of fresh concrete per ASTM C172, except modified for slump to comply with ASTM C94.
 - 2. Flexural and Compressive-Strength Tests: ASTM C78 and C39; one set for each day's pour of each concrete class exceeding five but less than 25 cubic yards, plus one set for each additional 50 cubic yards. Test one specimen at 7 days and two specimens at 28 days. Retain one specimen in reserve for later testing if required. Provide Engineer the opportunity to witness all tests. Engineer may require a retest if not given the opportunity to witness. Furnish a copy of all test results to Engineer daily. Check first few concrete loads for slump, air, and temperature on start-up production days to check for concrete conformance and consistency. Sample and prepare strength test specimens (two specimens per test) on first day of production and each 2,000 square yards or fraction thereof of concrete pavement thereafter. Prepare at least one set of strength-test specimens for each production day. Perform slump, air, and temperature tests each time strength specimens made. Monitor concrete temperature to ensure concrete is consistently within temperature requirements. Engineer will direct random job-control sampling and testing. Immediately investigate and take corrective action as approved if any Contractor test result, including tests performed for verification purposes, does not meet specification requirements.
 - 3. When frequency of testing provide fewer than five strength tests for given class of concrete, test from at least five randomly-selected batches or from each batch if fewer than five are used.
 - 4. Slump: ASTM C143; one test at point of placement for each strength test, but not less than one test for each day's pour of each type of concrete. Additional tests will be required when concrete consistency changes.
 - 5. Air Content: ASTM C231, pressure method; one test for each strength test, but not less than one test for each day's pour of each type of air-entrained concrete.

6. Concrete Temperature: ASTM C1064; one test hourly when air temperature is 40 degrees F and below, 80 degrees F and above, and one test for each set of strength specimens.
7. Test Specimens: ASTM C31; one set of two standard beams and one set of four standard cylinders for each flexural and compressive-strength test, unless otherwise indicated. Flexural strength test specimens cured under same conditions as portion of pavement involved. Molded and stored cylinders for laboratory-cured test specimens unless field-cured test specimens required.
- E. Report test results in writing to Engineer and Contractor within 24 hours of testing. Reports of strength tests shall contain Project identification name and number, date of concrete placement, name of concrete testing agency, concrete type and class, location of concrete batch in pavement, design strengths at required time, concrete mix proportions and materials, breaking strengths, and type of break for both 7- and 28-day tests.
- F. Nondestructive Testing: Impact hammer, sonoscope, or other nondestructive device may be permitted by Engineer but not used as sole basis for approval/rejection.
- G. Additional Tests: Contractor shall additionally test concrete when test results indicate slump, air entrainment, concrete strengths, or other requirements not met, as Engineer directed. Contractor may conduct tests to determine adequacy of concrete by cored cylinders complying with ASTM C42, or by other methods as directed.
- H. Contractor shall pay for failing tests.
- I. Questionable Concrete:
 1. Concrete considered "Questionable Concrete" with any of these test evaluations:
 - a. Individual test strength is below specified strength; or
 - b. Samples of concrete for acceptance test cylinders or acceptance test beams not representative of concrete-in-place in pavement; or
 - c. Insufficient or inadequate concrete curing; or
 - d. Insufficient number of acceptance test cylinders or acceptance test beams for day's concreting made for testing.
 - e. In-place core densities, on average, are less than 97 percent of original mix design density, or any one core is below 96 percent original mix design density.
 2. Except where core tests impair strength of structure, core test as Owner directs made at no cost to Owner to resolve Questionable Concrete. If core tests fail to demonstrate test strength required by Contract Documents or structural analysis does not confirm adequacy of structure, Owner may, at his discretion, reject Work or require load tests or additional construction. Should structural analysis confirm adequacy of pavement, Owner may, at his discretion, accept concrete with credit for full value of concrete delivered to Site per General Conditions.
 3. Contractor shall pay all costs incurred in providing the additional testing or analysis to resolve acceptability of Questionable Concrete.
 4. Core Tests
 - a. Take three representative cores from each member or area of concrete for each test considered questionable. Location of cores as directed by Owner to least impair strength of pavement. Replace damaged cores.
 - b. Obtain and test cores per ASTM C42 except if concrete in structure will be dry under service conditions, cores shall be air dried (60-80 degrees F, and relative humidity less than 60 percent) for 7 days before test, tested dry. If concrete in structure is more than superficially wet under service conditions, cores shall be immersed in water at least 48 hours and tested wet.

3.14 REPAIRS AND PROTECTION

- A. Remove and replace concrete pavement that is broken, damaged, or defective, or does not meet requirements herein.
- B. Drill test cores where directed by Engineer when necessary to determine magnitude of cracks or defective areas. Fill drilled core holes in satisfactory pavement areas with Portland cement concrete bonded to pavement with epoxy adhesive.
- C. Protect concrete from damage. Exclude traffic from pavement for at least 14 days after placement. When construction traffic permitted, maintain pavement as clean as possible by removing surface stains and spillage of materials as they occur.
- D. Maintain concrete pavement free of stains, discoloration, dirt, and other foreign material from construction traffic. Sweep concrete pavement no more than two days before date scheduled for opening section to public traffic.

END OF SECTION



City Council Meeting

Item Number: 8
Meeting Date: September 12, 2023
To: City Council / City Manager
From: Erika Martinez, Manager, Purchasing
Subject: MOTION APPROPRIATING THE SUM OF \$2,500,000.00 FROM THE FISCAL YEAR 2023 GENERAL FUND OPERATING BUDGET (001041) TO THE PUBLIC SAFETY FACILITY IMPROVEMENT PROJECT (DISTRICT: NONE) (GENERAL SERVICES)

Purpose:

Motion to appropriate the sum of \$2,500,000.00 from the Fiscal Year 2023 General Fund Operating Budget (001041) to the Fire Wellness and Police Department renovations Project.

Recommended City Council Action:

Approve

Fiscal Impact:

\$2,500,000.00 will be appropriated from the General Operating Fund (001041) and will be transferred and appropriated to a project.

Discussion:

The Fiscal Year 2023 Facilities Budget includes \$2,500,000.00 approved by City Council to continue the Central Fire Station Wellness Center & Police Department Renovations. The City has contracted Martinez Architects, LP for architectural, design, and engineering services for the Central Fire Station Wellness Center & Police Department Renovations and plan to be ready for advertisement in October. Once selections are complete, the awarding contract will be brought to City Council for approval.

Jina Gang

City Manager's Office

City of Midland
Midland Police Department

Interoffice Memorandum

Date: August 22, 2023

To: Erika Martinez

From: Seth Herman, Chief of Police

Subject: Police Headquarters Renovations Support Memo

Due the age of Midland Police Department headquarters, we have requested the allocation of funds in order to make much needed renovations in hopes of extending the building's useable life and to improve aesthetics as a complement to other city structures. Such renovations will include refurbishing of the Department's current gym facility, landscaping around the property's perimeter and atrium, a perimeter security fence encircling the adjacent parking lot used to hold fleet vehicles, and renovations to both men's and women's locker rooms / showers. Having been purchased as an existing structure in 1991, the building has consistently met the needs of Police, CISD, and Public Safety Communications divisions – all of whom existing in service to the citizens of Midland. With these renovations, the building will continue to meet our needs for the foreseeable future – prolonging the overwhelming costs associated with new facility construction.



City Council Meeting

Item Number: 9
Meeting Date: September 12, 2023
To: City Council / City Manager
From: Erika Martinez, Manager, Purchasing
Subject: RESOLUTION AUTHORIZING THE PURCHASE OF AN ESTIMATED ANNUAL SUPPLY OF CHEMICALS NEEDED FOR THE TREATMENT OF DRINKING WATER FOR FISCAL YEAR 2024 FROM MULTIPLE BIDDERS, FOR A TOTAL COST OF \$3,464,789.00 (DISTRICT: ALL) (GENERAL SERVICES)

Purpose:

Resolution approving the purchase of an estimated annual supply of 722,000 pounds and 40 – 150 pound cylinders of chlorine; 400,000 gallons of liquid ammonium sulfate 40%; 2,000 tons of Aluminum Sulfate; 20,000 gallons of polymer; 5,000 gallons of polymer for dewatering; 25 tons of powered activated carbon; 5,000 gallons of liquid copper sulfate pentahydrate 25%; 5,000 pounds of potassium permanganate, 130,000 pounds of sodium permanganate – 20%, and 20,300 25% sodium hydroxide solution for the treatment of drinking water for Fiscal Year 2024.

Recommended City Council Action:

Approve

Fiscal Impact:

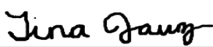
The amount of \$3,464,789.00 is available in the FY2024 Water and Sewer operating budget.

Discussion:

The City Manager approved specifications and authorized advertisement for bids for an estimated annual supply of chemicals for the treatment of the City's drinking water. Twenty-nine (29) bid requests were issued. We received eleven (11) bids. Staff recommends awarding each chemical to the respective low, most advantageous or sole bidders as shown in the table below. Please see the attached memo from Raymond Saddler, Water Purification Plant Superintendent, for more information.

Therefore, please consider a resolution awarding an estimated annual supply of water treatment chemicals as shown in the table below:

Items	Bidders	Cost
1 & 2	DPC Industries, Inc. of Sweetwater, Texas	\$879,769.00
3 & 4	Chameleon Industries, Inc. of Mesquite, Texas	\$1,733,200.00
5 & 6	Polydyne, Inc. of Riceboro, Georgia	\$232,360.00
7	Carbon Activated Corporation of Compton, California	\$65,000.00
8	TR International Trading of Edmonds, Washington	\$54,750.00
9 & 11	Univar Solutions USA Inc. of Phoenix, Arizona	\$300,810.00
10	Chemrite, Inc. of Burford, Georgia	\$198,900.00
Total estimated cost for Fiscal Year 2024		\$3,464,789.00



City Manager's Office



INTEROFFICE MEMORANDUM

TO: Regina Stephenson, Director of General Services
FROM: Raymond Saddler, Water Purification Plant Superintendent
SUBJECT: Drinking water treatment chemicals for FY2024
DATE: August 21, 2023

The recommendation for the drinking water treatment chemicals this year are as follows:

Items 1 and 2 for chlorine should be awarded to **DPC Industries, Inc.** We are recommending accepting the single bid from DPC Industries, Inc. DPC Industries has been the single bidder for the last 13 years. See chart below:

	2010	2011	2012	2013	2014	2015	2016	2017
Liquid Chlorine	.3435	.346	.354	.359	.347	.3365	.353	.367
Chlorine Cylinders	178.00	178.00	178.00	178.00	171.00	169.00	178.00	187.50
	2018	2019	2020	2021	2022	2023		
Liquid Chlorine	.397	.417	.421	.670	1.17	1.2145		
Chlorine Cylinders	192.00	207.00	207.00	275.00	290.00	290.00		

Item 3 for liquid ammonium sulfate should be awarded to the low bidder, **Chameleon Industries**

Item 4 for aluminum sulfate should be awarded to the 2nd low bidder, **Chameleon Industries**. Due to the low bidder not meeting testing requirements for chemicals in-plant.

Item 5 for polymer should be awarded to the Low bidder **Polydyne, Inc.**

Item 6 for dewatering polymer should be awarded to the Single bidder **Polydyne, Inc.**

Item 7 for powdered activated carbon should be awarded to the low bidder, **Carbon Activated Corp.**

Item 8 for liquid copper sulfate 25% should be awarded to the low bidder, **TR International Trading**.

Item 9 for potassium permanganate should be awarded to the low bidder, **Univar Solutions USA Inc.**

Item 10 for sodium permanganate should be awarded to the low bidder, **Chemrite Inc.**

Item 11 for sodium Hydroxide should be awarded to the low bidder, **Univar Solutions USA Inc.**

RESOLUTION NO. _____

**RESOLUTION AUTHORIZING THE PURCHASE OF AN
ESTIMATED ANNUAL SUPPLY OF CHEMICALS
NEEDED FOR THE TREATMENT OF DRINKING
WATER FOR FISCAL YEAR 2024 FROM MULTIPLE
BIDDERS, FOR A TOTAL COST OF \$3,464,789.00**

WHEREAS, the City Manager approved the specifications and authorized the advertisement for bids for 722,000 pounds and 40-150 pound cylinders of chlorine; 400,000 gallons of liquid ammonium sulfate 40%; 2,000 tons of aluminum sulfate; 20,000 gallons of polymer; 5,000 gallons of polymer for dewatering; 25 tons of powdered activated carbon; 5,000 gallons of liquid copper sulfate pentahydrate 25%; 5,000 pounds of potassium permanganate; 130,000 pounds of sodium permanganate - 20% solution; and 20,300 gallons of 25% sodium hydroxide for the treatment of drinking water for fiscal year 2024; and

WHEREAS, Bid No. 24000001 was opened on August 16, 2023 with the lowest and/or most advantageous bids being submitted as follows and as shown on the bid tabulation attached hereto as Exhibit "A" and incorporated herein for all legal purposes:

Items	Bidders	Cost
1 and 2	DPC Industries, Inc. of Sweetwater, Texas	\$879,769.00
3 and 4	Chameleon Industries, Inc. of Mesquite, Texas	\$1,733,200.00
5 and 6	Polydyne, Inc. of Riceboro, Georgia	\$232,360.00
7	Carbon Activated Corporation of Compton, California	\$65,000.00
8	TR International Trading of Edmonds, Washington	\$54,750.00
9 and 11	Univar Solutions USA Inc. of Phoenix, Arizona	\$300,810.00
10	Chemrite Inc. of Buford, Georgia	\$198,900.00
Total estimated cost for Fiscal Year 2023		\$3,464,789.00

WHEREAS, the Council finds the price proposed by the bidders as shown above to be fair and reasonable; and

WHEREAS, the City Council finds it to be in the public interest to authorize the purchase of chemicals for the treatment of the City's drinking water from DPC Industries, Inc., of Sweetwater, Texas, Chameleon Industries, Inc. of Mesquite, Texas, Polydyne, Inc. of Riceboro, Georgia, Carbon Activated Corporation of Compton, California, TR International Trading of Edmonds, Washington, Univar Solutions USA Inc. of Phoenix, Arizona, and Chemrite Inc. of Buford, Georgia;

NOW, THEREFORE, BE IT RESOLVED BY THE CITY COUNCIL OF THE CITY OF MIDLAND, TEXAS:

SECTION ONE. That the City Manager is hereby authorized and directed to purchase chemicals for the treatment of the City's drinking water from DPC Industries, Inc., of Sweetwater, Texas, Chameleon Industries, Inc. of Mesquite, Texas, Polydyne, Inc. of Riceboro, Georgia, Carbon Activated Corporation of Compton, California, TR International Trading of Edmonds, Washington, Univar Solutions USA Inc. of Phoenix, Arizona, and Chemrite Inc. of Buford, Georgia for a total cost of \$3,464,789.00.

SECTION TWO. That the amount of \$3,464,789.00 shall be available in the FY2024 Water and Sewer operating budget.

SECTION THREE. That upon receipt of proper invoice or statement approved by the City Manager, the City Comptroller is hereby authorized and directed to pay for said chemicals for the treatment of the City's drinking water out of funds available in the FY2024 Water and Sewer operating budget.

On motion of Council member _____, seconded by Council member _____, the above and foregoing resolution was adopted by the City Council of the City of Midland at a regular meeting on the _____ day of _____, A.D., 2023, by the following vote:

Council members voting "AYE":

Council members voting "NAY":

Lori Merritt Blong, Mayor

ATTEST:

Marcia Bentley-German, City Secretary

RECOMMENDED AND APPROVED:

Tommy Gonzalez, City Manager

APPROVED AS TO CONTENT
AND COMPLETENESS:

Regina Stephenson, General Services Director

APPROVED ONLY AS TO FORM:

John Ohnemiller, City Attorney

City of Midland - Bid Tabulation

BID # 24000001 Annual Supply of Chemicals for Water Purification OPENED August 16, 2023			Carbon Activated Corporation 2250 S. Central Avenue Compton, Ca 90220 310-885-4555		Chemrite, Inc. 5202 Belle Wood Court, Ste 104 Buford, GA 30518 770-271-5576		Univar Solutions USA Inc 14601 S 50th St Phoenix, Az 85044 602-469-4351		Chameleon Industries Inc. P.O. Box 853027 Mesquite, TX 75185 972-880-1493		Polydyne Inc. 1 Chemical Plant Road Riceboro, GA 31323 800-848-7659		Shannon Chemical Corporation P.O. Box 376 Malvern, PA 19355 610-363-9090	
ITEM	QTY	DESCRIPTION	COST EA.	TOTAL	COST EA.	TOTAL	COST EA.	TOTAL	COST EA.	TOTAL	COST EA.	TOTAL	COST EA.	TOTAL
1	722,000 lbs	Chlorine-City of Midland Water Purification Plant & T-Bar Chlorination Station	NO BID	NO BID	NO BID	NO BID	NO BID	NO BID	NO BID	NO BID	NO BID	NO BID	NO BID	NO BID
2	10 ea	150 lb cylinders of Chlorine - Airport Wellfield	NO BID	NO BID	NO BID	NO BID	NO BID	NO BID	NO BID	NO BID	NO BID	NO BID	NO BID	NO BID
3	400,000 gals	Liquid Ammonium Sulfate - Water Purification Plant & T-Bar Chlorination Station	NO BID	NO BID	NO BID	NO BID	NO BID	NO BID	\$1.858	\$743,200.00	NO BID	NO BID	NO BID	NO BID
4	2,000 tons	Aluminum Sulfate - Water Purification Plant	NO BID	NO BID	NO BID	NO BID	NO BID	NO BID	\$495.00	\$990,000.00	NO BID	NO BID	NO BID	NO BID
5	20,000 gals	Polymer - Water Purification Plant	NO BID	NO BID	NO BID	NO BID	NO BID	NO BID	\$8.100	\$162,000.00	\$7.3610	\$147,220.00	NO BID	NO BID
6	5,000 gals	Polymer for dewatering - Water Purification Plant	NO BID	NO BID	NO BID	NO BID	NO BID	NO BID	NO BID	NO BID	\$17.028	\$85,140.00	NO BID	NO BID
7	25 tons	Powdered Activated Carbon	\$2,600.00	\$65,000.00	\$3,060.00	\$76,500.00	NO BID	NO BID	NO BID	NO BID	NO BID	NO BID	NO BID	NO BID
					\$1.53 per pound									
8	5,000 gals	Liquid Copper Sulfate 25%	NO BID	NO BID	\$13.49	\$67,450.00	NO BID	NO BID	\$19.00	\$95,000.00	NO BID	NO BID	\$11.27	\$56,350.00
9	5,000 lbs	Potassium Permanganate	NO BID	NO BID	\$2.64	\$13,200.00	\$2.51	\$12,550.00	NO BID	NO BID	NO BID	NO BID	\$2.44	\$12,200.00
10	130,000 lbs	Sodium Permanganate - 20% Solution	NO BID	NO BID	\$1.53	\$198,900.00	\$1.72	\$223,600.00	NO BID	NO BID	NO BID	NO BID	\$1.57	\$204,100.00
11	20,300 gals	25% Sodium Hydroxide	NO BID	NO BID	NO BID	NO BID	\$1.42	\$288,260.00	NO BID	NO BID	NO BID	NO BID	NO BID	NO BID
TOTALS:				\$65,000.00		\$356,050.00		\$524,410.00		\$1,990,200.00		\$232,360.00		\$272,650.00

Bidding Summary:

29 Bid requests were issued.

11 Bids listed above

3 NO BIDS were received.

15 Bidders did not respond.

City of Midland - Bid Tabulation

BID # 24000001 Annual Supply of Chemicals for Water Purification OPENED August 16, 2023			DPC Industries, Inc. No. 8 Place Industrial Drive Drawer 158 Sweetwater, TX 79556 325-236-6633		Chemtrade Chemicals US LLC 90 East Halsey Road, Suite 200 Parsippany, NJ 07054 800-441-2659		Pencco, Inc. PO Box 600 San Felipe, Tx 77473 979-885-0005		Gasochem International LLC 9509 Pemberton Crescent Dr Houston, Tx 77025 713-837-6116		TR International Trading 22817 102nd Place West Edmonds, Wa 98020 206-505-3500	
ITEM	QTY	DESCRIPTION	COST EA.	TOTAL	COST EA.	TOTAL	COST EA.	TOTAL	COST EA.	TOTAL	COST EA.	TOTAL
1	722,000 lbs	Chlorine-City of Midland Water Purification Plant & T-Bar Chlorination Station	\$1.2145	\$876,869.00	NO BID	NO BID	NO BID	NO BID	NO BID	NO BID	NO BID	NO BID
2	10 ea	150 lb cylinders of Chlorine - Airport Wellfield	\$290.00	\$2,900.00	NO BID	NO BID	NO BID	NO BID	NO BID	NO BID	NO BID	NO BID
3	400,000 gals	Liquid Ammonium Sulfate - Water Purification Plant & T-Bar Chlorination Station	NO BID	NO BID	\$2.45	\$980,000.00	\$2.67	\$1,068,000.00	NO BID	NO BID	\$2.59	\$1,036,000.00
4	2,000 tons	Aluminum Sulfate - Water Purification Plant	NO BID	NO BID	\$643.00	\$1,286,000.00	\$771.13	\$1,542,260.00	\$391.00	\$782,000.00	NO BID	NO BID
5	20,000 gals	Polymer - Water Purification Plant	NO BID	NO BID	NO BID	NO BID	NO BID	NO BID	NO BID	NO BID	NO BID	NO BID
6	5,000 gals	Polymer for dewatering - Water Purification Plant	NO BID	NO BID	NO BID	NO BID	NO BID	NO BID	NO BID	NO BID	NO BID	NO BID
7	25 tons	Powdered Activated Carbon	NO BID	NO BID	NO BID	NO BID	NO BID	NO BID	NO BID	NO BID	NO BID	NO BID
8	5,000 gals	Liquid Copper Sulfate 25%	NO BID	NO BID	NO BID	NO BID	NO BID	NO BID	NO BID	NO BID	\$10.95	\$54,750.00
9	5,000 lbs	Potassium Permanganate	NO BID	NO BID	NO BID	NO BID	NO BID	NO BID	NO BID	NO BID	NO BID	NO BID
10	130,000 lbs	Sodium Permanganate - 20% Solution	NO BID	NO BID	NO BID	NO BID	NO BID	NO BID	NO BID	NO BID	NO BID	NO BID
11	20,300 gals	25% Sodium Hydroxide	NO BID	NO BID	NO BID	NO BID	NO BID	NO BID	NO BID	NO BID	NO BID	NO BID
TOTALS:				\$879,769.00		\$2,266,000.00		\$2,610,260.00		\$782,000.00		\$1,090,750.00

Bidding Summary:

29 Bid requests were issued.

11 Bids listed above

3 NO BIDS were received.

15 Bidders did not respond.

City of Midland - Bid Tabulation

BID # 24000001 Annual Supply of Chemicals for Water Purification OPENED August 16, 2023			Carbon Activated Corporation 2250 S. Central Avenue Compton, Ca 90220 310-885-4555		Chemrite, Inc. 5202 Belle Wood Court, Ste 104 Buford, GA 30518 770-271-5576		Univar Solutions USA Inc 14601 S 50th St Phoenix, Az 85044 602-469-4351		Chameleon Industries Inc. P.O. Box 853027 Mesquite, TX 75185 972-880-1493		Polydyne Inc. 1 Chemical Plant Road Riceboro, GA 31323 800-848-7659		Shannon Chemical Corporation P.O. Box 376 Malvern, PA 19355 610-363-9090	
ITEM	QTY	DESCRIPTION	COST EA.	TOTAL	COST EA.	TOTAL	COST EA.	TOTAL	COST EA.	TOTAL	COST EA.	TOTAL	COST EA.	TOTAL
1	722,000 lbs	Chlorine-City of Midland Water Purification Plant & T-Bar Chlorination Station	NO BID	NO BID	NO BID	NO BID	NO BID	NO BID	NO BID	NO BID	NO BID	NO BID	NO BID	NO BID
2	10 ea	150 lb cylinders of Chlorine - Airport Wellfield	NO BID	NO BID	NO BID	NO BID	NO BID	NO BID	NO BID	NO BID	NO BID	NO BID	NO BID	NO BID
3	400,000 gals	Liquid Ammonium Sulfate - Water Purification Plant & T-Bar Chlorination Station	NO BID	NO BID	NO BID	NO BID	NO BID	NO BID	\$1.858	\$743,200.00	NO BID	NO BID	NO BID	NO BID
4	2,000 tons	Aluminum Sulfate - Water Purification Plant	NO BID	NO BID	NO BID	NO BID	NO BID	NO BID	\$495.00	\$990,000.00	NO BID	NO BID	NO BID	NO BID
5	20,000 gals	Polymer - Water Purification Plant	NO BID	NO BID	NO BID	NO BID	NO BID	NO BID	\$8.100	\$162,000.00	\$7.3610	\$147,220.00	NO BID	NO BID
6	5,000 gals	Polymer for dewatering - Water Purification Plant	NO BID	NO BID	NO BID	NO BID	NO BID	NO BID	NO BID	NO BID	\$17.028	\$85,140.00	NO BID	NO BID
7	25 tons	Powdered Activated Carbon	\$2,600.00	\$65,000.00	\$3,060.00	\$76,500.00	NO BID	NO BID	NO BID	NO BID	NO BID	NO BID	NO BID	NO BID
					\$1.53 per pound									
8	5,000 gals	Liquid Copper Sulfate 25%	NO BID	NO BID	\$13.49	\$67,450.00	NO BID	NO BID	\$19.00	\$95,000.00	NO BID	NO BID	\$11.27	\$56,350.00
9	5,000 lbs	Potassium Permanganate	NO BID	NO BID	\$2.64	\$13,200.00	\$2.51	\$12,550.00	NO BID	NO BID	NO BID	NO BID	\$2.44	\$12,200.00
10	130,000 lbs	Sodium Permanganate - 20% Solution	NO BID	NO BID	\$1.53	\$198,900.00	\$1.72	\$223,600.00	NO BID	NO BID	NO BID	NO BID	\$1.57	\$204,100.00
11	20,300 gals	25% Sodium Hydroxide	NO BID	NO BID	NO BID	NO BID	\$1.42	\$288,260.00	NO BID	NO BID	NO BID	NO BID	NO BID	NO BID
TOTALS:				\$65,000.00		\$356,050.00		\$524,410.00		\$1,990,200.00		\$232,360.00		\$272,650.00

Bidding Summary:

29 Bid requests were issued.

11 Bids listed above

3 NO BIDS were received.

15 Bidders did not respond.

City of Midland - Bid Tabulation

BID # 24000001 Annual Supply of Chemicals for Water Purification OPENED August 16, 2023			DPC Industries, Inc. No. 8 Place Industrial Drive Drawer 158 Sweetwater, TX 79556 325-236-6633		Chemtrade Chemicals US LLC 90 East Halsey Road, Suite 200 Parsippany, NJ 07054 800-441-2659		Pencco, Inc. PO Box 600 San Felipe, Tx 77473 979-885-0005		Gasochem International LLC 9509 Pemberton Crescent Dr Houston, Tx 77025 713-837-6116		TR International Trading 22817 102nd Place West Edmonds, Wa 98020 206-505-3500	
ITEM	QTY	DESCRIPTION	COST EA.	TOTAL	COST EA.	TOTAL	COST EA.	TOTAL	COST EA.	TOTAL	COST EA.	TOTAL
1	722,000 lbs	Chlorine-City of Midland Water Purification Plant & T-Bar Chlorination Station	\$1.2145	\$876,869.00	NO BID	NO BID	NO BID	NO BID	NO BID	NO BID	NO BID	NO BID
2	10 ea	150 lb cylinders of Chlorine - Airport Wellfield	\$290.00	\$2,900.00	NO BID	NO BID	NO BID	NO BID	NO BID	NO BID	NO BID	NO BID
3	400,000 gals	Liquid Ammonium Sulfate - Water Purification Plant & T-Bar Chlorination Station	NO BID	NO BID	\$2.45	\$980,000.00	\$2.67	\$1,068,000.00	NO BID	NO BID	\$2.59	\$1,036,000.00
4	2,000 tons	Aluminum Sulfate - Water Purification Plant	NO BID	NO BID	\$643.00	\$1,286,000.00	\$771.13	\$1,542,260.00	\$391.00	\$782,000.00	NO BID	NO BID
5	20,000 gals	Polymer - Water Purification Plant	NO BID	NO BID	NO BID	NO BID	NO BID	NO BID	NO BID	NO BID	NO BID	NO BID
6	5,000 gals	Polymer for dewatering - Water Purification Plant	NO BID	NO BID	NO BID	NO BID	NO BID	NO BID	NO BID	NO BID	NO BID	NO BID
7	25 tons	Powdered Activated Carbon	NO BID	NO BID	NO BID	NO BID	NO BID	NO BID	NO BID	NO BID	NO BID	NO BID
8	5,000 gals	Liquid Copper Sulfate 25%	NO BID	NO BID	NO BID	NO BID	NO BID	NO BID	NO BID	NO BID	\$10.95	\$54,750.00
9	5,000 lbs	Potassium Permanganate	NO BID	NO BID	NO BID	NO BID	NO BID	NO BID	NO BID	NO BID	NO BID	NO BID
10	130,000 lbs	Sodium Permanganate - 20% Solution	NO BID	NO BID	NO BID	NO BID	NO BID	NO BID	NO BID	NO BID	NO BID	NO BID
11	20,300 gals	25% Sodium Hydroxide	NO BID	NO BID	NO BID	NO BID	NO BID	NO BID	NO BID	NO BID	NO BID	NO BID
TOTALS:				\$879,769.00		\$2,266,000.00		\$2,610,260.00		\$782,000.00		\$1,090,750.00

Bidding Summary:

29 Bid requests were issued.

11 Bids listed above

3 NO BIDS were received.

15 Bidders did not respond.



City Council Meeting

Item Number: 10
Meeting Date: September 12, 2023
To: City Council / City Manager
From: Justine Ruff, Director
Subject: RESOLUTION AUTHORIZING THE EXECUTION OF A CONTRACT WITH JONES BROS DIRT & PAVING CONTRACTORS, INC., IN THE AMOUNT OF \$2,500,553.50 FOR THE MAF TAXIWAY "E" RECONSTRUCTION PROJECT AT MIDLAND INTERNATIONAL AIR & SPACE PORT; AND APPROPRIATING FUNDS FOR SAID PROJECT (DISTRICT 4) (AIRPORTS)

Purpose:

Resolution authorizing the execution of a contract with Jones Bros Dirt & Paving Contractors, Inc. in the amount of \$2,500,553.50 for the Reconstruct Taxiway E (#900412) project at Midland International Air & Space Port, and appropriate necessary funds.

Recommended City Council Action:

Approve

Fiscal Impact:

FAA Share (90%) – Grant 70	\$ 2,761,463.00
City/Airport Share (10%) –	\$ 306,829.50
City/Airport Share – Contingency	<u>\$ 250,055.00</u>
Total Breakout of Costs	\$ 3,318,347.50
Construction Phase Airport Admin Costs	\$ 10,000.00
Construction Phase Engineering Fee	\$ 120,739.00
Construction Phase Admin/Resident Project Representative (RPR)	\$ 240,000.00
Construction Phase Surveying and Testing	\$ 150,000.00
Construction Phase Reimbursable Costs	\$ 47,000.00
Construction Improvements Bid	\$2,500,553.50
Construction Contingency	<u>\$ 250,055.00</u>

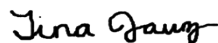
Total Recommended Construction
Phase Appropriation
Appropriation Language:

\$3,318,347.50

Funding is available in the Airport Fund Unappropriated Fund Balance and is hereby appropriated and will be transferred to the MAF Taxiway "E" Reconstruction Project (#900412) at Midland International Air & Space Port.

Discussion:

During the July 11, 2023, Council Meeting a motion was passed approving the plans and specifications for the MAF Taxiway "E" Reconstruction Project at Midland International Air & Space Port. On August 9, 2023, the single bid for \$2,500,553.50 from Jones Bros Dirt & Paving contractors, Inc. was received. The bid submitted met the requirements of a Bid Bond, Acknowledgement of Addenda, and signed bid proposal. This project addresses the existing Taxiway that was last rehabilitated in 1993 with a surface seal applied in 20213. Block cracking is occurring in several areas of the pavement that penetrate the base section below the asphalt surface. Foreign Object Debris (FOD) has become an issue from the deteriorating asphalt surface breaking off at the edges of the cracks. The project will reconstruct Taxiway "E", West of Taxiway "A" full depth with new subgrade course, base course, and asphalt surface. ***This project will be included in FAA Grant #70, and the grant will cover 90% of the expenses of construction of the project.***



City Manager's Office

RESOLUTION NO. _____

**RESOLUTION AUTHORIZING THE EXECUTION OF A
CONTRACT WITH JONES BROS DIRT & PAVING
CONTRACTORS, INC., IN THE AMOUNT OF
\$2,500,553.50 FOR THE MAF TAXIWAY “E”
RECONSTRUCTION PROJECT AT MIDLAND
INTERNATIONAL AIR & SPACE PORT; AND
APPROPRIATING FUNDS FOR SAID PROJECT**

WHEREAS, the City Council approved the plans and specifications and authorized advertisement for bids for the MAF Taxiway “E” Reconstruction Project at Midland International Air & Space Port; and

WHEREAS, on August 9, 2023, the City received one (1) bid being submitted by Jones Bros Dirt & Paving Contractors, Inc., for a total cost of \$2,500,553.50 for said project; and

WHEREAS, the City Council finds the price proposed by Jones Bros Dirt & Paving Contractors, Inc., for said project to be fair and reasonable; and

WHEREAS, the City Council finds it to be in the public interest to award a contract to Jones Bros Dirt & Paving Contractors, Inc., for said project and to appropriate necessary funds;

NOW, THEREFORE, BE IT RESOLVED BY THE CITY COUNCIL OF THE CITY OF MIDLAND, TEXAS:

SECTION ONE. That the City Manager, or his designee, and the City Secretary are hereby authorized and directed to execute and attest, respectively, on behalf of the City of Midland, a contract with Jones Bros Dirt & Paving Contractors, Inc., in the amount of \$2,500,553.50 for the MAF Taxiway “E” Reconstruction Project at Midland International Air & Space Port. Said contract shall be on file in the office of the City Secretary and referenced by the date and number of this Resolution.

SECTION TWO. That the sum of \$3,318,347.50 is hereby appropriated from the Airport Fund Unappropriated Fund Balance to the MAF Taxiway “E” Reconstruction Project (900412).

SECTION THREE. That the City Comptroller is hereby authorized and directed to pay Jones Bros Dirt & Paving Contractors, Inc., pursuant to the terms of said contract from funds available in the above-referenced project upon receipt of proper invoices or statements approved by the City Manager or his designee.

On motion of Council member _____, seconded by Council member _____, the above and foregoing resolution was adopted by the City Council of the City of Midland at a regular meeting on the _____ day of _____, A.D., 2023, by the following vote:

Council members voting "AYE":

Council members voting "NAY":

Lori Merritt Blong, Mayor

ATTEST:

Marcia Bentley-German, City Secretary

RECOMMENDED AND APPROVED:

Tommy Gonzalez, City Manager

APPROVED AS TO CONTENT
AND COMPLETENESS:

Justine Ruff, Director of Airports

APPROVED AS TO FORM ONLY:

John Ohnemiller, City Attorney



City Council Meeting

Item Number: 11
Meeting Date: September 12, 2023
To: City Council / City Manager
From: Justine Ruff, Director
Subject: MOTION AUTHORIZING THE EXECUTION OF AMENDMENT NO. 8 TO THE PROFESSIONAL SERVICES AGREEMENT DATED MARCH 23, 2021, BETWEEN THE CITY OF MIDLAND, TEXAS, AND PARKHILL, SMITH & COOPER, INC., DBA PARKHILL; SAID AMENDMENT PROVIDING FOR (I) THE AIR CARRIER RUNWAYS AND TAXIWAYS PCI SURVEY AND GEOTECHNICAL TESTING PROJECT AND (II) THE INCREASED SCOPE OF THE AIRFIELD STORM SEWER SYSTEM PROJECT TO INCLUDE THE LOCATION OF SUBSURFACE UTILITY CABLES; APPROPRIATING \$378,250.00 FOR SAID AIR CARRIER RUNWAYS AND TAXIWAYS PCI SURVEY AND GEOTECHNICAL TESTING PROJECT; AND APPROPRIATING \$500,000.00 FOR THE AIRFIELD STORM SEWER SYSTEM PROJECT (DISTRICT 4) (AIRPORTS)

Purpose:

Motion authorizing the execution of Amendment No. 8 to the Professional Services Agreement dated March 23, 2021, between the City of Midland, Texas, and Parkhill, Smith & Cooper, Inc., DBA Parkhill; said amendment providing Engineering Evaluation of Asphalt Pavement on the Air Carrier Runways and Taxiways (FAA Project name – Air Carrier Runways and Taxiways PCI Survey and Geotechnical Testing) and appropriating \$378,250.00 to said project and adding additional scope to the Airfield Storm Sewer System Project (#700221) to include subsurface utility locates for FAA cables and appropriating \$500,000.00 to said project.

Recommended City Council Action:

Approve

Fiscal Impact:**Air Carrier Runways and Taxiways PCI Survey and Geotechnical Testing****Breakout of Costs:**

Parkhill PCI Survey and Engineering Report	\$310,927.00
Parkhill Surveying, Testing and Reimbursable Costs	\$ 57,323.00
Airport/City Reimbursable Costs	<u>\$ 10,000.00</u>
Total Recommended Appropriation	\$378,250.00
FAA Share (90%) – Grant 70	\$340,425.00
City/Airport Share (10%) – Grant 70	<u>\$ 37,825.00</u>
Total	\$378,250.00

Appropriation Language:

Funding is available in the Airport Fund Unappropriated Fund Balance and is hereby appropriated and will be transferred to the Air Carrier Runways and Taxiways PCI Survey and Geotechnical Testing Project (#XXXXX) at Midland International Air & Space Port.

Airfield Storm Sewer System (#700221)

Parkhill – FAA Underground Cable Locates - 100% PFC – not to exceed \$500,000.00

Appropriation Language:

Funding is available in the Airport Fund Unappropriated Fund Balance and is hereby appropriated and will be transferred to the Airfield Storm Sewer System Project (#700221) at Midland International Air & Space Port.

Discussion:

This City of Midland, Texas and Parkhill entered into an Agreement for Professional Services dated March 23, 2021, for improvements contained in the Airport's 5-year Airport capital Improvement Program (ACIP). This is the eighth amendment to that agreement and will allow Parkhill to begin working on Item #4 in the original agreement, Engineering Evaluation of Asphalt Pavement on the Air Carrier Runways and Taxiways (FAA Project Name – Air Carrier Runways and Taxiways PCI Survey and Geotechnical Testing). This amendment also adds additional scope to the Airfield Storm Sewer System project at MAF. The execution of FAA Grant #70 will contain funding for the Air Carrier Runways and Taxiways PCI Survey and

Geotechnical Testing project at MAF.

Air Carrier Runways and Taxiways PCI Survey and Geotechnical Testing at Midland International Air & Space Port.

The air carrier runways at MAF were rehabilitated in 2009 by milling the upper 2" of asphalt course, placing a stress absorbing membrane interlayer and placing a new 2" asphalt surface course. In 2016 an FAA approved asphalt surface seal was applied to the pavement surfaces to extend the life of the pavements. Much of these pavements were originally constructed when the airport was used during WWII as an Army Airfield facility. Over the years these pavements have been overlain with new pavement materials to increase their strength to accommodate the current air carrier aircraft using MAF. Due to the overall age of the entirety of the airfield pavement sections, before future rehabilitation projects are implemented, the FAA has required that a Pavement Management Plan (PMP) be prepared using a Pavement Condition Index (PCI) survey along with non-destructive testing and coring be performed. A key element of this PCI Survey and testing is to determine if there is a need for a full depth reconstruction of the pavements or if a rehabilitation project to replace the upper asphalt surface course is the proper method to extend the useful life of these pavements. This project will have six primary functional areas of work: Implement an airside pavement network in support of a Pavement Management Program using the PAVER software; conduct a functional evaluation of the airside air carrier pavements using the Pavement Condition Index (PCI) survey procedure; conduct a structural evaluation using the Falling-Weight Deflectometer (FWD) and pavement cores; Customize the PAVER database; Compute Pavement Classification Ratings (PCR) and allowable aircraft loads; and assist with the preparation of a Capital Improvement Plan that includes preservation, maintenance, rehabilitation, and reconstruction strategies. ***The funding for this project comes from FAA Grant #70 at 90%.***

Airfield Storm Sewer System (700221)

The scope of project improvements for this project MAF has changed to include, in addition to the prior scope of improvements, the subsurface utility locates for existing FAA cables located within the areas to be graded for conveyance of surface storm water. These areas to be graded have been determined based on the current design of the improvements that are part of the original project scope for the Airfield Storm Sewer System. These FAA cables are located at various locations throughout the airfield. The scope of the additional professional services includes determining if the FAA cable is active or abandoned, the horizontal location and the vertical depth of found active FAA cables. The professional services also include coordination effort with the FAA staff before and during the cable locates. The total additional compensation for this Amendment for FAA cable locates related to the Airfield Storm Sewer System improvements at MAF shall not exceed \$500,000 without written consent from the owner. ***The funding for this project comes from Passenger Facility Charges (PFC) at 100%.***

Jina Gang

City Manager's Office

AMENDMENT NO. 8
TO
AGREEMENT

BETWEEN THE CITY OF MIDLAND, TEXAS
AND
PARKHILL
FOR
PROFESSIONAL SERVICES

WHEREAS, the City of Midland, Texas and Parkhill have entered into an Agreement for professional services dated March 23, 2021, for improvements contained in the Airport Capital Improvement Program; as amended April 13, 2021 (Amendment 1), February 8, 2022 (Amendment 2), April 12, 2022 (Amendment 3), June 28, 2022 (Amendment 4), October 11, 2022 (Amendment 5), April 11, 2023 (Amendment 6), and June 13, 2023 (Amendment 7);

AND WHEREAS, the City of Midland, Texas desires to perform the improvements listed in the Recitals of the Agreement as Item 4 Engineering Evaluation of Asphalt Pavement on the Air Carrier Runways and Taxiways (FAA Project Name – Air Carrier Runways and Taxiways PCI Survey and Geotechnical Testing) and Item 21 Airfield Storm Sewer System:

THIS AGREEMENT WITNESSETH:

A. The Recitals of the Agreement shall be amended to include the following items:

21. Airfield Storm Sewer System

B. Exhibit B, Article 4 – PAYMENTS TO THE ENGINEER, the following shall be added to paragraph B 4.01:

“Item 4 Engineering Evaluation of Asphalt Pavement on the Air Carrier Runways and Taxiways (FAA Project Name – Air Carrier Runways and Taxiways PCI Survey and Geotechnical Testing)”

A Lump Sum amount of \$310,927 based on the following distribution of compensation:

a. PCI Survey and Engineering Report \$310,927

* Scope of Professional Services Attached”

C. Exhibit B, Article 4 – PAYMENTS TO THE ENGINEER, the following shall be added to paragraph B 4.02:

“Item 4 Engineering Evaluation of Asphalt Pavement on the Air Carrier Runways and Taxiways (FAA Project Name – Air Carrier Runways and Taxiways PCI Survey and Geotechnical Testing)”

Additional Services under Item 4 of the Recitals on Page 1 shall be compensated at the Standard Hourly Rates Method of Payment plus Direct Expenses and Engineer’s Consultant’s charges on the basis of cost times a factor of 1.15.

a. Reimbursable Costs, Surveying & Testing \$57,323”

PACKET

“Item 21 Airfield Storm Sewer System

Additional Services under Item 21 of the Recitals on Page 1 shall be compensated at the Standard Hourly Rates Method of Payment plus Direct Expenses and Engineer’s Consultant’s charges on the basis of cost times a factor of 1.15.

The scope of project improvements for this project at MAF has changed to include, in addition to the prior scope of improvements, the subsurface utility locates for existing FAA cables located within the areas to be graded for conveyance of surface storm water. These areas to be graded have been determined based on the current design of the improvements that are part of the original project scope for the Airfield Storm Sewer System. These FAA cables are located at various locations throughout the airfield. The scope of the additional professional services includes determining if the FAA cable is active or abandoned, the horizontal location and the vertical depth of found active FAA cables. The professional services also include coordination effort with the FAA staff before and during the cable locates.

Total additional compensation for Item 21 under this Amendment for the FAA cable locates related to the Airfield Storm Sewer System improvements at MAF shall not exceed \$500,000 without written authorization from the Owner.”

IN WITNESS WHEREOF, the City of Midland, Texas and Parkhill have hereto set their hands this 12th day of September, 2023.

OWNER:

CITY OF MIDLAND, TEXAS

By: _____

Lori Blong

Title: Mayor

Date Signed: _____

Address for giving notices:

P.O. Box 1152

Midland, Texas 79702

Phone: (432) 685-7357

ENGINEER:

PARKHILL

By: 

Danny G. Winchester

Title: Principal

Date Signed: September 12, 2023

Address for giving notices:

1700 W. Wall

Midland, Texas 79701

Phone: (432) 697-1447

IN DUPLICATE

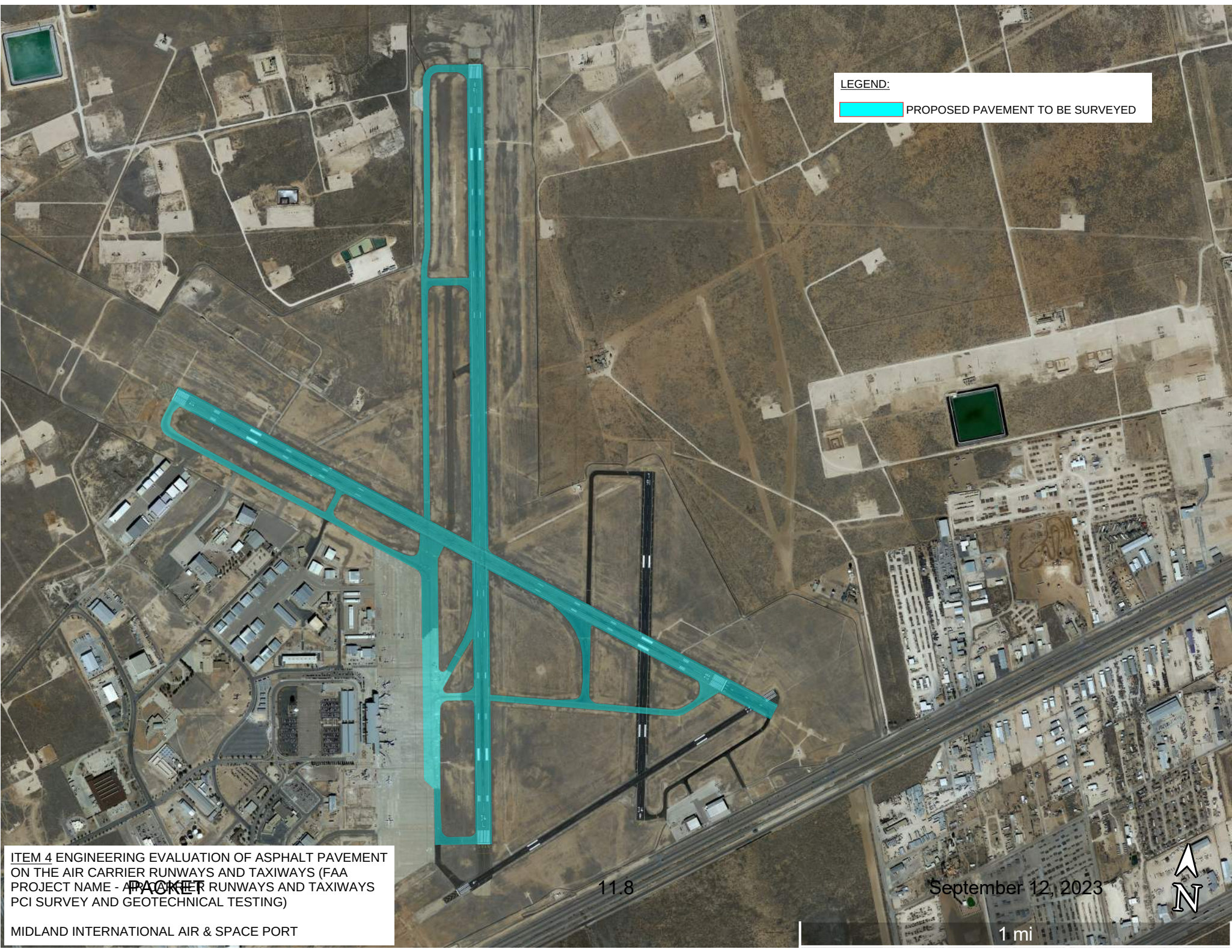
MIDLAND INTERNATIONAL AIR & SPACE PORT
ITEM 4 ENGINEERING EVALUATION OF ASPHALT PAVEMENT ON THE AIR CARRIER RUNWAYS
AND TAXIWAYS
(FAA PROJECT NAME – AIR CARRIER RUNWAYS AND TAXIWAYS PCI SURVEY AND
GEOTECHNICAL TESTING)

SCOPE OF PROJECT IMPROVEMENTS AND SCOPE OF PROFESSIONAL SERVICES

1. Project history and objective - The air carrier runways and taxiways were rehabilitated in 2009 by milling the upper 2" of asphalt surface course, placing a stress absorbing membrane interlayer and placing a new 2" asphalt surface course. In 2016 an FAA approved asphalt surface seal was applied to the pavement surfaces to extend the life of the pavements. Much of these pavements were originally constructed when the airport was used during WWII as an Army Airfield facility. Over the years these pavements have been overlain with new pavement materials to increase their strength to accommodate the current air carrier aircraft using MAF. Due to the overall age of the entirety of the airfield pavement sections, before future rehabilitation projects are implemented, the FAA has required that a Pavement Management Plan (PMP) be prepared using a Pavement Condition Index (PCI) survey along with non-destructive testing and coring be performed. A key element of this PCI Survey and testing is to determine if there is a need for a full depth reconstruction of the pavements or if a rehabilitation project to replace the upper asphalt surface course is the proper method to extend the useful life of these pavements.
2. Anticipated Scope of Services – The proposed scope of services will encompass six primary functional areas of work:
 - Implement an airside pavement network in support of a Pavement Management Program using the PAVER™ software.
 - Conduct a functional evaluation of the airside air carrier pavements using the Pavement Condition Index (PCI) survey procedure.
 - Conduct a structural evaluation using the Falling-Weight Deflectometer (FWD) and pavement cores.
 - Customize the PAVER™ database.
 - Compute Pavement Classification Rating (PCR) and allowable aircraft loads.
 - Assist with the preparation of a Capital Improvement Plan that includes preservation, maintenance, rehabilitation, and reconstruction strategies.

The Pavement Management Program (PMP) work shall be conducted in accordance with the following applicable standard documents and FAA Advisory Circulars:

- 150/5380-7B Airport Pavement Management Program
- 150/5380-6C Guidelines and Procedures for Maintenance of Airport Pavements
- 150/5320-6G Airport Pavement Design and Evaluation
- 150/5335-5D Standardized Method of Reporting Airport Pavement Strength – PCR
- ASTM D5340-20 Standard Test Method for Airport Pavement Condition Index Surveys



LEGEND:

PROPOSED PAVEMENT TO BE SURVEYED

ITEM 4 ENGINEERING EVALUATION OF ASPHALT PAVEMENT
ON THE AIR CARRIER RUNWAYS AND TAXIWAYS (FAA
PROJECT NAME - AIRPORT RUNWAYS AND TAXIWAYS
PCI SURVEY AND GEOTECHNICAL TESTING)

MIDLAND INTERNATIONAL AIR & SPACE PORT

11.8

September 12, 2023

1 mi





City Council Meeting

Item Number: 12
Meeting Date: September 12, 2023
To: City Council / City Manager
From: Justine Ruff, Director
Subject: Motion authorizing the Mayor, City Manager, and City Attorney to execute Federal Aviation Administration Grant No. 70 in order to receive grant funds for the following projects: (i) NW Basin Wildlife Improvements Project; (ii) Reconstruct Taxiway E, West of Taxiway A Project; and (iii) Air Carrier Runways and Taxiways PCI Survey and Geotechnical Testing Project (DISTRICT 4) (AIRPORTS)

Purpose:

Motion authorizing the Mayor, City Manager and City Attorney to execute Federal Aviation Administration Grant #70 in order to receive grant funds for the NW Basin Wildlife Improvements project, Reconstruct Taxiway E, West of Taxiway A project and Air Carrier Runways and Taxiways PCI Survey and Geotechnical Testing at Midland International Air & Space Port

Recommended City Council Action:

Approve

Fiscal Impact:

Estimated Grant Proceeds \$5,171,504.00

Discussion:

In anticipation of the receipt of Federal Grant #70 in the estimated amount of \$5,171,504.00, the Department of Airports is requesting City Council's approval to allow the Mayor, City Manager, and the City Attorney to execute this grant agreement upon receipt. These grant proceeds will be used at Midland International Air & Space Port for the following projects:

NW Basin Wildlife Improvement (#700243)

This project addresses the existing storm drainage basin located on the northwest side of the airport. In the last few years there has been a lot of vegetation growth in the basin that has attracted wildlife and made mowing/maintenance of the basin impossible. The Airport staff has not been able to mow the vegetation to the height recommended in the Wildlife Hazard Management Plan. This project will grade and shape the basin to allow the ability to mow vegetation growth that occurs within the basin. An access ramp to the bottom of the basin will be constructed to allow equipment to access the basin for mowing or grading.

Reconstruct Taxiway “E”, West of Taxiway “A” (#900412)

The section of Taxiway “E” that connects Taxiway “A” with the Executive Apron has not been rehabilitated since 1993 and the cracks in the existing pavement surface have caused an increase of Foreign Object Debris (FOD) on the pavement. This project will construct improvements on Taxiway “E”, West of Taxiway “A” full depth with new subgrade course, base course and asphalt surface.

Air Carrier Runways and Taxiways PCI Survey and Geotechnical Testing at Midland International Air & Space Port.

The air carrier runways at MAF were rehabilitated in 2009 by milling the upper 2” of asphalt course, placing a stress absorbing membrane interlayer and placing a new 2” asphalt surface course. In 2016 an FAA approved asphalt surface seal was applied to the pavement surfaces to extend the life of the pavements. Much of these pavements were originally constructed when the airport was used during WWII as an Army Airfield facility. Over the years these pavements have been overlain with new pavement materials to increase their strength to accommodate the current air carrier aircraft using MAF. Due to the overall age of the entirety of the airfield pavement sections, before future rehabilitation projects are implemented, the FAA has required that a Pavement Management Plan (PMP) be prepared using a Pavement Condition Index (PCI) survey along with non-destructive testing and coring be performed. A key element of this PCI Survey and testing is to determine if there is a need for a full depth reconstruction of the pavements or if a rehabilitation project to replace the upper asphalt surface course is the proper method to extend the useful life of these pavements. This project will have six primary functional areas of work: Implement an airside pavement network in support of a Pavement Management Program using the PAVER software; conduct a functional evaluation of the airside air carrier pavements using the Pavement Condition Index (PCI) survey procedure; conduct a structural evaluation using the Falling-Weight Deflectometer (FWD) and pavement cores; Customize the PAVER database; Compute Pavement Classification Ratings (PCR) and allowable aircraft loads; and assist with the preparation of a Capital Improvement Plan that includes preservation, maintenance, rehabilitation, and reconstruction strategies.

Jina Gang

City Manager's Office



City Council Meeting

Item Number: 13
Meeting Date: September 12, 2023
To: City Council / City Manager
From: Justine Ruff, Director
Subject: RESOLUTION AUTHORIZING THE EXECUTION OF A CONTRACT WITH BOLER EQUIPMENT SERVICE, INC., IN THE AMOUNT OF \$1,698,086.50 FOR THE MAF NORTHWEST BASIN IMPROVEMENTS PROJECT AT MIDLAND INTERNATIONAL AIR & SPACE PORT; AND APPROPRIATING FUNDS FOR SAID PROJECT (DISTRICT 4) (AIRPORTS)

Purpose:

Resolution authorizing the execution of a contract with Boler Equipment Service, Inc. in the amount of \$1,698,086.50 for the Northwest Basin Wildlife Improvements Project at Midland International Air & Space Port, and appropriate necessary funds.

Recommended City Council Action:

Approve

Fiscal Impact:

FAA Share (90%) – Grant 70	\$ 2,069,616.00
City/Airport Share (10%) –	\$ 229,957.50
City/Airport Share – Contingency	\$ 169,808.00
Total	\$ 2,469,381.50

Breakout of Costs

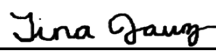
Construction Phase Airport Admin Costs	\$ 11,200.00
Construction Phase Engineering Fee	\$ 189,500.00
Construction Phase Admin/Resident Project Representative (RPR)	\$ 240,000.00
Construction Phase Surveying and Testing	\$ 115,000.00
Construction Phase Reimbursable Costs	\$ 45,787.00
Construction Improvements Bid	\$1,698,086.50
Construction Contingency	\$ 169,808.00
Total Recommended Construction	\$2,469,381.50

Phase Appropriation
Appropriation Language:

Funding is available in the Airport Fund Unappropriated Fund Balance and is hereby appropriated and will be transferred to the MAF Northwest Basin Improvements (#700243) Project at Midland International Air & Space Port.

Discussion:

During the July 11, 2023, Council Meeting a motion was passed approving the plans and specifications for the MAF Northwest Basin Wildlife Improvements (#700243) Project at Midland International Air & Space Port. On August 9, 2023, the single bid for \$1,698,086.50 from Boler Equipment Service, Inc. was received. The bid submitted met the requirements of a Bid Bond, Acknowledgement of Addenda, and signed bid proposal. The project addresses the existing storm drainage basin located on the northwest side of the airport. In the last few years there has been a lot of vegetation growth in the basin that has attracted wildlife and made mowing/maintenance of the basin impossible. The Airport staff has not been able to mow the vegetation to the height recommended in the Wildlife Hazard Management Plan. This project will grade and shape the basin to allow the ability to mow vegetation growth that occurs within the basin. An access ramp to the bottom of the basin will be constructed that will allow equipment to access the basin for mowing or grading. The size of the basin will not be increased other than to provide side slopes that can be maintained, and vegetation growth controlled. ***This project is included in FAA Grant #70, and the grant will cover 90% of the expenses of construction for the project.***



City Manager's Office

RESOLUTION NO. _____

**RESOLUTION AUTHORIZING THE EXECUTION OF A
CONTRACT WITH BOLER EQUIPMENT SERVICE,
INC., IN THE AMOUNT OF \$1,698,086.50 FOR THE MAF
NORTHWEST BASIN IMPROVEMENTS PROJECT AT
MIDLAND INTERNATIONAL AIR & SPACE PORT;
AND APPROPRIATING FUNDS FOR SAID PROJECT**

WHEREAS, the City Council approved the plans and specifications and authorized advertisement for bids for the MAF Northwest Basin Improvements Project at Midland International Air & Space Port; and

WHEREAS, on July 11, 2023, the City received one (1) bid being submitted by Boler Equipment Service, Inc., for a total cost of \$1,698,086.50 for said project; and

WHEREAS, the City Council finds the price proposed by Boler Equipment Service, Inc., for said project to be fair and reasonable; and

WHEREAS, the City Council finds it to be in the public interest to award a contract to Boler Equipment Service, Inc., for said project and to appropriate necessary funds;

**NOW, THEREFORE, BE IT RESOLVED BY THE CITY COUNCIL OF THE
CITY OF MIDLAND, TEXAS:**

SECTION ONE. That the City Manager, or his designee, and the City Secretary are hereby authorized and directed to execute and attest, respectively, on behalf of the City of Midland, a contract with Boler Equipment Service, Inc., in the amount of \$1,698,086.50 for the MAF Northwest Basin Improvements Project at Midland International Air & Space Port. Said contract shall be on file in the office of the City Secretary and referenced by the date and number of this Resolution.

SECTION TWO. That the sum of \$2,469,381.50 is hereby appropriated from the Airport Fund Unappropriated Fund Balance to the MAF Northwest Basin Improvements Project (700243).

SECTION THREE. That the City Comptroller is hereby authorized and directed to pay Boler Equipment Service, Inc., pursuant to the terms of said contract from funds

available in the above-referenced project upon receipt of proper invoices or statements approved by the City Manager or his designee.

On motion of Council member _____, seconded by Council member _____, the above and foregoing resolution was adopted by the City Council of the City of Midland at a regular meeting on the _____ day of _____, A.D., 2023, by the following vote:

Council members voting "AYE":

Council members voting "NAY":

Lori Merritt Blong, Mayor

ATTEST:

Marcia Bentley-German, City Secretary

RECOMMENDED AND APPROVED:

Tommy Gonzalez, City Manager

APPROVED AS TO CONTENT
AND COMPLETENESS:

Justine Ruff, Director of Airports

APPROVED AS TO FORM ONLY:

John Ohnemiller, City Attorney

PACKET

13.4

September 12, 2023



City Council Meeting

Item Number: 14
Meeting Date: September 12, 2023
To: City Council / City Manager
From: Justine Ruff, Director
Subject: MOTION AUTHORIZING THE EXECUTION OF A NON-FEDERAL REIMBURSABLE AGREEMENT BETWEEN THE CITY OF MIDLAND, TEXAS, AND THE DEPARTMENT OF TRANSPORTATION FEDERAL AVIATION ADMINISTRATION FOR CERTAIN SERVICES RELATED TO THE AIRFIELD DRAINAGE PROJECT AT MIDLAND INTERNATIONAL AIR & SPACE PORT; AND APPROPRIATING \$145,188.37 FOR SAID PROJECT (DISTRICT 4) (AIRPORTS)

Purpose:

Motion authorizing the execution of a Non-Federal Reimbursable Agreement between the City of Midland, Texas, and the Department of Transportation Federal Aviation Administration for certain services related to the Airfield Drainage Project at Midland International Air & Space Port and appropriating \$145,188.37 to said project.

Recommended City Council Action:

Approve

Fiscal Impact:

MAF Airfield Storm Sewer System

Airport/City Share 100% - (100% PFC Reimbursable in the future)	\$145,188.37
---	--------------

Breakout of Costs:

Engineering Labor	\$112,295.29
Labor Overhead	<u>\$ 22,324.29</u>
Total Labor	\$134,619.49
 Non-Labor Travel	 \$ 9,786.00
Non-Labor Overhead	\$ 782.88

Total Non-Labor

Total Cost

\$ 10,568.37

\$ 145,188.37

Appropriation Language:

Funding is available in the Airport Fund Unappropriated Fund Balance and is hereby appropriated and will be transferred to Project #700221, Airfield Storm Sewer System Project.

Discussion:

Parkhill is currently in the design phase of the MAF Airfield Storm Sewer System Project, which is funded 100% with Passenger Facility Charges (PFC). This project covers all areas of the airfield at MAF. This FAA Reimbursable Agreement allows Parkhill to work with the FAA on the location of their equipment, avoiding the possibility of damaging any FAA equipment in the construction portion of the project. The FAA will provide technical consultation, site visits, feasibility assessments, Spectrum analysis, project planning, scope definition, development of cost estimate(s), and travel in support of the reimbursable agreement management. This agreement provides funding for the FAA to establish these services, the FAA and the Sponsor will enter into either an amendment of this agreement or a new agreement to cover the implementation of the project plans developed under this agreement. ***This agreement is 100% reimbursable by PFC funds.***

City Manager's Office



City Council Meeting

Item Number: 15
Meeting Date: September 12, 2023
To: City Council / City Manager
From: Whitney Craig, Manager, Health and Senior Services
Subject: Motion authorizing the acceptance of grant funds from the U.S. Committee for Refugees and Immigrants in the amount of \$600,065.00 to assist the City of Midland Health Services Division with the funding and delivery of refugee immunization services; authorizing the City Manager or his designee to execute all necessary acceptance documents; and authorizing and directing the City Treasurer to deposit said grant funds into the General Fund (DISTRICT: ALL) (COMMUNITY SERVICES)

Purpose:

Motion authorizing the acceptance of grant funds from the U.S. Committee for Refugees and Immigrants in the amount of \$600,065.00 to assist the City of Midland Health Services Division with the funding and delivery of refugee immunization services; authorizing the City Manager or his designee to execute all necessary acceptance documents; and authorizing and directing the City Treasurer to deposit said grant funds into the General Fund.

Recommended City Council Action:

Approve

Fiscal Impact:

\$600,065.00 in grant funds from the U.S. Committee for Refugees and Immigrants.

Discussion:

Midland Health Services is seeking approval for the acceptance of this grant. These funds are instrumental in allowing the City to provide services to the community. The Refugee and Immigrants Immunization grant is accepted annually.

Marino Williams Jr.

City Manager's Office

Refugee Medical Screening BASE CONTRACT 2024-MIDTX-08

This contract is entered into by and between the U.S. Committee for Refugees and Immigrants (USCRI), an independent nonprofit 501(c)(3) organization incorporated in the State of New York and headquartered in the Commonwealth of Virginia, and Midland Health and Senior Services, a governmental entity, (collectively, the Parties).

1. **Purpose of the Contract:** USCRI agrees to purchase, and Contractor agrees to provide, services or goods to the eligible populations, as defined in Section I of the Statement of Work.
2. **Total Amount:** The total amount of this Contract is \$600,065.00. In the event that an amendment to the budget is required, only the budget section of the contract will be revised.
3. **Funding Obligation:** This Contract is contingent upon the continued availability of funding. If funds become unavailable through lack of appropriations, budget cuts, transfer of funds between programs or health and human services agencies, amendment to the Appropriations Act, health and human services agency consolidation, federal government shutdown, or any other disruptions of current appropriated funding for this Contract, USCRI may restrict, reduce, or terminate funding under this Contract prior to September 30, 2024.
4. **Term of the Contract:** This Contract begins on 10/01/2023 and ends on 9/30/2024. USCRI has the option, in its sole discretion, to renew the Contract. USCRI is not responsible for payment under this Contract before both Parties have signed the Contract or before the start date of the Contract, whichever is later.
5. **Authority:** As applicable, USCRI enters into this Contract under the authority of the Refugee Education Assistance Act of 1980, Title V, Section 501(a), Public Law 96-422, 94 Stat. 1799, 8 U.S.C 1522 note; the Refugee Act of 1980, Section 412, Public Law 96-212, 94 Stat. 111, 8 U.S.C 1522; the William Wilberforce Trafficking Victims Protection Reauthorization Act of 2008, Section 212-235, Public Law 110-457; and the Victims of Trafficking and Violence Protection Act of 2000, Public Law 106-386.
6. **Program Name:** Refugee Immunizations

7. Statement of Work:

Section I: OVERVIEW

- A. This Contract covers vaccinations to eligible adults (vaccinations for children are handled under the Vaccines for Children Program, outside of the scope of this Contract).
- B. Contractor shall provide services to, and ensure client eligibility for the following: Department of Health and Human Services Office of Refugee Resettlement (ORR) service and benefit-eligible Refugees, Amerasians, Cuban/Haitian Entrants, Asylees, (Afghan, Ukrainian) Humanitarian Parolees, and U. S. Department of Health and Human Services Office on Trafficking in Persons (OTIP)-certified victims of severe forms of trafficking, certain Iraqis and Afghans granted special immigrant status by the United States Citizenship and Immigration Services (SIVs), and other populations, as designated by ORR.
- C. Services provided under this Contract shall be conducted in a manner that takes into account the ethnic and cultural origins of the recipient of services, and shall utilize the support of an appropriately-trained interpreter if the client does not speak sufficient English.

Section II: SERVICES

Contractor must perform the following activities under this Contract:

- A. Maintain capability to provide proper immunizations and provide those immunizations as well as other associated services as described herein, to adult, eligible clients. Immunizations which must be provided are listed here:
<http://www.cdc.gov/immigrantrefugeehealth/exams/ti/civil/vaccination-civil-technical-instructions.html#tbl>
- B. Contract must complete the required Vaccination Record section of the United States Citizen and Immigration Services (USCIS) form I-693 (see <http://www.uscis.gov/i-693>) and the Report of Medical Examination and Vaccination Record. Contractor must complete Part Three – Civil Surgeon's Certification, for Official Refugees (only) seeking to adjust their status to permanent lawful resident, as described in 2009 Technical Instructions for Vaccination for Civil Surgeons.
- C. Contractor shall perform the activities required under this Contract in the Service Area designated in Item VII, "Service Area" of this contract.

Section III: FUNDS

- A. Refugee Medical Assistance (RMA) funds provided to Contractor under this Contract are intended to support and defray actual vaccine costs for adult RMA Program-eligible clients. Funds may also be used for other contract-related activities such as program personnel costs, supplies, and necessary interpreter support.
- B. Funding to Contractor can only be used to support contracted activities. Funds used outside of this scope are considered supplanting. If supplanting is identified, USCRI reserves the right to decrease funding and avail itself of any other remedies available by law.

- C. Costs of screening, assessments and treatments should be first recovered by Contractor through Medicaid or, Refugee Medical Assistance (via Point Comfort Underwriters) whenever possible. Maximum use of other public health program resources (e.g., funds for immunizations, tuberculosis, etc.) should be used to extent that they are available for use for these patients.
- D. Contractor shall maintain thorough and complete financial records that identify the source and application of funds provided, and shall makes those records immediately available to USCRI upon request.
- E. Contractor shall perform all activities in accordance with Contractor's final, and detailed budget as approved by USCRI and with program guidelines. New and/or revised guidelines will be communicated to Contractor.
- F. USCRI reserves the right, where allowed by legal authority, to redirect funds in the event of financial shortfall.
- G. USCRI monitors Contractor's expenditures on a quarterly basis. If expenditures are below that projected in Contractor's total contract amount as approved for this Contract, Contractor's budget may be subject to a decrease for the remainder of the Contract terms. Vacant positions existing after ninety (90) days may result in a decrease in funds.
- H. Contractor agrees to read and comply with 2 CFR §200.501, Audit Requirements, and work with USCRI staff regarding the management of funds received under this Contract.

Section IV: PERFORMANCE MEASURES

USCRI will monitor the Contractor's performance of the requirements in the Statement of Work and compliance with the other provisions of this Contract.

Section V: REPORTING REQUIREMENTS

Contractor shall:

- A. Submit program and fiscal reports. Reports should be mailed or submitted by electronic mail to the addresses provided below:

Mailing Address

Attention: Director of Refugee Health Services
U.S. Committee for Refugees and Immigrants
Department of Refugee Health Services
2231 Crystal Drive
Suite 350
Arlington, VA 22202

Email Address

RMSTX@uscrimail.org

B. Program reports shall utilize the form provided by USCRI and include, but not be limited to:

1. Clinic Location
2. Date of Service
3. Full Name
4. Alien Number
5. Date of Birth
6. Arrival Date in U.S
7. Country of Origin
8. Immigration Status
9. Re-located From Which State; and
10. Vaccinations given to adults only.

C. Program reports are due by the 10th of each month, following the month of service.

D. Fiscal reports shall include, but not be limited to:

1. Annual single audit in accordance with 2 CFR §200.514 and other applicable federal, state and local guidance; and
2. Financial statement in accordance with 2 CFR §200.510 and other applicable federal, state and local guidance.
3. Other program and financial status reports according to the template and instructions provided by USCRI.

E. Failure to submit reports shall constitute a breach of contract.



Section VI: BILLING INSTRUCTIONS:

- A. Contractor shall request payments using the USCRI's invoice template form and acceptable supporting documentation and detailed expenses for reimbursement of the required services and deliverables within seven (7) business days after the end of the service month. Vouchers and supporting documentation should be mailed or submitted by electronic mail to the addresses provided below:

Mailing Address

Attention: Chief Financial Officer
U.S. Committee for Refugees and Immigrants
Department of Finance and Compliance
2231 Crystal Drive
Suite 350
Arlington, VA 22202

Email Address

rhsinvoice@uscridc.org

- B. Payment will be made to the Sub-grantee upon USCRI's approval of the invoice and subject to the terms and conditions of this Sub-grant Agreement within 30 days. Failure to submit timely invoices may result in refusal of payment or delayed payment.
- C. Contractor shall close all requests for payment within forty-five (45) calendar days after the close of the federal fiscal year in which funds were awarded. USCRI has the option, in its sole discretion, to process request for payments made after the closing period.

8. Service Area

City of Midland and surrounding areas.

9. Award Information

Award Name: Refugee Immunizations
Award Number: 2024-MIDTX-08

Award Start Date: October 1, 2023
Award End Date: September 30, 2024

10. Renewals

Number of Renewals Remaining: 0 Date Renewals Expire: September 30, 2024

11. Payment Method

Cost Reimbursement

12. Source of Funds

Catalog of Federal Domestic Assistance (CFDA) Program No. 93.566, Refugee and Entrant Assistance State Administered Programs

13. EIN Number

75-600608

14. UEI Number

CPZ1T3B85A64

15. Special Provisions

- A. Contractor must adhere to the Privacy Act of 1974, as amended by the Health Insurance Portability and Accountability Act of 1996 (HIPAA) and all other applicable rules concerning the confidentiality of medical records, including providing each patient with a Notice of Privacy Practices and responding to patients' requests for access to their Protected Health Information (PHI), amendments to their PHI, accounting of disclosures, restrictions on uses and disclosures of their health information, and confidential communications. Parties may be required to enter into and adhere by a Business Associate Agreement per HIPAA requirements, if needed.
- B. Neither Contractor, nor any subcontractor, shall transfer a client or patient record through any means, including electronically, to another entity or person, or subcontractor without written consent from the client or patient, or someone authorized to act on his or her behalf, unless required (or permitted without patient consent) by law in accordance with HIPAA and the Texas Health and Safety Codes; however, USCRI may require Contractor, or any subcontractor, to timely transfer a client or patient record to USCRI if the transfer is necessary to protect either the confidentiality of the record or the health and welfare of the client or patient, or is otherwise provided by law.
- C. USCRI shall have timely access to a client or patient record in the possession of Contractor, or any subcontractor, under authority of the Texas Health and Safety Code, Chapters 81 and 85, and the Medical Practice Act, Texas Occupations Code, Chapter 159. In such cases, USCRI shall keep confidential any information obtained from the client or patient record, as required by the Texas Health and Safety Code, Chapter 81, and Texas Occupations Code, Chapter 159.
- D. Contractor must submit all amendment and revision requests in writing to USCRI's Department of Refugee Health Services at least ninety (90) days prior to the end of the term of this Contract.

16. Governing Law and Venue

This Contract shall be interpreted under the laws of the State of Texas. The venue for any lawsuit arising out of this Contract will be the City of Midland Health if the lawsuit arises in Federal Court or City of Midland Health if the matter arises in State Court.

17. Documents Forming Contract

The Contract consists of the following:

- A. Contract (this document) 2024-MIDTX-08
- B. Attachments Budget

C. Declarations

Certification Regarding Lobbying

Fiscal Federal Funding Accountability and Transparency Act
(FFATA) Certification

Any changes made to the Contract, whether by edit or attachment, do not form part of the Contract unless expressly agreed to in writing by USCRI and Contractor and incorporated herein.

18. Payee

The Parties agree that the following payee is entitled to receive payment for services rendered by Contractor or goods received under this Contract.

Name: Midland Health and Senior Services
Employer Identification Number: 75-600608

19. Entire Agreement

The Parties acknowledge that this Contract is the entire agreement of the Parties and that there are no agreements or understandings, written or oral, between them with respect to the subject matter of this Contract, other than as set forth in this Contract.

20. Liability

Notwithstanding any other provision herein this contract shall not be interpreted to inure to the benefit of a third party not a party to this contract. This contract may not be interpreted to waive any statutory or common law defense, immunity, including governmental and sovereign immunity, or any limitation of liability, responsibility, or damage of any party to this contract, party's agent, or party's employee, otherwise provided by law.

I certify that I am authorized to sign this document and I have read and agree to all parts of the contract,

U.S. Committee for Refugees and Immigrants

Eskinder Negash

Signature of Authorized Official

08/25/2023

Date

Eskinder Negash
President and CEO
2231 Crystal Drive
Suite 350
Arlington, VA 22202

(703) 310-1130

RMSTX@uscrimail.org

Midland Health and Senior Services

Whitney S. Craig, DrPH, MPH

Signature of Authorized Official

08/29/2023

Date

Whitney Craig
Health and Senior Services Manager
PO Box 4905
Midland, Texas 79704

Organization Name:	Midland Health and Senior Services	Program ID:	Refugee Immunization
Contract Number	2024-MIDTX-08		

Budget Categories

Budget Categories	USCRI Funds Requested	Cash Match	In-Kind Match Contributions	Category Total
Personnel	\$0.00			\$0.00
Fringe Benefits	\$0.00			\$0.00
Travel	\$0.00			\$0.00
Equipment	\$0.00			\$0.00
Supplies	\$0.00			\$0.00
Contractual	\$0.00			\$0.00
Other	\$600,065.00			\$600,065.00
Total Direct Costs	\$600,065.00			\$600,065.00
Indirect Costs	\$0.00			\$0.00
Totals	\$600,065.00			\$600,065.00



City Council Meeting

Item Number: 16
Meeting Date: September 12, 2023
To: City Council / City Manager
From: Landon Ochoa, Senior Planner
Subject: MOTION APPROVING WITH STAFF'S RECOMMENDED CONDITIONS, A PROPOSED PRELIMINARY PLAT OF GRASSLAND ESTATES, SECTION 25, BEING A RESIDENTIAL REPLAT OF LOT 1, BLOCK 11, GRASSLAND ESTATES, SECTION 7, CITY AND COUNTY OF MIDLAND, TEXAS. (GENERALLY LOCATED ON THE SOUTHEAST CORNER OF THE INTERSECTION OF CROWLEY BOULEVARD AND WEST WADLEY AVENUE) (DISTRICT 4) (DEVELOPMENT SERVICES)

Purpose:

The applicant, Parkhill, is requesting to replat Lot 1, Block 11, Grassland Estates, Section 7, City and County of Midland, to remove the access prohibited note from the plat to allow driveway access on West Wadley Avenue.

Current Zoning:

AE, Agricultural Estate District.

Recommended City Council Action:

Approve

Fiscal Impact:

None.

Discussion:

On August 21, 2023, the Planning and Zoning Commission recommended approval of the preliminary plat. Per Section 11-2-3-(D)-11 of the Subdivision Ordinance, City Council approval is required for this plat which is more than 25 acres. This is a residential replat and the proper

notice was given to the adjacent property owners within 200 feet of the property.

This request has been routed to all respective departments for internal review. The comments are below.

BUILDING CODE: (Approved)

No issues. All future structures must adhere to the 2018 International Building Codes, the 2015 International Energy Code, the 2020 NEC requirements, the 2015 International Fire Codes, local city ordinances, zoning requirements, established setbacks, oil and gas considerations, and floodplain requirements if necessary. Code versions are subject to change depending on time of new code edition adoption in the City of Midland and date of permit application.

SURVEYOR: (Approved)

No comments.

ENGINEERING: (Approved with Conditions)

IMPACT FEES: Okay as shown. [For Applicant's Information Only].

ROW: Okay as shown. [For Applicant's Information Only]

PAVING: Wadley Ave okay as is. Heritage roadway okay as is. Highland roadway okay as is. Crowley roadway okay as is. No public paving improvements required. [For Applicant's Information Only.]

WATER: 12" water exists in Wadley Ave, okay as is. 12" water exists in Heritage Street, okay as is. 12" water exists in Highland Street, okay as is. 16" water exists in Crowley Street, okay as is. No public water improvements required. [For Applicant's Information Only.]

FIRE HYDRANTS: Required as needed to meet NFPA, IFC & City Fire Code; and/or comply with directives of City Fire Marshal. After January 14, 2020 - Fire hydrants shall be spaced no more than 500' apart, Pressure Indicator Rings are to be installed and will require the developers/contractors to pay for the flow test. [For Applicant's Information Only.]

PRO RATA: None. [For Applicant's Information Only.]

SEWER: 18" sewer exists North of tract, okay as is. 15" sewer exists West of tract, okay as is. 10" sewer exists in Highland Street, okay as is. No public wastewater improvements required. [For Applicant's Information Only.]

DRAINAGE: Existing site is developed; If proposing to re-develop site drainage can be reviewed with building permit. [For Applicant's Information Only.]

EASEMENTS: Show existing and proposed. [For Applicant's Information Only.]

SIDEWALKS: Required with building permit. [For Applicant's Information Only.]

DIMENSION: * * *

OTHER: * * *

TRANSPORTATION: (Approved)

No additions or changes to site access are approved with plat or zoning review. Driveways or other access points are approved only with construction drawing review. [For the Applicant's information only.]

No objections to plat. [For the Applicant's information only].

FIRE: (Approved)

No comments.

CODE COMPLIANCE: (Approved)

No Oil and Gas issues.

GIS: (Approved with Conditions)

Please depict 20' Sewer Easement and label with recording information.

PLANNING: (Approved with Conditions)

Grassland Estates, Section 19 should be labelled as the plat immediately to the right of the northeast corner of this plat instead of Grassland Estates, Section 16. [Informational].

Approval by the City Council shall be required prior to consideration of a final plat by the commission on which any preliminary plat which: Is ten hectares (25 acres) or more in area and is located in any survey section (approximately one square mile) which does not contain a publicly owned site or sites intended for both a public school and park, or public site reservation therefor; Midland City Code 11-2-3(D)11(a)6.

Add the section number in the owner description. It should say "Grassland Estates, Section 25". [Informational]

Correct the verbiage in the Owner's Certificate and Acknowledgement to reflect the City Code [Midland City Code 11-2-3(H)(3)(m)(1)].

Staff recommends approval of the Preliminary Plat of Grassland Estates, Section 25 subject to conditions A and B.

Conditions:

- A. All plat comments, conditions, and requirements must be satisfied by all pertinent City departments before filing for recording with the County Clerk of Midland County, Texas.**
- B. Approval by the City Council shall be required prior to consideration of a final plat by the Commission on which any preliminary plat is ten hectares (25 acres) or more in area and is located in any survey section (approximately one square mile) which does not contain a publicly owned site or sites intended for both a public school and park, or public site reservation therefor; Midland City Code 11-2-3(D)11(a)(6).**

Attachments:

Proposed Preliminary Plat
Application
Maps



City Manager's Office

PRELIMINARY
PLAT
GRASSLAND
ESTATES
SECTION 25, TOWNSHIP 11N, RANGE 17E, COUNTY OF DALLAS, TEXAS

COORDINATE NOTE
 Elevation distances and coordinates are relative to the Texas State Plane Coordinate System (Central Zone) 1983 NAD83 with a combined grid factor of 0.9998955 for mean project datum. The grid angle is equal to -00° 54' 48.39" at USCGS station Midland with adjusted values of N=10,690,154.70 and 1,746,696.78 in U.S. Survey Feet.

FLOOD ZONE
INFORMATION: Department of Housing
and Urban Development, Federal
Insurance Administration Flood Hazard
Boundary Map # Community Number 481239,
Map Number 481239C0048 - Page 1200 of
1200. The surveyed property is not located in a Special
Flood Hazard Area. According to the
map, the current flood zone classification for
the surveyed property is Zone X.

**SURVEYOR'S
CERTIFICATE**
I, **THESE PRESENTS** My
Professional Land Surveyor, a registered
hereby certify and prepared this plat
from an actual and accurate
survey of the land and that the corner
monuments shown thereon were
properly placed under my personal
supervision. In accordance with the
Subdivision Regulations of the City of
Midland, Texas.

Samuel Wyatt
R.P.L.S. #6453

This is to certify that the above and foregoing plat
 of GRASSLAND ESTATES, SECTION 25
 Township 14N, Range 12E, County of Hamilton, Illinois
 has been approved by proper action of the City
 Planning and Zoning Commission of the City of
 the

Chairman -
Lucy Sisnega

Manager -
Jeffery Fisher

OWNER'S
CERTIFICATE
STATE OF
COUNTY OF
MILWAUKEE, Wisconsin, is the record owner of
Block 46, Lots 1 & 2 and is located in Section 35,
Town of Midland, T14S, R9E, County of Milwaukee,
described as follows: The legal portion
MEN BY THESE PRESENTS.
We, the undersigned, do hereby adopt this plat
designating the herein above described property
as "STREETS AND ESTATES to the City and County
of Milwaukee" and do hereby dedicate
the same to the use of the streets, and easements
incident thereto, this the _____ of _____

STATE OF
TARRANT
This instrument was
acknowledged before me
on
Stephanie Howard on
behalf of Midland SD.
By
Stephanie Howard
Superintendent
Notary Public
Signature

NOI
ES:

1. Selling a portion of the subdivision by lot and parcels may be a violation of city ordinance and state law and is subject to a fine and/or arrest.
2. Removal of stumps and clearing of the land may be required before the subdivision can be developed or before a building permit or building plan set is specified.
3. Initial impact fees will be assessed against the permitting process, implementation and take place during the building permit process. Additional impact fees or impact fees may not be assessed against the tract unless the number of service units to be increases.

PUBLIC WORKS
 DEPARTMENT
 OF PUBLIC UTILITIES
 10000
 UNIFORM SERVICE (PLEASE PRINT)
 A & I Texas (PLEASE PRINT)
 Atmos Energy (PLEASE PRINT)
 Optimum (PLEASE PRINT)
 Astound Broadband (PLEASE PRINT)

OWN
ER:
Midland
LSP
615 W
Missouri
Ave.
Midland, TX 79701
E836-440-
1880
S. 11th W. wall
St. #100
Midland
Texas 79701
432-697-
1447

GRASSLAIN
ESTATES
SECTION
3
RD
25

IBP/LS FIRM
REGISTRATION NO.
10194091

SECTION 1
PAGE 5

SEAN W. KILGEE,
CANNETT G.
PACIFIC

STANLEY
DRILLING CO.,
ROW)

RIDGE
CASETTE
REPTIS
M.C.D.R.

CAMLE
EX
ROW)

000000
B-70
CB-6220
36-10-36
GRASSLAND
MD
ESTATES
SECTION 23
PARISH G.
PARISH
M.C.D.R.

111111
111111
N 15-30
16'E
88(10W)

SUNDANCE
E PLAC
(60'
ROW)

GRASSLAND
ESTATES
SECTION
17
CABINET F,
PAGE 172
M.C.D.R.

STERLING
PLACE
(60
ROW)

LOI
1A
BLOC
K 11
31.59
6 AC.

GRASSLAND
ESTATES
SECTION
CABINET F,
PAGE 198
M.C.D.R.

SUNDANCE COURT
(60' ROW)

GRASSLAND
ESTABLISHMENT
CABINET F,
PAGE 105
M.C.D.R.

STERLING
ING
COW)

$N = 10698626$
 $E = 1728938$
 $UB = 2344$

16°W

HIGHLAND
BOULEVARD
(70' ROW)

$21^{\circ}30'5''$
 $71^{\circ}32'6.63''$
 $21^{\circ}44'W$

A = 20° 57' 03"
R = 564.94
L = 206.58
C = 205.43
CB = 503°
55° 13' E

A = 90° 33' 5
R = 15.9051
B = 15° W
C = 23.71
21.32

GRASSLAND
ESTATES
CASE NO. 10
PAGE 145
M.C.D.R.

TRANSITION PLACE
(60' ROW)

GRASSLAND
ESTATES ON
14
CABINET F,
PAGE 123
M.C.D.R.

GRASSLAND
ESTATES
SECTION
CABINET F,
PAGE 105
M.C.D.R.

ASTLW
OOLK
I (60'
ROW)

PACKET

16.5

September 12, 2023

12/12/2023
FOR RECORD
MIDLAND
COUNTY,
TEXAS
FILE

September 12, 2023 SECTION 25
FOR RECORD
MIDLAND



Preliminary Plat Application

Project Number: 846-250687

Case Number: _____

Proposed Subdivision Plat Name: Grassland Estates Section 25Legal Description (attached sealed Metes and Bounds): Being a Replat of Lot 1, Block 11 in Grassland Estates, Section 7, City and County of Midland, Texas**Property Owner**Printed Name: Midland ISDPhone ()
EmailAddress 615 W Missouri AveCity MidlandState TXZip 79701**Developer (if different than Owner)**

Printed Name:

Phone ()
Email

Address

City

State

Zip

Representative (if acting as Agent, see affidavit on page 2)Firm: ParkhillPrinted Name: Josh WallenderPhone (432) 697-1447
Emailjwallender@parkhill.comAddress 1700 West Wall, Suite 100City MidlandState TexasZip 79701Current Zoning: AEReason for Platting: Platting for driveway access**Plat Information**

Total Acreage:

31.59 Ac.Type: ☒ Single-Family Residential☐ Multi-Family Residential☐ Commercial☐ Extraterritorial Jurisdiction (ETJ)Number of Lots: 1

Number of Multi-family Dwelling Units:

Submittal and Fees

Items to be submitted with this application form:

- 1 FOLDED Copy of Dimensioned Plat
- 1 Extra Copy (11x17)
- Digital Files (JPEG & PDF)
- Application Fee – Payable to the 'City of Midland'

Request for a Development AgreementDo you expect to request a development agreement with the City? ☐ Yes ☐ No

If yes, contact the City Engineer at (432) 685-7286

Provisions

A plat application will not be considered filed pursuant to Section 212.009 of the Texas Local Government Code until all required documents and fees have been submitted and **all of the terms and conditions of the Subdivision Ordinance, including all necessary studies, plans and supporting information are accepted and approved**, or the applicant has filed a waiver request for sections from which the plat deviates. Once a plat meets the requirements to be considered filed with the City, the application will be placed on the Planning and Zoning Commission agenda for consideration under the time requirements set out in Section 212.009.

Signature (by property owner only – authorized agent must sign affidavit below)

Property Owner (signature):

Date: 07/10/2023

Property Owner (printed):

CORINNE SMITH - CHIEF FACILITIES / OPERATIONS
The Preliminary Plat shall be considered officially received in the Planning office only when it has been submitted in full compliance with the provisions of Section 212 of the Texas Local Government Code and the Subdivision Code of Ordinances of the City of Midland and when such required items for the application are also received.

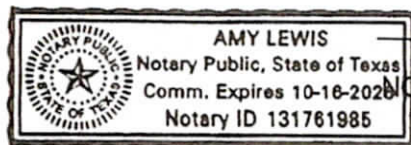
All materials, including exhibits, submitted in support of an application, or displayed during a public hearing, shall remain the property of the City of Midland.

STATE OF TEXAS COUNTY OF MIDLAND

Before me, the undersigned authority, on this day personally appeared Shelby Freeman who, being by me duly sworn, upon oath says: That (s)he is the owner of _____ or is authorized by Midland ISD the owner of the above described property, to fully represent him/her in this application and that (s)he had the legal right, power and authority to sign said owner's name hereto as his/her attorney in fact.

Shelby Freeman
Authorized Agent (signature)

Subscribed and sworn to before me, this 5th day of July, 20 23, to certify which witness my hand and seal of office.



Amy Lewis
NOTARY PUBLIC, MIDLAND COUNTY, TEXAS

FOR OFFICE USE ONLY

☐ Property Owner Authorization

☐ 1 Copy of Dimensioned Plat

☐ Plat in Digital Format (PDF/JPEG)

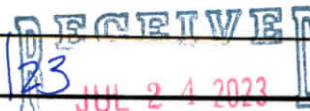
☐ Application Fee

☐ 1 Copy of Plat (11x17)

Check # 126084

Received By: [Signature]

Date: 7/24/23



****Application will not be considered for scheduling until reviewed by a planner.****

Preliminary Plat Application

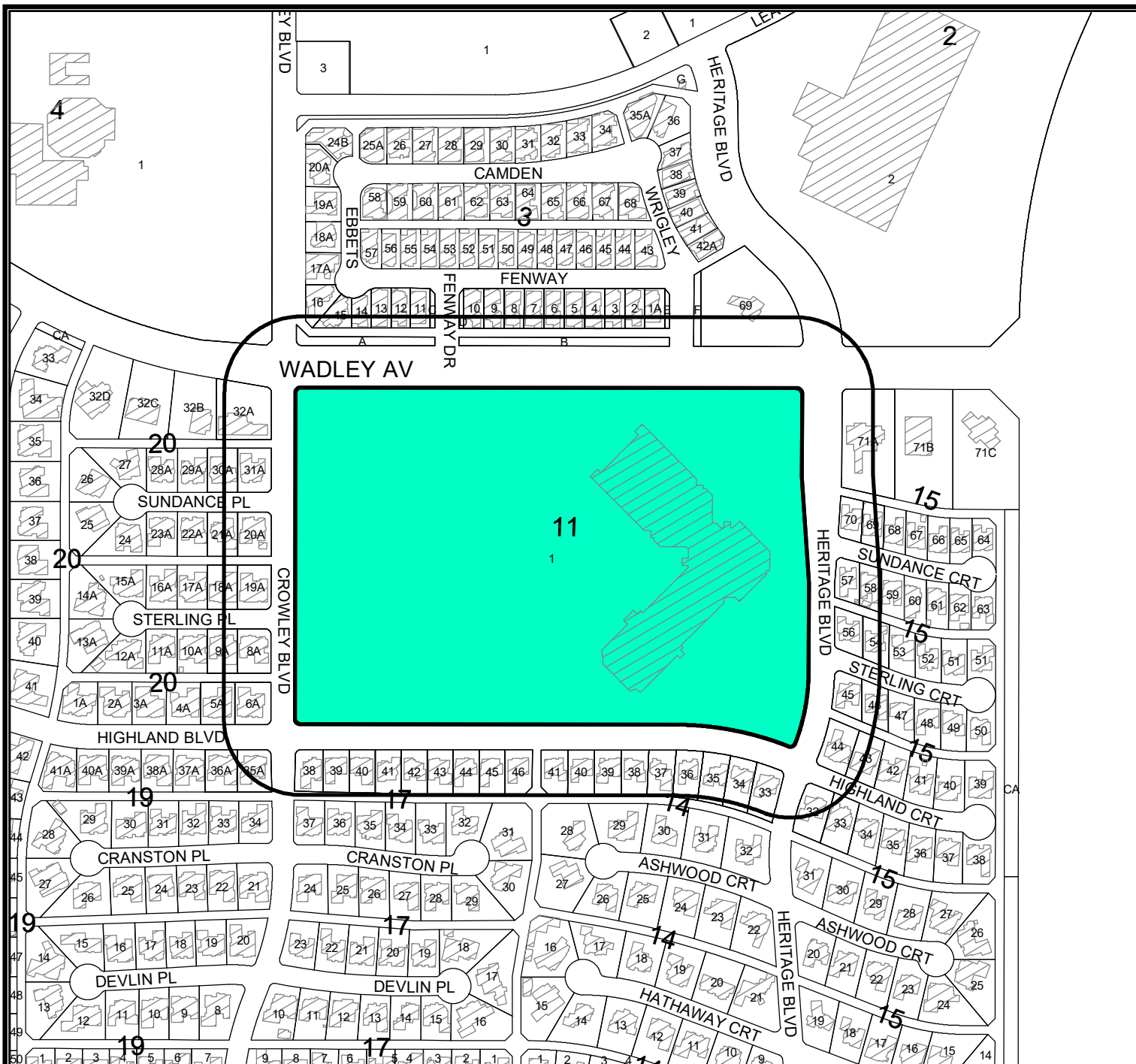
2

Revised 07/01/19

PACKET

16.7

September 12, 2023



LOCATION MAP

SUB-23-0637

Scale: 1" = 4,885'

Plat of Grassland Estates, Section 25 being a Residential Replat of Lot 1, Block 11, Grassland Estates, Section 7, City and County of Midland, Texas.

Generally located on the southeast corner of the intersection of Crowley Boulevard and Wadley Avenue. (Council District 4)

LEGEND

- CITY LIMITS
- PARCEL
- PRIVATE BLDGS



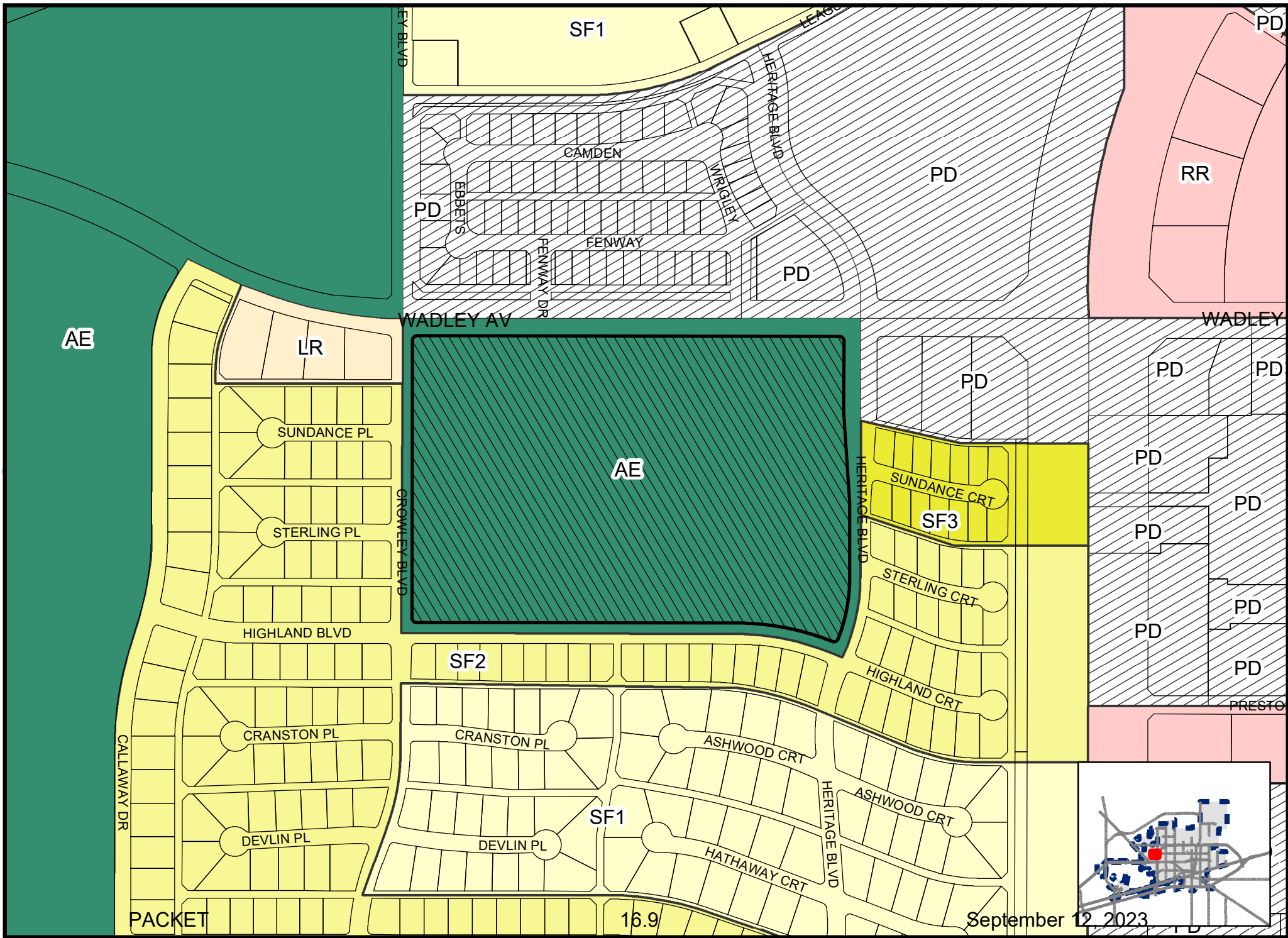
©THE CITY OF MIDLAND - 2021

THIS DATA IS NOT A SUBSTITUTION FOR A SURVEY. IT IS NOT TO BE USED IN PERMITTING OR OTHER DECISIONS BASED SOLELY ON THE INFORMATION CONTAINED HEREIN.

THE CITY OF MIDLAND SHALL NOT BE RESPONSIBLE FOR ANY DECISIONS BASED UPON THE USE OF THIS DATA.

September 12, 2023

16.8





City Council Meeting

Item Number: 17
Meeting Date: September 12, 2023
To: City Council / City Manager
From: John Simmons, Manager, Right-of-Way
Subject: Motion authorizing the execution of a Right-of-Way License (23-329-040) with Enterprise Navitas Midstream Midland Basin LLC regarding City-owned property described as Sections 13 and 24, Block 37, T-3-S, T&P RR Co. Survey, Midland County, Texas (DISTRICT: NONE) (UTILITIES)

Purpose:

This motion will provide the applicant with two surface use areas for above-ground valve connection points over existing pipelines for the placement of pipeline safety monitoring equipment. Area 1 in Section 13 will be 1,350 square feet and Area 2 in Section 24 will be 1,050 square feet. The applicant will need additional temporary workspaces for construction as shown on the plats. Both surface areas are located on existing pipelines on the City of Midland-owned Sprayberry Farm real property and are located away from any COM surface uses.

This Right-of-Way License is proposed for a single ten (10) year period, paid in advance. Terms are consistent with the City's standard license for facilities of this nature

Recommended City Council Action:

Approve

Fiscal Impact:

The following fees will be collected:

Application fee (one time): \$1,000

10-Years Paid In advance:

Surface use: Area 1 (1,350 sq. ft. x \$0.24 per sq. ft.): \$324.00 (\$500.00 minimum charge)

Area 2 (1,050 sq. ft. x \$0.24 per sq. ft.): \$252.00 (\$500.00 minimum charge)

Total Collected: \$2,000.00

Discussion:

These surface use areas will be used as above-ground pipeline valves and connection points for pipeline safety equipment. Both areas are located away from COM sewer farm facilities.

Certificates of Insurance are on file

The City Secretary is to record all documents.



City Manager's Office

RIGHT OF WAY LICENSE

THE STATE OF TEXAS §
 § KNOW ALL MEN BY THESE PRESENTS:
COUNTY OF MIDLAND §

Date: September 13, 2023

Licensor: CITY OF MIDLAND, TEXAS, a home-rule municipal corporation

Licensor's Representative: Tommy Gonzalez, City Manager

Licensor's Mailing Address: P.O. Box 1152
Midland, Texas 79702

Licensee: Enterprise Navitas Midstream Midland Basin LLC

Licensee's Representative: Cody B. Trevino

Licensee's Mailing Address: 1100 Louisiana Street, Suite 1000
Houston, Texas 77002

Property: As described in Article III below

License Number: 23-329-040

Licensee desires use of certain Property (as defined below) owned by Licensor in Midland County, Texas, for purposes set forth below. Licensee acknowledges and agrees that it must obtain a license (the "License") in order to use the public lands of Licensor.

W I T N E S S E T H:

For and in consideration of the execution of this license (this "License") and the mutual promises and covenants of the parties hereto, it is mutually promised, understood and agreed as follows:

I. Term

A. Term. This License shall be for a term of ten (10) years commencing on the date of this License (the "Commencement Date") unless terminated earlier as provided hereafter.

B. Termination. Licensor may terminate this License if Licensee fails to pay, when due, any amount owing under this License and that failure continues for sixty (60) days or, if Licensee commits any material breach or material default in performance of any obligation, prohibition, restriction, provision or covenant contained in this License, and the breach or default continues for a period of thirty (30) days after Licensor delivers notice to Licensee reasonably detailing the breach or default.

Additionally, Licensor may terminate this License at will for any or no reason upon giving at least three hundred sixty-five (365) days' written notice to Licensee. The parties to this License understand and agree that it is in Licensor's sole discretion to terminate this License during the term of this License without penalty to Licensor. Licensee has no expectation and has received no guarantees that this License will not be terminated before the end of the License term. The parties have bargained for the flexibility of terminating this License upon tender of the requisite notice at any time during the term of this License. All work and services under this License shall be suspended upon termination of this License.

Upon expiration or termination of this License, Licensee shall remove all equipment and structures associated with the undertakings contemplated by this License. After removal of all equipment and structures associated with the undertakings contemplated by this License, the surface of the Property shall be restored at the expense of Licensee to its original condition, as close thereto as may be practical, subject to the approval of Licensor upon inspection by Licensor's Representative, which approval shall not be unreasonably withheld. All of said work shall be completed within one hundred eighty (180) days after the expiration or termination of this License. All of the terms, provisions and requirements of this paragraph shall survive the expiration or termination of this License.

II. Financial Consideration

A. License Fee. A license fee in the amount of ONE THOUSAND and No/100 Dollars (\$1,000.00) ("License Fee") shall be due and payable on or prior to the Commencement Date.

In the event Licensor terminates this License pursuant to the provisions of Section I.B., Licensor agrees to refund to Licensee a pro rata share of the License Fee actually paid by Licensee to Licensor for that portion of the remaining term that is being terminated. For the avoidance of doubt, the amount of any refund payable to Licensee pursuant to this paragraph shall be determined net of any costs or expenses incurred by Licensor in connection with Licensee's unfulfilled obligations under this License (if any).

B. Application Fee. On or prior to the Commencement Date of this License, Licensee shall pay a non-refundable one-time fee of One Thousand and No/100 Dollars (\$1,000.00) to Licensor's Representative. Said fee shall revert to Licensor and Licensee shall have no claim to said fee. The fee shall be used to process the application for this License.

C. Delivery of Payment. Payment of the above fees shall be made to Licensor at the office of Licensor's Representative, Attn: Right of Way Manager, P.O. Box 1152, Midland, Texas, 79702. Payment of the above fees shall be exclusive of and in addition to all general municipal taxes of whatever nature, including but not limited to ad valorem taxes and special taxes and assessments for public improvements.

D. Late Payment. Licensee's failure to make payment of any of the above fees within thirty (30) days after such fee is due shall constitute a late payment and Licensee shall pay Licensor a late charge of five percent (5%) of such fee.

III. Use

A. Permitted Use. Licensor does hereby grant unto Licensee, the right to enter upon the Property, being six thousand two hundred fifty (6,250) square feet and five thousand seven hundred fifty (5,750) square feet as shown on Exhibits A and B attached hereto and incorporated herein for the purpose of placing, constructing, operating, repairing, maintaining, replacing and removing, thereon, along the herein described locations, a one thousand three hundred fifty (1,350) square foot surface site and a one thousand fifty (1,050) square foot surface site for above ground valve connection points for the placement of pipeline safety monitoring equipment and to have the right of ingress and egress at convenient points for such purpose and said construction space shall revert to one thousand three hundred fifty (1,350) square feet and one thousand fifty (1,050) square feet upon completion of the surface sites (the "Property"). **Licensee shall provide Licensor with a complete as-built survey within sixty (60) days of completion of the surface sites described herein. The parties agree Licensee's failure to provide Licensor with a complete as-built survey within sixty (60) days of completion of the surface sites described herein may result in the termination of this License. The decision to accept a complete as-built survey after the sixty-day deadline prescribed herein, or, conversely, to terminate this License shall be in the sole and absolute discretion of Licensor.**

B. Road Repair. Licensee covenants and agrees that it will repair, at its own expense, any of Licensor's roads that Licensee, its employees, contractors, representatives, agents or assigns damage on Licensor's property, so that such roads will comply with Licensor's standard specifications.

C. Utility Repair. Licensee covenants and agrees that Licensee shall, at its own expense, repair all water lines, sewer lines, service lines, water meters and other utility lines owned by Licensor that Licensee, its employees, contractors, representatives, agents or assigns, damage so that such water lines, sewer lines, water meters and other utility lines shall comply with Licensor's standard specifications.

D. Pipeline Depth. Intentionally omitted.

E. Approval of Bids. Before Licensee seeks bids on any phase of the repair of public streets, alleys, water lines, sewer lines or any other public utilities, Licensee shall first obtain written approval of the specifications therefor from Licensor's Representative, which approval shall be at Licensor's Representative's sole discretion.

F. Reservation of Rights. Licensor expressly reserves the right to install, repair, or reconstruct streets or roads and all ancillary public uses usual and customary in connection with streets and roads, expressly including but not limited to drainage facilities and related structures in the rights of way used and occupied by Licensee.

Licensor reserves the right to lay and permit to be laid, sewer, gas, water, and other pipelines or cables and conduits, and to do and permit to be done, any underground or overhead installation or improvement that may be deemed necessary or proper by the governing body of Licensor, in, on, across, along, over, under, and through any property occupied by Licensee. In permitting such work to be done, Licensor shall not be liable to Licensee for any damage so caused to Licensee's system or property, **NOR SHALL LICENSOR BE LIABLE TO LICENSEE FOR ANY**

DAMAGES TO LICENSEE'S SURFACE SITE(S) OR OTHER PERMITTED FACILITIES OR EQUIPMENT ARISING OUT OF THE NEGLIGENCE BY LICENSOR, ITS EMPLOYEES, OFFICERS OR AGENTS, OR LICENSOR'S CONTRACTORS OR SUBCONTRACTORS. If Licensor requires Licensee to remove, alter, change, adapt, or conform Licensee's facilities because of changes in the grade or construction of a street or in the location or manner of constructing a water pipe, sewer pipe, or other surface, underground or aboveground structure owned by Licensor, Licensee shall make the alterations or changes as soon as practicable, and in no event longer than one hundred eighty (180) days, when ordered in writing by Licensor, without claim for reimbursement for the cost of the relocation or for damages against Licensor. If these requirements impose a financial hardship upon Licensee, Licensee shall have the right to present alternative proposals for Licensor's consideration.

G. Non-exclusive. Licensor expressly reserves the full right to grant other easements or rights of way crossing or running parallel with the rights of way used by Licensee.

H. Abandonment. It is especially provided, however, that as an express condition of this License, and not as a mere covenant, in the event Licensee abandons any equipment or appurtenances associated with the undertakings contemplated by this License, or the Property ceases to be used for the purposes enumerated herein for any period of twelve (12) consecutive months, or longer, other than the time elapsing between the date hereof and construction, and upon giving Licensee one hundred and twenty (120) days' written notice, then and in that event, this License shall automatically terminate and revert to Licensor, its successors or assigns, free and clear of any right, title, or interest of Licensee.

I. Approval of Specifications. In the event Licensee desires to reconstruct, repair, alter, replace or remove any surface site or other permitted facilities or equipment built hereunder, Licensee shall submit the plans and specifications that pertain to the rebuilding or repairs of Licensor's streets and roads and the rebuilding or repairs of any of Licensor's public utilities to Licensor's Representative for his or her prior written approval, which approval shall be at Licensor's Representative's sole discretion. In the event of emergency repairs necessary to restore service, Licensee shall notify Licensor's Representative before making any repairs if during a Licensor workday. If not on a workday, Licensee shall notify Licensor's Representative on the first workday after repairs have begun.

J. Gates and Fences. Without altering or expanding the limitations on ingress, egress and access to the Property set forth in Paragraph A. of Article III above, Licensee agrees to use existing gates and roadways where available, to enter, leave and cross the Property; provided that Licensee shall not use any road marked "Closed". Licensee and all persons entering or leaving the Property in connection with Licensee's operations hereunder shall keep all outside and interior gates securely closed except during operations related to this License. Licensee shall keep all outside gates, and all other gates designated by Licensor, securely locked except during operations related to this License. At any gate that is to be locked, Licensor may install its own lock in addition to Licensee's lock.

Licensee agrees that Licensee shall not cut or go over any fence at any time or in connection with any operations on the Property without first obtaining Licensor's express prior consent thereto in writing. All gates or openings in fences shall be at mutually agreeable location(s) between Licensee and Licensor and shall be constructed as reasonably required by Licensor. Upon the termination

of this License, at Licensor's election, gates in fences shall be left in place and shall thereafter be owned by Licensor or Licensee shall remove such gates and restore the fence to its original condition as nearly as reasonably practicable. The terms, provisions and requirements of this provision shall survive the termination or expiration of this License.

K. Trash. Licensee shall keep the Property free of trash and debris at all times. Under no circumstances, will Licensee be allowed to bury any trash, debris or foreign material of any kind on or under the Property. Licensor shall have the right to expel and permanently ban from the Property any person observed disposing of trash on the Property. Upon the completion of any operations, all ribbons, flags, stakes and similar items shall be promptly removed from the Property.

L. Hunting, Fishing and Alcohol Prohibited. No agent, employee, representative, contractor or subcontractor of Licensee or any other person allowed to enter the Property by Licensee shall be permitted to hunt, fish, trap, camp, picnic, ride motorcycles or four-wheelers or otherwise conduct any social gathering on the Property, nor shall any such persons be permitted to bring firearms, archery equipment, dogs, alcoholic beverages or illegal drugs on the Property at any time. Violations of this provision shall cause the violator to be regarded as a trespasser and subject to prosecution under trespass laws of the State of Texas. Licensor shall have the right to expel and permanently ban from the Property any person observed on the Property in violation of this provision.

M. Storage of Machinery and Equipment. Licensee shall use no part of the Property to store machinery, equipment, or other property of Licensee while it is not being used.

N. Additional Reservations. Licensor reserves the right to use the surface, subsurface or airspace on, below or above the land covered by this License for any purpose allowed by law and deemed necessary or proper by Licensor and to do and permit to be done, any work in connection therewith which may be deemed necessary or proper by Licensor in, on, across, along, over, under, and through any portion of the Property. In the event of such work in connection with said purposes it shall be deemed necessary or proper by Licensor, at Licensor's sole discretion, to alter, change, or relocate any surface site, property, or equipment of Licensee, such alteration or change or relocation shall be commenced and completed by Licensee within one hundred eighty (180) days after being ordered in writing by Licensor pursuant to directions from Licensor without any claim for reimbursement for the cost of the alteration, change or relocation or damages against Licensor. The relocation, change, or alteration shall be at the sole cost of Licensee. Provided, however, that Licensee shall at all times be entitled to receive from appropriate governmental bodies, excluding Licensor, payment for alteration, change or relocation of its system to which it may be lawfully entitled to under applicable federal or state laws with respect to relocation payments. Without limiting the foregoing, Licensor expressly reserves the full right to grant other licenses, easements and/or rights-of-way in, on, across, along, over, under or through all or any portion of the Property. Licensor expressly reserves the right to use and grant to third parties the right to use all or any portion of the Property and the surface, subsurface or airspace on, below or above the Property for any purpose.

IV. Standard General Conditions

A. Insurance. Licensee shall at all times during the term of this License maintain and keep in full

force and effect insurance in the following types and minimum amounts with companies authorized to do business in the State of Texas:

Commercial General Liability (including Contractual liability):

- Personal Injury: \$1,000,000.00 per person
\$1,000,000.00 per occurrence
- Property Damage: \$100,000.00 per occurrence

Business Automobile Liability: \$1,000,000.00 combined single limit--
Personal Injury and Property Damage

Workers' Compensation: Statutory limits

Employers' Liability: \$1,000,000.00 per accident or occurrence

Umbrella Liability: \$10,000,000.00 each occurrence
\$10,000,000.00 aggregate

The Commercial General Liability shall be on an occurrence basis. This insurance shall name Licensors as an additional insured and all insurance shall waive subrogation in favor of Licensors.

The Workers' Compensation coverage provided by Licensee shall inure to the benefit of employees injured during the course and scope of their employment by Licensee pursuant to this License. The Workers' Compensation insurance shall waive all rights of subrogation against Licensors.

The Business Automobile Liability insurance provided by Licensee shall cover any auto for bodily injury and property damage, including owned vehicles, hired and non-owner vehicles, and employee non-ownership, and the amount of such policy shall be a minimum of \$1,000,000.00 covering any vehicle used for the execution of the work that is the subject of this License. This insurance shall name Licensors as an additional insured and all insurance shall waive subrogation in favor of Licensors.

All insurance required pursuant to this License, except for Worker's Compensation Insurance, shall name Licensors as an additional insured. All insurance required pursuant to this License, including Worker's Compensation Insurance, shall provide for a waiver of subrogation as to Licensors. The parties agree that, prior to the execution of this License, Licensee shall provide one or more certificates of insurance showing that the requirements of this article have been met. Licensors shall determine, in its sole discretion, whether such requirements have been satisfied.

Licensors shall be provided written notice by Licensee's insurance provider not later than thirty (30) days prior to any reduction or termination of such coverage. Licensors shall not be required to provide any insurance whatsoever pursuant to this License.

Licensee shall contractually require all contractors, subcontractors, and sub-subcontractors that work on any portion of the work that is the subject of this License to obtain insurance coverage that meets or exceeds the policy requirements and minimum amounts as required herein and name the City of Midland as an additional insured (except as to Worker's Compensation Insurance).

Licensee certifies that the one or more certificates of insurance provided as required herein complies with the requirements of Chapter 1811 of the Texas Insurance Code. Licensee shall not use an unapproved certificate of insurance or insert inappropriate language on a certificate. Compliance with state law is the sole responsibility of Licensee.

B. Indemnity. TO THE FULLEST EXTENT PERMITTED BY APPLICABLE LAW, LICENSEE, ITS SUCCESSORS AND ASSIGNS, AGREE TO INDEMNIFY, PROTECT, DEFEND AND HOLD HARMLESS LICENSOR AND LICENSOR'S REPRESENTATIVES, AGENTS, ATTORNEYS, EMPLOYEES, SUCCESSORS AND ASSIGNS (COLLECTIVELY, "INDEMNITEES") FOR, FROM AND AGAINST ANY AND ALL CLAIMS, LOSSES, DAMAGES, LIABILITIES, LIENS, FINES, PENALTIES, CAUSES OF ACTION, SUITS, CHARGES, JUDGMENTS, ADMINISTRATIVE ORDERS, REMEDIATION REQUIREMENTS, ENFORCEMENT ACTIONS OF ANY KIND, PERSONAL INJURIES, PROPERTY DAMAGE, AND ALL COSTS AND EXPENSES INCURRED IN CONNECTION THEREWITH (INCLUDING, BUT NOT LIMITED TO, ATTORNEYS' FEES AND EXPENSES, INCLUDING, WITHOUT LIMITATION, ALL ATTORNEYS' FEES AND EXPENSES INCURRED IN ENFORCING THIS INDEMNITY) OF ANY NATURE, KIND OR DESCRIPTION OF ANY PERSON OR ENTITY, DIRECTLY OR INDIRECTLY ARISING OUT OF, CAUSED BY OR RESULTING FROM (IN WHOLE OR IN PART) THIS LICENSE, LICENSEE'S USE OF OR ACTIVITIES ON THE PROPERTY OR ANY OTHER PROPERTY OWNED BY LICENSOR, OR ANY ACT OR OMISSION OF LICENSEE, ANY CONTRACTOR, SUBCONTRACTOR, ANYONE DIRECTLY OR INDIRECTLY EMPLOYED BY THEM, OR ANYONE THAT THEY CONTROL OR EXERCISE CONTROL OVER (COLLECTIVELY, "LIABILITIES"), EVEN IF SUCH LIABILITIES ARISE FROM OR ARE ATTRIBUTED, IN WHOLE OR IN PART, TO THE NEGLIGENCE OF ANY INDEMNITEE. LICENSEE SHALL PROMPTLY ADVISE LICENSOR OF ANY ACTION, ADMINISTRATIVE OR LEGAL PROCEEDING OR INVESTIGATION TO WHICH THIS INDEMNIFICATION MAY APPLY, AND OF WHICH LICENSEE HAS RECEIVED NOTICE, AND LICENSEE, AT LICENSEE'S EXPENSE, SHALL ASSUME ON BEHALF OF LICENSOR (AND THE OTHER INDEMNITEES) AND CONDUCT WITH DUE DILIGENCE AND IN GOOD FAITH THE DEFENSE THEREOF WITH COUNSEL REASONABLY SATISFACTORY TO LICENSOR; PROVIDED, HOWEVER, THAT ANY INDEMNITEE SHALL HAVE THE RIGHT, AT ITS OPTION, TO BE REPRESENTED THEREIN BY COUNSEL OF ITS OWN SELECTION AND AT ITS OWN EXPENSE. IN THE EVENT OF FAILURE BY LICENSEE TO ASSUME THE DEFENSE OF LICENSOR IN ACCORDANCE WITH THIS INDEMNIFICATION, LICENSOR, AT ITS OPTION, AND WITHOUT RELIEVING LICENSEE OF ITS OBLIGATION HEREUNDER, MAY ASSUME SUCH DEFENSE, AFTER WRITTEN NOTICE THEREOF TO LICENSEE AND LICENSEE'S FAILURE TO RESPOND THERETO WITHIN TEN (10) BUSINESS DAYS AFTER RECEIPT OF SUCH NOTICE (SAID TEN (10) DAY PERIOD SHALL NOT APPLY IN ANY CASE WHERE IMMEDIATE ANSWERS, RESPONSES, OR OTHER AFFIRMATIVE ACTION IS REQUIRED TO PRESERVE THE RIGHTS OF LICENSOR) BUT ALL REASONABLE COSTS AND EXPENSES SO INCURRED BY LICENSOR IN THAT EVENT SHALL BE REIMBURSED BY LICENSEE TO LICENSOR, TOGETHER WITH INTEREST ON THE SAME FROM THE DATE ANY SUCH EXPENSE WAS PAID BY LICENSOR UNTIL REIMBURSED BY LICENSEE, AT THE RATE OF INTEREST

PROVIDED TO BE PAID ON JUDGMENTS, BY THE LAWS OF THE STATE OF TEXAS.

WITHOUT LIMITING THE FOREGOING, LICENSEE AGREES THAT LICENSEE SHALL INDEMNIFY, PROTECT, DEFEND AND SAVE LICENSOR HARMLESS FROM ANY AND ALL CLAIMS, LIENS, JUDGMENTS, SUITS, CAUSES OF ACTION, AND DEMANDS OF ANY SUBCONTRACTORS, LABORERS, WORKMEN, MECHANICS, MATERIALMEN, OR FURNISHERS OF MACHINERY AND PARTS THEREOF, EQUIPMENT, POWER TOOLS, OR SUPPLIES, IN CONNECTION WITH THE CONSTRUCTION, OPERATION, REPAIR, MAINTENANCE, REPLACEMENT OR REMOVAL OF THE SURFACE SITE(S) OR OTHER PERMITTED FACILITIES OR EQUIPMENT DESCRIBED HEREIN.

WITHOUT LIMITING ANY OF THE FOREGOING, LICENSEE SHALL INDEMNIFY, PROTECT AND HOLD HARMLESS AND DEFEND EACH INDEMNITEE FROM ALL LIABILITIES, SUITS, ACTIONS, CLAIMS, DAMAGES, CAUSES OF ACTION, CHARGES, JUDGMENTS, PERSONAL INJURIES, ACCIDENTAL DEATH, PROPERTY DAMAGE, LOSSES AND EXPENSES OF ANY CHARACTER WHATSOEVER, INCLUDING, WITHOUT LIMITATION, ATTORNEY'S FEES, BROUGHT FOR OR ON ACCOUNT OF ANY INJURIES OR DAMAGES RECEIVED OR SUSTAINED BY ANY PERSON OR PERSONS OR PROPERTY ON ACCOUNT OF ANY NEGLIGENT ACT OF ANY INDEMNITEE, WHETHER SUCH NEGLIGENT ACT WAS THE SOLE PROXIMATE CAUSE OF THE INJURY OR DAMAGE OR A PROXIMATE CAUSE JOINTLY AND CONCURRENTLY WITH LICENSEE OR LICENSEE'S EMPLOYEES', REPRESENTATIVES', AGENTS', CONTRACTORS' OR SUBCONTRACTORS' NEGLIGENCE, IN THE EXECUTION, SUPERVISION AND OPERATIONS GROWING OUT OF OR IN ANY WAY CONNECTED WITH THE PERFORMANCE OF THIS LICENSE, INCLUDING, WITHOUT LIMITATION, SUCH NEGLIGENT ACTS ARISING FROM OR IN ANY WAY CONNECTED WITH THE PLACEMENT, CONSTRUCTION, OPERATION, REPAIR, MAINTENANCE, REPLACEMENT OR REMOVAL OF ANY PART OF LICENSEE'S SURFACE SITE(S) OR PERMITTED FACILITIES OR EQUIPMENT ON LICENSOR'S PROPERTY. LICENSEE WILL BE REQUIRED TO PAY ANY JUDGMENT WITH COSTS WHICH MAY BE OBTAINED AGAINST LICENSOR OR ANY INDEMNITEE, INCLUDING RELATED ATTORNEY'S FEES.

WITHOUT LIMITING ANY OF THE FOREGOING, LICENSEE, ITS SUCCESSORS AND ASSIGNS, SHALL INDEMNIFY, PROTECT, DEFEND AND HOLD INDEMNITEES HARMLESS FROM AND AGAINST ALL CLAIMS, LOSSES, DAMAGES, LIABILITIES, LIENS, FINES, PENALTIES, CAUSES OF ACTION, SUITS, CHARGES, JUDGMENTS, ADMINISTRATIVE ORDERS, REMEDIATION REQUIREMENTS, ENFORCEMENT ACTIONS OF ANY KIND, PERSONAL INJURIES, PROPERTY DAMAGE, AND ALL COSTS AND EXPENSES INCURRED IN CONNECTION THEREWITH (INCLUDING, BUT NOT LIMITED TO, ATTORNEYS' FEES AND EXPENSES, INCLUDING, WITHOUT LIMITATION, ALL ATTORNEYS' FEES AND EXPENSES INCURRED IN ENFORCING THIS INDEMNITY) OF ANY NATURE, KIND OR DESCRIPTION OF ANY PERSON OR ENTITY, DIRECTLY OR INDIRECTLY ARISING OUT OF, CAUSED BY OR RESULTING FROM (IN WHOLE

OR IN PART) (i) FAILURE OF LICENSEE, ANY CONTRACTOR, SUBCONTRACTOR, ANYONE DIRECTLY OR INDIRECTLY EMPLOYED BY THEM, OR ANYONE THAT THEY CONTROL OR EXERCISE CONTROL OVER (COLLECTIVELY, THE "INDEMNIFYING PARTIES"), TO COMPLY WITH ALL APPLICABLE LOCAL, FEDERAL AND/OR STATE ENVIRONMENTAL LAWS, INCLUDING BUT NOT LIMITED TO THE RESOURCE CONSERVATION AND RECOVERY ACT (RCRA) AND THE COMPREHENSIVE ENVIRONMENTAL RESPONSE, COMPENSATION, AND LIABILITY ACT (CERCLA) (AS THEY MAY BE REAUTHORIZED AND/OR AMENDED) AND ALL OTHER LOCAL, FEDERAL AND STATE LAWS, IN CONNECTION WITH OR RELATED TO ANY INDEMNIFYING PARTY'S OPERATIONS OR ACTIVITIES ON THE PROPERTY, OR (ii) ANY INDEMNIFYING PARTY'S HANDLING, STORING, RELEASING OR TRANSPORTING OR DISPOSING OF ALL SUBSTANCES, INCLUDING BUT NOT LIMITED TO HAZARDOUS SUBSTANCES AND HAZARDOUS WASTES, ON OR FROM THE PROPERTY OR ANY OTHER LANDS OF LICENSOR.

IT IS THE INTENTION OF THE PARTIES HERETO THAT THE PROVISIONS OF THIS INDEMNIFICATION SHALL APPLY TO AND PROTECT EACH INDEMNITEE FROM THE CONSEQUENCES OF STRICT LIABILITY IMPOSED OR THREATENED TO BE IMPOSED ON SUCH INDEMNITEE, AS WELL AS FROM THE CONSEQUENCES OF THE NEGLIGENCE OF ANY INDEMNITEE, WHETHER OR NOT THAT NEGLIGENCE IS A CONTRIBUTING OR CONCURRING CAUSE OF ANY LIABILITY INDEMNIFIED AGAINST IN THIS ARTICLE IV.B.

THE TERMS, PROVISIONS, REQUIREMENTS AND OBLIGATIONS OF THIS ARTICLE IV.B. SHALL SURVIVE TERMINATION OR EXPIRATION OF THIS LICENSE, AND SHALL NOT BE LIMITED BY OR TO DAMAGES, COMPENSATION OR BENEFITS PAYABLE UNDER INSURANCE POLICIES, WORKER'S COMPENSATION ACTS, DISABILITY BENEFIT ACTS OR OTHER EMPLOYEES' BENEFIT ACTS.

C. Assignment. The provisions of this License shall inure to the benefit of and be binding upon Licensor and Licensee and their respective successors and permitted assigns. The rights and privileges granted by Licensor under this License inure to the benefit of Licensee. No rights, privileges or obligations hereunder shall be assignable by Licensee without the express prior written consent of Licensor. Any required consent is to be evidenced by a letter written by Licensor's City Manager that fully recites the terms and conditions, if any, upon which consent is given. The granting of consent is in the sole discretion of Licensor's City Manager

D. Independent Contractor. It is expressly understood and agreed that Licensee shall perform all work described herein as an independent contractor and not as an officer, agent, servant or employee of Licensor; that Licensee shall have exclusive control of and the exclusive right to control the details of the work performed hereunder, and all persons performing the same; and shall be solely responsible for the acts and omissions of its officers, agents, employees, contractors and subcontractors; that the doctrine of respondeat superior shall not apply as between Licensor and Licensee, its officers, agents, employees, contractors and subcontractors; and that nothing herein shall be construed as creating a partnership or joint enterprise between Licensor and Licensee. No person performing any of the work described hereunder shall be considered an

officer, agent, servant or employee of Licensor. Further, it is specifically understood and agreed that nothing in this License is intended or shall be construed as creating a "Community of Pecuniary Interest" or "An Equal Right of Control" which would give rise to vicarious liability. Licensee shall be an independent contractor under this License and shall assume all of the rights, obligations and liabilities applicable to it as such independent contractor hereunder. Licensor does not have the power to direct the order in which the work is done. Licensor shall not have the right to control the means, methods or details of Licensee's work. Licensee shall assume exclusive responsibility for the work. Licensee is entirely free to do the work in its own way. The provisions of this subparagraph (D.) shall not be deemed or construed as contradicting, limiting or conflicting with the provisions of subparagraph (M.) below.

E. Attorney Fees. SHOULD LICENSOR BE REQUIRED TO RESORT TO EMPLOYMENT OF ATTORNEYS TO ENFORCE THIS LICENSE, OR ANY OF ITS RIGHTS UNDER THIS LICENSE, LICENSOR SHALL BE ENTITLED TO REIMBURSEMENT FROM LICENSEE FOR LICENSOR'S ATTORNEYS' FEES. LICENSEE SHALL REIMBURSE LICENSOR FOR LICENSOR'S ATTORNEYS' FEES INCURRED IN CONNECTION WITH THE PREPARATION AND NEGOTIATION OF THIS LICENSE. BY EXECUTING THIS LICENSE, LICENSEE AGREES TO WAIVE, AND DOES HEREBY KNOWINGLY, CONCLUSIVELY, VOLUNTARILY AND INTENTIONALLY WAIVE, ANY CLAIM IT HAS OR MAY HAVE IN THE FUTURE AGAINST LICENSOR REGARDING THE AWARD OF ATTORNEY'S FEES, WHICH ARE IN ANY WAY RELATED TO THIS LICENSE, OR THE CONSTRUCTION, INTERPRETATION, VALIDITY OR BREACH OF THIS LICENSE. WITHOUT LIMITING THE FOREGOING, LICENSEE SPECIFICALLY AGREES THAT IF LICENSEE BRINGS OR COMMENCES ANY LEGAL ACTION OR PROCEEDING RELATED TO THIS LICENSE, OR TO THE CONSTRUCTION, INTERPRETATION, VALIDITY OR BREACH OF THIS LICENSE, INCLUDING BUT NOT LIMITED TO ANY ACTION PURSUANT TO THE PROVISIONS OF THE TEXAS UNIFORM DECLARATORY JUDGMENTS ACT (TEXAS CIVIL PRACTICE AND REMEDIES CODE SECTION 37.001, ET SEQ., AS AMENDED), OR CHAPTER 271 OF THE TEXAS LOCAL GOVERNMENT CODE, LICENSEE AGREES TO ABANDON, WAIVE AND RELINQUISH ANY AND ALL RIGHTS TO THE RECOVERY OF ATTORNEY'S FEES TO WHICH LICENSEE MIGHT OTHERWISE BE ENTITLED.

LICENSEE AGREES THAT THIS IS THE VOLUNTARY AND INTENTIONAL RELINQUISHMENT AND ABANDONMENT OF A PRESENTLY EXISTING, KNOWN RIGHT. LICENSEE ACKNOWLEDGES THAT IT UNDERSTANDS ALL TERMS AND CONDITIONS OF THIS LICENSE. LICENSEE FURTHER ACKNOWLEDGES AND AGREES THAT THERE WAS AND IS NO DISPARITY OF BARGAINING POWER BETWEEN LICENSOR AND LICENSEE. THIS SECTION SHALL NOT BE CONSTRUED OR INTERPRETED AS A WAIVER OF GOVERNMENTAL IMMUNITY.

LICENSEE AND LICENSOR ARE RELYING ON THEIR OWN JUDGMENT. EACH PARTY HAD THE OPPORTUNITY TO DISCUSS THIS LICENSE WITH LEGAL COUNSEL PRIOR TO ITS EXECUTION.

F. Governing Law & Venue. All performance and payments made pursuant to this License shall be deemed to have occurred in Midland County, Texas. Exclusive venue for any claims, suits or

any other action arising from or connected in any way to this License, or the performance of this License shall be in Midland County, Texas. The obligations and undertakings of each of the parties to this License shall be deemed to have been performed in Midland County, Texas. This License shall be construed, interpreted and enforced under the laws of the State of Texas. The laws of the State of Texas shall govern, construe and enforce all the rights and duties of the parties, including but not limited to tort claims and any and all other claims or disputes, arising from or relating in any way to the subject matter of this License, without regard to conflict of laws and rules that would direct application of the laws of another jurisdiction.

G. Release. NOTWITHSTANDING ANY OTHER PROVISIONS OF THIS LICENSE, LICENSEE HEREBY RELEASES, ACQUITS, RELINQUISHES AND FOREVER DISCHARGES LICENSOR, AND LICENSOR'S EMPLOYEES AND OFFICERS FROM ANY AND ALL DEMANDS, CLAIMS, DAMAGES OR CAUSES OF ACTION OF ANY KIND WHATSOEVER WHICH LICENSEE HAS OR MIGHT HAVE IN THE FUTURE, INCLUDING BUT NOT LIMITED TO BREACH OF CONTRACT, QUANTUM MERUIT, CLAIMS UNDER THE DUE PROCESS AND TAKINGS CLAUSES OF THE TEXAS AND UNITED STATES CONSTITUTIONS, TORT CLAIMS, OR LICENSOR'S NEGLIGENCE.

H. Governmental Immunity. By executing this License, Licensor is not waiving its right of governmental immunity. Licensor is retaining its immunity from suit. Licensor is not granting consent to be sued by legislative resolution or action. **THERE IS NO WAIVER OF GOVERNMENTAL IMMUNITY.**

I. Third Party Beneficiary. Except as provided in Article IV.B. above with respect to Indemnitees, (i) Licensor's granting of this License does not create any third-party beneficiary, (ii) there is no third-party beneficiary to this License, and (iii) no person or entity who is not a party to this License shall have any third party beneficiary or other rights hereunder.

J. Notices. Any notice or communication required in the administration of this License shall be sent by certified mail, return receipt requested, to the parties' respective mailing addresses as set forth hereinabove.

K. Notice of Alleged Breach; Statutory Prerequisite. Without limiting the provisions of Article IV.G. above, as a condition precedent to filing suit for alleged damages incurred by an alleged breach of an express or implied provision of this License, Licensee or its legal representative, shall give the City Manager, or any other reasonable official of Licensor, notice in writing (consisting of one (1) original and seven (7) copies of notice attached to a copy of this License) of such damages, duly verified, within one hundred eighty (180) days after the same has been sustained. The discovery rule does not apply to the giving of this notice. The notice shall include when, where and how the damages occurred, the apparent extent thereof, the amount of damages sustained, the amount for which Licensee will settle, the physical and mailing addresses of Licensee at the time and date the claim was presented and the physical and mailing addresses of Licensee for the six (6) months immediately preceding the occurrence of such damages, and the names and addresses of the witnesses upon whom Licensee relies to establish its claim; and a failure to so notify the City Manager or other such official of Licensor within the time and manner provided herein shall exonerate, excuse and except Licensor from any liability whatsoever. Licensor is under no obligation to provide notice to Licensee that Licensee's notice is insufficient. Licensor reserves

the right to request reasonable additional information regarding the claim. Said additional information shall be supplied within thirty (30) days after receipt of notice.

The statutory prerequisites outlined herein constitute jurisdictional requirements pursuant to Section 271.154 of the Texas Local Government Code and Section 311.034 of the Texas Government Code. Notwithstanding any other provision, Licensee's failure to comply with the requirements herein shall perpetually bar Licensee's claim for damages under Chapter 271 of the Texas Local Government Code, and Section 311.034 of the Texas Government Code, regardless if Licenser has actual or constructive notice or knowledge of said claim or alleged damages. Licensee agrees that the requirements of this entire License are reasonable.

L. Consideration. The terms of this License are supported by good and valuable consideration, the receipt and sufficiency of which is hereby acknowledged by the parties named herein.

M. Waiver of Governmental Immunity; Chapter 271, TEX. LOC. GOV'T CODE. The parties hereto agree that this License does not constitute a "Contract" for providing goods and/or services to Licenser as discussed in Subchapter I of Chapter 271 of the Texas Local Government Code, and Licenser does not waive, to the maximum extent allowed by law, any constitutional, statutory or common law right to sovereign immunity or governmental immunity from liability or suit. Licenser expressly does not consent to be sued or be liable. To the maximum extent allowed by law, nothing in this License constitutes a waiver of Licenser's governmental immunity and the parties hereto expressly agree that this License shall not constitute, nor be interpreted as a waiver of Licenser's governmental immunity under Subchapter I of Chapter 271 of the Texas Local Government Code, nor shall it constitute nor be interpreted as a waiver of Licenser's governmental immunity for the benefit of any third-party lacking privity to this License.

This License does not obligate Licensee to use the Property to construct, repair, operate, replace, or maintain Licenser's facilities or structures described herein, rather, it merely prohibits Licensee from using the Property for any other purpose. This License restricts the use of the Property to a specific purpose but does not require the use of the Property for a specific purpose. Licensee is not providing a service to Licenser. Licensee is paying Licenser for temporary rights in real property, not for a service. Any such provision shall be deemed to be a covenant against noncomplying use, not a covenant to use. Licensee's use of the Property in compliance with a restriction shall not constitute a service, and such complying use shall not operate to waive Licenser's governmental immunity.

N. Compliance. Licensee agrees that it shall comply with Texas Government Code Section 2252.908, as amended, to the extent that this statute applies to this License. Licensee agrees that it shall comply with Texas Local Government Code Section 176.006, as amended, to the extent that this statute applies to this License.

O. Texas Historical Commission Survey. Licensee agrees that it shall comply with Chapter 191 of the Texas Natural Resources Code. By executing this License, Licensee represents that it has contacted the Texas Historical Commission (the "Commission") for the purpose of determining whether the Commission will request that an archaeological survey be completed before Licensee commences operations on the Property, as contemplated herein. Licensee agrees that it shall complete or cause to be completed an archaeological survey before commencing any operations on the Property if the Commission so requests and deliver the same to Licenser. Notwithstanding

any provision contained herein, in the event that any site, object, artifact, or other feature of archaeological, scientific, educational, cultural, or historical interest is encountered during the operations authorized by this License, Licensee will immediately notify Licensor and the Commission so that adequate measures may be undertaken to protect or recover such discoveries or findings, as deemed appropriate by Licensor or the Commission.

P. Waiver. No waiver of any of the provisions of this License shall be deemed or constitute a waiver of any other provisions of this License, nor shall such waiver constitute a continuing waiver unless otherwise expressly provided. Likewise, the failure of Licensor to enforce any provision of this License shall not be deemed nor shall constitute a waiver of the right of Licensor to enforce such provision.

Q. Counterpart Execution. This License may be executed in several counterparts, and any such agreement shall be deemed an original for all intents and purposes.

R. No Release of Liability. Notwithstanding anything to the contrary contained in this License, the termination or expiration of this License shall not relieve Licensee of any liability, duty or obligation under this License, nor shall it preclude Licensor from asserting any right to specific performance, damages or any other rights or remedies to which Licensor may be entitled. Upon termination or expiration of this License for any reason, Licensee shall execute and deliver a recordable release of this License to Licensor in form and substance satisfactory to Licensor.

S. Entire Agreement. This License constitutes the entire agreement between Licensor and Licensee concerning the subject matter hereof, superseding all negotiations, prior discussions, prior licenses and prior agreements and understandings related to the subject matter hereof. This License may only be amended by written instrument executed by Licensor and Licensee.

[Signature Pages Follow]

LICENSOR:
CITY OF MIDLAND, TEXAS

By: _____
Tommy Gonzalez, City Manager

ATTEST:

Marcia Bentley-German, City Secretary

APPROVED AS TO CONTENT AND
COMPLETENESS:

Carl Craigo, Director of Utilities

APPROVED ONLY AS TO FORM:

John Ohnemiller, City Attorney

LICENSEE:
ENTERPRISE NAVITAS MIDSTREAM
MIDLAND BASIN LLC

By: [Signature]
Printed Name: Cody B. Trevino
Title: Agent and Attorney-in-Fact

THE STATE OF Texas
COUNTY OF HARRIS

§
§
§

BEFORE ME, the undersigned authority, on this 21st day of August, 2023 personally appeared Thomas Goolsby an officer of Enterprise Navitas Midstream Midland Basin LLC known to me to be the person and official whose name is subscribed to the foregoing instrument and acknowledged to me that he executed the same as the act and deed of said entity, for the purposes and consideration therein expressed, and in the capacity therein stated.

GIVEN UNDER MY HAND AND SEAL OF OFFICE this the 21 day of August, 2023.

[Signature]
Notary Public, State of Texas

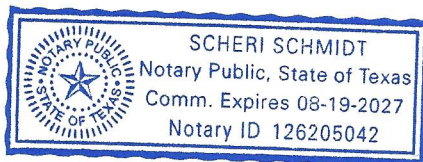


EXHIBIT "A"

METES AND BOUNDS DESCRIPTION

BEING A PROPOSED SURFACE SITE SITUATED IN SECTION 24, BLOCK 37, TOWNSHIP 3 SOUTH, T. & P. RR. CO. SURVEY, ABSTRACT NO. 954, MIDLAND COUNTY, TEXAS. SAID SURFACE SITE BEING MORE PARTICULARLY DESCRIBED AS FOLLOWS:

BEGINNING AT A POINT (N: 10650386.34, E: 1842204.86) IN SAID SECTION 24, FROM WHICH A 1" IRON PIPE FOUND FOR THE SOUTHEAST CORNER OF SAID SECTION 24 BEARS S 20°50'59" E, A DISTANCE OF 3918.42 FEET (TIE);

THENCE S 75°46'02" W, A DISTANCE OF 35.00 FEET TO A POINT;

THENCE N 14°13'58" W, A DISTANCE OF 30.00 FEET TO A POINT;

THENCE N 75°46'02" E, A DISTANCE OF 35.00 FEET TO A POINT, FROM WHICH THE CALCULATED NORTHEAST CORNER OF SAID SECTION 24 BEARS N 02°30'11" E, A DISTANCE OF 1473.64 FEET (TIE), FROM WHICH A FOUND WOODEN FENCE CORNER POST WITH NAIL ON TOP BEARS S 48°21'47" W, A DISTANCE OF 20.38 FEET (TIE);

THENCE S 14°13'58" E, A DISTANCE OF 30.00 FEET TO THE POINT OF BEGINNING.

SAID SURFACE SITE CONTAINING A TOTAL OF 1,050 SQUARE FEET OR 0.024 ACRES IN SAID SECTION 24.

TEMPORARY WORKSPACE (T.W.S.)

BEING A TWENTY-FIVE (25) FOOT WIDE STRIP OF LAND, PARALLEL WITH AND ADJOINING ALL SIDES OF THE ABOVE DESCRIBED SURFACE SITE, EXTENDING OR SHORTENING THE SIDE LINES OF THE HEREIN DESCRIBED TEMPORARY WORKSPACE AT THE BEGINNING OF THE SAID SURFACE SITE LINES, TO INTERSECT WITH THE PROPERTY LINES AND OR ROAD LINE OF THE ABOVE REFERENCED TRACT OF LAND. HEREIN DESCRIBED TEMPORARY WORKSPACE CONTAINING 5,750 SQUARE FEET OR 0.132 ACRES OF LAND.

NOTES:

1. BEARINGS, DISTANCES, AREA AND COORDINATES SHOWN HEREON ARE CORRELATED TO THE TEXAS COORDINATE SYSTEM OF 1983, TEXAS CENTRAL ZONE (4203). ALL BEARINGS AND DISTANCES SHOWN ARE GRID.
2. LATITUDE & LONGITUDE ARE NAD 83 DECIMAL GEOGRAPHIC.
3. THIS SURVEY WAS PERFORMED WITHOUT THE BENEFIT OF A TITLE REPORT AND THE REVIEW OF THE ABSTRACT OF TITLE. THERE MAY BE RIGHT-OF-WAY AND/OR COVENANTS AFFECTING THIS PROPERTY NOT SHOWN HEREON. LOCATION OF ALL IMPROVEMENTS WAS BEYOND COMMISSIONED SCOPE OF THIS PROJECT AND HAS BEEN SPECIFICALLY OMITTED. VESTING DOCUMENTS NOT FURNISHED FOR THIS SURVEY.

#	DATE	BY:	DESCRIPTION	CHK

PROJECT NO. 19513



TBPELS FIRM# 10194245
201 West Wall Street, Suite 325
Midland, TX 79701
(817) 529-1180 ~ Fax (817) 529-1181



Dempsey D. Hannah
08/08/2023
DEMPSEY D. HANNAH TEXAS R.P.L.S. NO. 5637 DATE



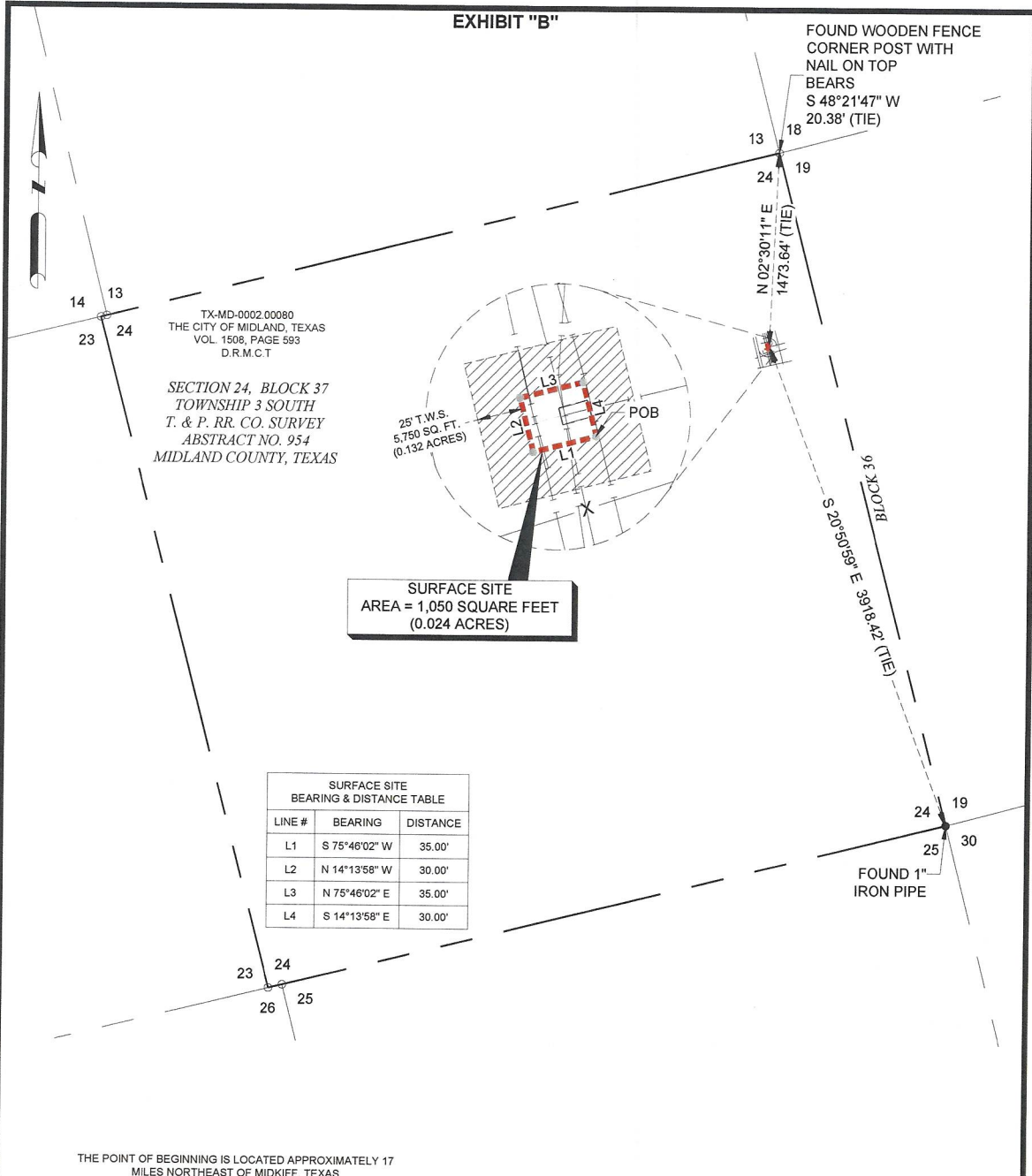
19513 B-LINE UPGRADE THE CITY OF MIDLAND, TEXAS PROPOSED SURFACE SITE

SITUATED IN
SECTION 24, BLOCK 37, TOWNSHIP 3 SOUTH
T. & P. RR. CO. SURVEY
ABSTRACT NO. 954
MIDLAND COUNTY, TEXAS

DRAWN BY: AVP	DATE: 08/03/2023	DWG. NO. 19513_TX-MD-0002.00080	REV. 0
CHECKED BY: DDH	DATE: 08/08/2023		
SCALE: 1"=1000'	PAGE 1 OF 2		

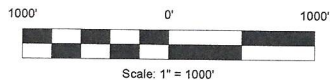
September 12, 2023

EXHIBIT "B"



SURFACE SITE BEARING & DISTANCE TABLE		
LINE #	BEARING	DISTANCE
L1	S 75°46'02\" W	35.00'
L2	N 14°13'58\" W	30.00'
L3	N 75°46'02\" E	35.00'
L4	S 14°13'58\" E	30.00'

THE POINT OF BEGINNING IS LOCATED APPROXIMATELY 17
MILES NORTHEAST OF MIDKIFF, TEXAS



LEGEND	
---	SECTION LINE
---	OHE
---	OVERHEAD ELECTRIC
---	SURFACE SITE
---	TEMPORARY WORK SPACE
---	JUMPER LINE
---	EXISTING PIPELINE
---	FENCE LINE
⊙	POWER POLE
●	FOUND MONUMENT
○	CALCULATED CORNER
⊙	BEARING CHANGE

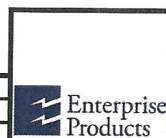
NOTES:

1. BEARINGS, DISTANCES, AREA AND COORDINATES SHOWN HEREON ARE CORRELATED TO THE TEXAS COORDINATE SYSTEM OF 1983, TEXAS CENTRAL ZONE (4203). ALL BEARINGS AND DISTANCES SHOWN ARE GRID.
2. LATITUDE & LONGITUDE ARE NAD 83 DECIMAL GEOGRAPHIC.
3. THIS SURVEY WAS PERFORMED WITHOUT THE BENEFIT OF A TITLE REPORT AND THE REVIEW OF THE ABSTRACT OF TITLE. THERE MAY BE RIGHT-OF-WAY AND/OR COVENANTS AFFECTING THIS PROPERTY NOT SHOWN HEREON. LOCATION OF ALL IMPROVEMENTS WAS BEYOND COMMISSIONED SCOPE OF THIS PROJECT AND HAS BEEN SPECIFICALLY OMITTED. VESTING DOCUMENTS NOT FURNISHED FOR THIS SURVEY.

#	DATE	BY	DESCRIPTION	CHK
			PROJECT NO. 19513	



TBPELS FIRM# 10194245 17.19
201 West Wall Street, Suite 325
Midland, TX 79701
(817) 529-1180 ~ Fax (817) 529-1181



19513 B-LINE UPGRADE THE CITY OF MIDLAND, TEXAS PROPOSED SURFACE SITE

SITUATED IN
SECTION 24, BLOCK 37, TOWNSHIP 3 SOUTH
T. & P. RR. CO. SURVEY
ABSTRACT NO. 954
MIDLAND COUNTY, TEXAS

DRAWN BY: AVP	DATE: 08/03/2023
CHECKED BY: DDH	DATE: 08/08/2023
SCALE: 1"=1000'	PAGE 2 OF 2

DWG. NO. 19513_TX-MD-0002.00080	REV. 0
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September 12, 2023

EXHIBIT "A"

METES AND BOUNDS DESCRIPTION

BEING A PROPOSED SURFACE SITE SITUATED IN SECTION 13, BLOCK 37, TOWNSHIP 3 SOUTH, T. & P. RR. CO. SURVEY, ABSTRACT NO. 547, MIDLAND COUNTY, TEXAS. SAID SURFACE SITE BEING MORE PARTICULARLY DESCRIBED AS FOLLOWS:

BEGINNING AT A POINT (N: 10654352.70, E: 1841210.00) IN SAID SECTION 13, FROM WHICH THE CALCULATED SOUTHEAST CORNER OF SAID SECTION 13 BEARS S 23°06'29" E, A DISTANCE OF 2680.08 FEET (TIE), FROM WHICH A FOUND WOODEN FENCE CORNER POST WITH A NAIL ON TOP BEARS S 48°21'47" W, A DISTANCE OF 20.38 FEET (TIE);

THENCE S 76°04'30" W, A DISTANCE OF 45.00 FEET TO A POINT;

THENCE N 13°55'30" W, A DISTANCE OF 30.00 FEET TO A POINT;

THENCE N 76°04'30" E, A DISTANCE OF 45.00 FEET TO A POINT, FROM WHICH A BENT 3" IRON PIPE FOUND FOR THE NORTHEAST CORNER OF SAID SECTION 13 BEARS N 05°53'25" W, A DISTANCE OF 2683.82 FEET (TIE);

THENCE S 13°55'30" E, A DISTANCE OF 30.00 FEET TO THE POINT OF BEGINNING.

SAID SURFACE SITE CONTAINING A TOTAL OF 1,350 SQUARE FEET OR 0.031 ACRES IN SAID SECTION 13.

TEMPORARY WORKSPACE (T.W.S.)

BEING A TWENTY-FIVE (25) FOOT WIDE STRIP OF LAND, PARALLEL WITH AND ADJOINING ALL SIDES OF THE ABOVE DESCRIBED SURFACE SITE, EXTENDING OR SHORTENING THE SIDE LINES OF THE HEREIN DESCRIBED TEMPORARY WORKSPACE AT THE BEGINNING OF THE SAID SURFACE SITE LINES, TO INTERSECT WITH THE PROPERTY LINES AND OR ROAD LINE OF THE ABOVE REFERENCED TRACT OF LAND. HEREIN DESCRIBED TEMPORARY WORKSPACE CONTAINING 6,250 SQUARE FEET OR 0.143 ACRES OF LAND.

NOTES:

1. BEARINGS, DISTANCES, AREA AND COORDINATES SHOWN HEREON ARE CORRELATED TO THE TEXAS COORDINATE SYSTEM OF 1983, TEXAS CENTRAL ZONE (4203). ALL BEARINGS AND DISTANCES SHOWN ARE GRID.
2. LATITUDE & LONGITUDE ARE NAD 83 DECIMAL GEOGRAPHIC.
3. THIS SURVEY WAS PERFORMED WITHOUT THE BENEFIT OF A TITLE REPORT AND THE REVIEW OF THE ABSTRACT OF TITLE. THERE MAY BE RIGHT-OF-WAY AND/OR COVENANTS AFFECTING THIS PROPERTY NOT SHOWN HEREON. LOCATION OF ALL IMPROVEMENTS WAS BEYOND COMMISSIONED SCOPE OF THIS PROJECT AND HAS BEEN SPECIFICALLY OMITTED. VESTING DOCUMENTS NOT FURNISHED FOR THIS SURVEY.

#	DATE	BY:	DESCRIPTION	CHK
			PROJECT NO. 19513	



TBPELS FIRM# 10194245
201 West Wall Street, Suite 325
Midland, TX 79701
(817) 529-1180 ~ Fax (817) 529-1181



Dempsey D. Hannah
08/08/2023
DEMPSEY D. HANNAH TEXAS R.P.L.S. NO. 5637 DATE



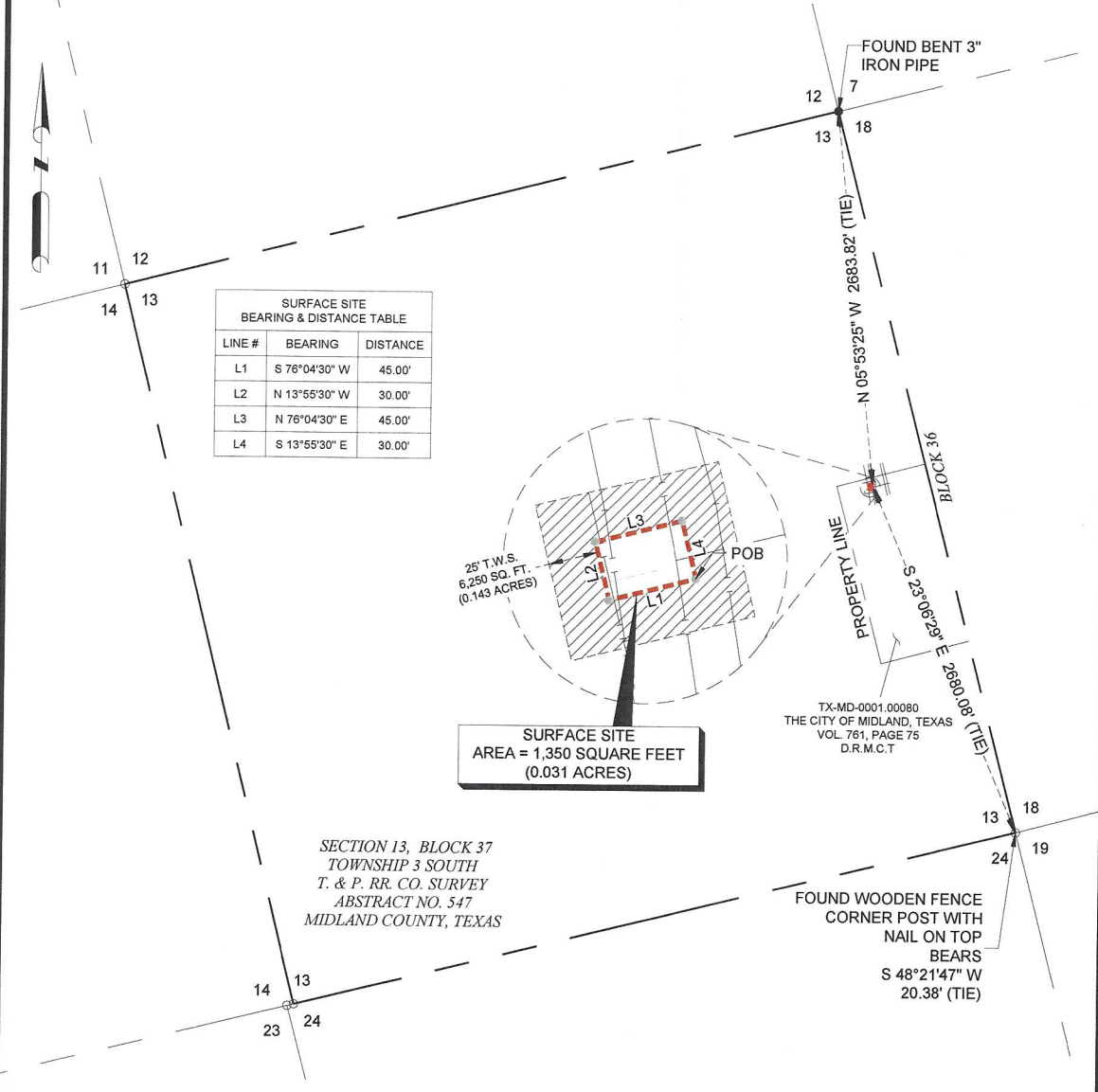
**19513 B-LINE UPGRADE
THE CITY OF MIDLAND, TEXAS
PROPOSED SURFACE SITE**

SITUATED IN
SECTION 13, BLOCK 37, TOWNSHIP 3 SOUTH
T. & P. RR. CO. SURVEY
ABSTRACT NO. 547
MIDLAND COUNTY, TEXAS

DRAWN BY: AVP	DATE: 08/03/2023	DWG. NO. 19513_TX-MD-0001.00080	REV. 0
CHECKED BY: DDH	DATE: 08/08/2023		
SCALE: 1"=1000'	PAGE 1 OF 2		

September 12, 2023

EXHIBIT "B"



SURFACE SITE BEARING & DISTANCE TABLE		
LINE #	BEARING	DISTANCE
L1	S 76°04'30" W	45.00'
L2	N 13°55'30" W	30.00'
L3	N 76°04'30" E	45.00'
L4	S 13°55'30" E	30.00'

25' T.W.S.
6,250 SQ. FT.
(0.143 ACRES)

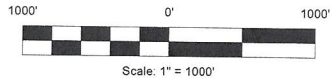
SURFACE SITE
AREA = 1,350 SQUARE FEET
(0.031 ACRES)

SECTION 13, BLOCK 37
TOWNSHIP 3 SOUTH
T. & P. RR. CO. SURVEY
ABSTRACT NO. 547
MIDLAND COUNTY, TEXAS

TX-MD-0001.00080
THE CITY OF MIDLAND, TEXAS
VOL. 761, PAGE 75
D.R.M.C.T

FOUND WOODEN FENCE
CORNER POST WITH
NAIL ON TOP
BEARS
S 48°21'47" W
20.38' (TIE)

THE POINT OF BEGINNING IS LOCATED APPROXIMATELY 18
MILES NORTHEAST OF MIDKIFF, TEXAS



LEGEND	
---	SECTION LINE
---	OHE OVERHEAD ELECTRIC
---	SURFACE SITE
---	TEMPORARY WORK SPACE
---	JUMPER LINE
---	EXISTING PIPELINE
X	FENCE LINE
○	POWER POLE
●	FOUND MONUMENT
○	CALCULATED CORNER
●	BEARING CHANGE

NOTES:

1. BEARINGS, DISTANCES, AREA AND COORDINATES SHOWN HEREON ARE CORRELATED TO THE TEXAS COORDINATE SYSTEM OF 1983, TEXAS CENTRAL ZONE (4203). ALL BEARINGS AND DISTANCES SHOWN ARE GRID.
2. LATITUDE & LONGITUDE ARE NAD 83 DECIMAL GEOGRAPHIC.
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#	DATE	BY:	DESCRIPTION	CHK
			PROJECT NO. 19513	



TBPELS FIRM# 10194245
201 West Wall Street, Suite 325
Midland, TX 79701
(817) 529-1180 ~ Fax (817) 529-1181



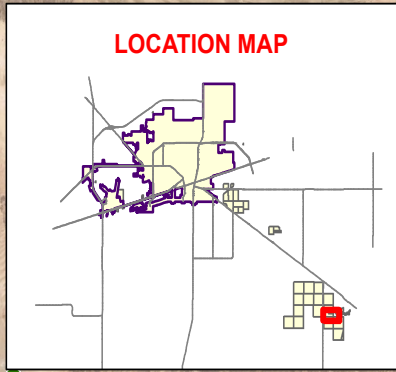
19513 B-LINE UPGRADE THE CITY OF MIDLAND, TEXAS PROPOSED SURFACE SITE

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MIDLAND COUNTY, TEXAS

DRAWN BY: AVP	DATE: 08/03/2023
CHECKED BY: DDH	DATE: 08/08/2023
SCALE: 1"=1000'	PAGE 2 OF 2

DWG. NO:	REV.
19513_TX-MD-0001.00080	0

September 12, 2023



BLK
37-3-S
SEC 14

BLK 37-3-S
SEC 13

Surface Site
1,350 SQFT (0.031 Acres)

BLK 36-3-S
SEC 18

BLK 37-3-S
SEC 24

Surface Site
1,050 SQFT (0.024 Acres)

BLK 36-3-S
SEC 19

Date: 8/8/2023

PACKET
Proposed Surface Site
Survey Section

Enterprise - Navaitas
17.22
Proposed Surface Sites
Total Area is 2,400 SQFT (0.055 Acres)

September 12, 2023



0 250 500 Feet

©THE CITY OF MIDLAND - 2023
THIS DATA IS NOT A SUBSTITUTION FOR A
SURVEY PROJECT NOR IS IT DESIGNED TO
BE USED AS A PRIMARY TOOL IN PERMITTING
OR OTHER DECISIONS BASED SOLELY ON THE
INFORMATION CONTAINED HEREIN.
THE CITY OF MIDLAND SHALL NOT BE RESPONSIBLE FOR
ANY DECISIONS BASED UPON THE USE OF THIS DATA.



CERTIFICATE OF LIABILITY INSURANCE

DATE(MM/DD/YYYY)
04/14/2023

THIS CERTIFICATE IS ISSUED AS A MATTER OF INFORMATION ONLY AND CONFERS NO RIGHTS UPON THE CERTIFICATE HOLDER. THIS CERTIFICATE DOES NOT AFFIRMATIVELY OR NEGATIVELY AMEND, EXTEND OR ALTER THE COVERAGE AFFORDED BY THE POLICIES BELOW. THIS CERTIFICATE OF INSURANCE DOES NOT CONSTITUTE A CONTRACT BETWEEN THE ISSUING INSURER(S), AUTHORIZED REPRESENTATIVE OR PRODUCER, AND THE CERTIFICATE HOLDER.

IMPORTANT: If the certificate holder is an ADDITIONAL INSURED, the policy(ies) must have ADDITIONAL INSURED provisions or be endorsed. If SUBROGATION IS WAIVED, subject to the terms and conditions of the policy, certain policies may require an endorsement. A statement on this certificate does not confer rights to the certificate holder in lieu of such endorsement(s).

PRODUCER Aon Risk Services Southwest, Inc. Houston TX Office 1300 Post Oak Blvd., Suite 1400 Houston TX 77056 USA	CONTACT NAME: PHONE (A/C. No. Ext): (866) 283-7122 FAX (A/C. No.): 800-363-0105 E-MAIL ADDRESS:														
INSURED Enterprise Navitas Midstream Midland Basin LLC 1100 Louisiana Street 10th Floor Houston TX 77002 USA	<table><tr><th>INSURER(S) AFFORDING COVERAGE</th><th>NAIC #</th></tr><tr><td>INSURER A: Old Republic Insurance Company</td><td>24147</td></tr><tr><td>INSURER B: Lexington Insurance Company</td><td>19437</td></tr><tr><td>INSURER C:</td><td></td></tr><tr><td>INSURER D:</td><td></td></tr><tr><td>INSURER E:</td><td></td></tr><tr><td>INSURER F:</td><td></td></tr></table>	INSURER(S) AFFORDING COVERAGE	NAIC #	INSURER A: Old Republic Insurance Company	24147	INSURER B: Lexington Insurance Company	19437	INSURER C:		INSURER D:		INSURER E:		INSURER F:	
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INSURER C:															
INSURER D:															
INSURER E:															
INSURER F:															

Holder Identifier :

COVERAGES**CERTIFICATE NUMBER:** 570099019751**REVISION NUMBER:**

THIS IS TO CERTIFY THAT THE POLICIES OF INSURANCE LISTED BELOW HAVE BEEN ISSUED TO THE INSURED NAMED ABOVE FOR THE POLICY PERIOD INDICATED. NOTWITHSTANDING ANY REQUIREMENT, TERM OR CONDITION OF ANY CONTRACT OR OTHER DOCUMENT WITH RESPECT TO WHICH THIS CERTIFICATE MAY BE ISSUED OR MAY PERTAIN, THE INSURANCE AFFORDED BY THE POLICIES DESCRIBED HEREIN IS SUBJECT TO ALL THE TERMS, EXCLUSIONS AND CONDITIONS OF SUCH POLICIES. LIMITS SHOWN MAY HAVE BEEN REDUCED BY PAID CLAIMS.

Limits shown are as requested

INSR LTR	TYPE OF INSURANCE	ADDL INSD	SUBR WVD	POLICY NUMBER	POLICY EFF (MM/DD/YYYY)	POLICY EXP (MM/DD/YYYY)	LIMITS
A	☒ COMMERCIAL GENERAL LIABILITY ☐ CLAIMS-MADE ☒ OCCUR *Each Occurrence GEN'L AGGREGATE LIMIT APPLIES PER: ☒ POLICY ☐ PRO-JECT ☐ LOC OTHER:			MWZY31308823	04/18/2023	04/18/2024	EACH OCCURRENCE \$1,000,000 DAMAGE TO RENTED PREMISES (Ea occurrence) \$1,000,000 MED EXP (Any one person) Excluded PERSONAL & ADV INJURY \$1,000,000 GENERAL AGGREGATE \$6,000,000 PRODUCTS - COMP/OP AGG \$2,000,000
A	☒ AUTOMOBILE LIABILITY ☒ ANY AUTO ☐ OWNED AUTOS ONLY ☐ HIRED AUTOS ONLY ☐ SCHEDULED AUTOS ☐ NON-OWNED AUTOS ONLY			MWTB 313086 23	04/18/2023	04/18/2024	COMBINED SINGLE LIMIT (Ea accident) \$1,000,000 BODILY INJURY (Per person) BODILY INJURY (Per accident) PROPERTY DAMAGE (Per accident)
A	☒ UMBRELLA LIAB ☐ EXCESS LIAB ☐ DED ☐ RETENTION			MWZU31362823	04/18/2023	04/18/2024	EACH OCCURRENCE \$9,000,000 AGGREGATE \$9,000,000
A	☒ WORKERS COMPENSATION AND EMPLOYERS' LIABILITY ANY PROPRIETOR / PARTNER / EXECUTIVE OFFICER/MEMBER EXCLUDED? (Mandatory in NH) If yes, describe under DESCRIPTION OF OPERATIONS below		N / A	MWC31308523	04/18/2023	04/18/2024	☒ PER STATUTE ☐ OTH-ER E.L. EACH ACCIDENT \$1,000,000 E.L. DISEASE-EA EMPLOYEE \$1,000,000 E.L. DISEASE-POLICY LIMIT \$1,000,000

DESCRIPTION OF OPERATIONS / LOCATIONS / VEHICLES (ACORD 101, Additional Remarks Schedule, may be attached if more space is required)

Certificate Holder is included as Additional Insured excluding workers' Compensation and Employers' Liability as required by written contract but limited to the operations of the Insured under said contract, and always subject to the policy terms, conditions and exclusions. Waiver of Subrogation is granted in favor of Certificate Holder as required by written contract but limited to the operations of the Insured under said contract, and always subject to the policy terms, conditions and exclusions.

CERTIFICATE HOLDER**CANCELLATION**

City of Midland City Hall, Room 520 300 N Loraine Midland TX 79701 USA	SHOULD ANY OF THE ABOVE DESCRIBED POLICIES BE CANCELLED BEFORE THE EXPIRATION DATE THEREOF, NOTICE WILL BE DELIVERED IN ACCORDANCE WITH THE POLICY PROVISIONS. AUTHORIZED REPRESENTATIVE <i>Aon Risk Services Southwest, Inc.</i>
---	---

Certificate No : 570099019751

PACKET

17.23

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ACORD 25 (2016/03)

The ACORD name and logo are registered marks of ACORD

September 12, 2023



THIS ADDITIONAL REMARKS FORM IS A SCHEDULE TO ACORD FORM,
FORM NUMBER: ACORD 25 **FORM TITLE:** Certificate of Liability Insurance

INSURER(S) AFFORDING COVERAGE	NAIC #
INSURER	
INSURER	
INSURER	
INSURER	

If a policy below does not include limit information, refer to the corresponding policy on the ACORD certificate form for policy limits.

[illegible]



EPOLLC
P.O. Box 4324
Houston, TX 77210-4324

Land Account

Check No. **092072**
Date: 08/23/2023

PAY
TO THE
ORDER
OF

City of Midland
P.O. Box 1152
Midland, Texas 79702

\$ 1,000⁰⁰
VOID AFTER 180 DAYS

One Thousand ⁰⁰/₁₀₀ ————— DOLLARS

MEMO

M-5, B-5 Surface Site

Jeremiah A. Balto
Print Name

AUTHORIZED SIGNATURE

⑈092072⑈ ⑆044115443⑆

662639962⑈

ORIGINAL DOCUMENT HAS A WATERMARK



City Council Meeting

Item Number: 18
Meeting Date: September 12, 2023
To: City Council / City Manager
From: John Simmons, Manager, Right-of-Way
Subject: Motion authorizing the execution of a Right-of-Way license (23-329-045) with Pioneer Natural Resources USA, Inc., regarding City-owned property described as Section 1, Block X, HP Hilliard Survey, Midland County, Texas (DISTRICT 1) (UTILITIES)

Purpose:

This motion will provide the applicant three 10' wide rights of ways to bore under City owned Wimberley Place Road, Stonebridge Drive, and Cooper Creek Road and place a privately owned 4" #1500 Flex Steel natural gas pipeline in an 8", steel construction, casing from both edges of the road ROW's. The casing will be vented and marked at both edges of the existing ROW and will be buried a minimum of 96" under the existing road as required by city code.

This Right-of-Way License is for a 10-year period. Terms are consistent with the City's standard license for facilities of this nature.

Recommended City Council Action:

Approve

Fiscal Impact:

Application fee: \$1,000.00

10-Year Lease Rate,

Wimberley Place Rd. 8" pipeline casing: 12.7 rods x \$260 per rod (\$3,302.00)

Stonebridge Drive: 6.43 rods x \$260 per rod (\$1,671.80)

Cooper Creek: 5.47 rods x \$260 per rod (1,422.20)

Total Collected this date: \$7,396.00

Discussion:

This will be a privately owned 4" #1500 Flex Steel natural gas pipeline in an 8", steel construction, casing from both edges of future ROW's. The casing will be vented and marked at both edges of the existing ROW and will be buried a minimum of 96" under the existing road as required by city code. Both bore pits are located on private property.

Certificates of Insurance are on file

The City Secretary is to record all documents



City Manager's Office

RIGHT OF WAY LICENSE

THE STATE OF TEXAS §
 § KNOW ALL MEN BY THESE PRESENTS:
COUNTY OF MIDLAND §

Date: September 13, 2023

Licensor: CITY OF MIDLAND, TEXAS, a home-rule municipal corporation

Licensor's Representative: Tommy Gonzalez, City Manager

Licensor's Mailing Address: P.O. Box 1152
Midland, Texas 79702

Licensee: Pioneer Natural Resources USA, Inc.

Licensee's Representative: Daniel M. Pender

Licensee's Mailing Address: 3617 N. Big Spring St.
Midland, Texas 79705

Property: As described in Article III below

License Number: 23-329-045

Licensee desires use of certain Property (as defined below) owned by Licensor in Midland County, Texas, for purposes set forth below. Licensee acknowledges and agrees that it must obtain a license (the "License") in order to use the public lands of Licensor.

W I T N E S S E T H:

For and in consideration of the execution of this license (this "License") and the mutual promises and covenants of the parties hereto, it is mutually promised, understood and agreed as follows:

I. Term

A. Term. This License shall be for a term of ten (10) years commencing on the date of this License (the "Commencement Date") unless terminated earlier as provided hereafter.

B. Termination. Licensor may terminate this License if Licensee fails to pay, when due, any amount owing under this License and that failure continues for sixty (60) days or, if Licensee commits any material breach or material default in performance of any obligation, prohibition, restriction, provision or covenant contained in this License, and the breach or default continues for a period of thirty (30) days after Licensor delivers notice to Licensee reasonably detailing the breach or default.

Additionally, Licensor may terminate this License at will for any or no reason upon giving at least three hundred sixty-five (365) days' written notice to Licensee. The parties to this License understand and agree that it is in Licensor's sole discretion to terminate this License during the term of this License without penalty to Licensor. Licensee has no expectation and has received no guarantees that this License will not be terminated before the end of the License term. The parties have bargained for the flexibility of terminating this License upon tender of the requisite notice at any time during the term of this License. All work and services under this License shall be suspended upon termination of this License.

Upon expiration or termination of this License, Licensee shall remove all equipment and structures associated with the undertakings contemplated by this License. After removal of all equipment and structures associated with the undertakings contemplated by this License, the surface of the Property shall be restored at the expense of Licensee to its original condition, as close thereto as may be practical, subject to the approval of Licensor upon inspection by Licensor's Representative, which approval shall not be unreasonably withheld. All of said work shall be completed within one hundred eighty (180) days after the expiration or termination of this License. All of the terms, provisions and requirements of this paragraph shall survive the expiration or termination of this License.

II. Financial Consideration

A. License Fee. A license fee in the amount of SIX THOUSAND THREE HUNDRED NINETY-SIX and No/100 Dollars (\$6,396.00) ("License Fee") shall be due and payable on or prior to the Commencement Date.

In the event Licensor terminates this License pursuant to the provisions of Section I.B., Licensor agrees to refund to Licensee a pro rata share of the License Fee actually paid by Licensee to Licensor for that portion of the remaining term that is being terminated. For the avoidance of doubt, the amount of any refund payable to Licensee pursuant to this paragraph shall be determined net of any costs or expenses incurred by Licensor in connection with Licensee's unfulfilled obligations under this License (if any).

B. Application Fee. On or prior to the Commencement Date of this License, Licensee shall pay a non-refundable one-time fee of One Thousand and No/100 Dollars (\$1,000.00) to Licensor's Representative. Said fee shall revert to Licensor and Licensee shall have no claim to said fee. The fee shall be used to process the application for this License.

C. Delivery of Payment. Payment of the above fees shall be made to Licensor at the office of Licensor's Representative, Attn: Right of Way Manager, P.O. Box 1152, Midland, Texas, 79702. Payment of the above fees shall be exclusive of and in addition to all general municipal taxes of whatever nature, including but not limited to ad valorem taxes and special taxes and assessments for public improvements.

D. Late Payment. Licensee's failure to make payment of any of the above fees within thirty (30) days after such fee is due shall constitute a late payment and Licensee shall pay Licensor a late charge of five percent (5%) of such fee.

III. Use

A. Permitted Use. Licensor does hereby grant unto Licensee, the right to enter upon the Property, being ten (10) feet in width of the pipeline locations areas as shown on Exhibits A, B, and C attached hereto and incorporated herein for the purpose of placing, constructing, operating, repairing, maintaining, replacing and removing, thereon, along the herein described locations, three (3) #1500 Flex Steel pipelines, not to exceed four (4) inches in diameter, encased in a steel construction casing, not to exceed eight (8) inches in diameter, for the transportation of natural gas (the "Property"). Casing shall be vented and marked at both edges of existing right of ways. Licensee shall have the right of ingress and egress at convenient points for such purpose. **Licensee shall provide Licensor with a complete as-built survey within sixty (60) days of completion of the pipeline described herein. The parties agree Licensee's failure to provide Licensor with a complete as-built survey within sixty (60) days of completion of the pipeline described herein may result in the termination of this License. The decision to accept a complete as-built survey after the sixty-day deadline prescribed herein, or, conversely, to terminate this License shall be in the sole and absolute discretion of Licensor.**

B. Road Repair. Licensee covenants and agrees that it will repair, at its own expense, any of Licensor's roads that Licensee, its employees, contractors, representatives, agents or assigns damage on Licensor's property, so that such roads will comply with Licensor's standard specifications.

C. Utility Repair. Licensee covenants and agrees that Licensee shall, at its own expense, repair all water lines, sewer lines, service lines, water meters and other utility lines owned by Licensor that Licensee, its employees, contractors, representatives, agents or assigns, damage so that such water lines, sewer lines, water meters and other utility lines shall comply with Licensor's standard specifications.

D. Pipeline Depth. Licensee covenants and agrees that it will bury the pipeline to be constructed hereunder no less than ninety-six (96) inches in depth. All backfill used in burying such pipeline shall be compacted to a density of ninety percent (90%), except where such pipeline crosses under a paved or traveled portion of any City of Midland right of way where such backfill shall be compacted to a density of ninety-five percent (95%). Licensor shall be afforded the opportunity to test the density on all backfill. Notwithstanding any provision to the contrary contained herein, Licensee covenants and agrees that, at any point that Licensee's pipeline intersects with a City of Midland utility line location, the pipeline shall be bored at a depth of at least (i) nine (9) feet under all City of Midland water utility lines and (ii) two (2) feet under all City of Midland sewer utility lines. Licensee agrees that it shall comply with 30 Tex. Admin. Code § 290.44(e), as amended, to the extent applicable to this License.

E. Approval of Bids. Before Licensee seeks bids on any phase of the repair of public streets, alleys, water lines, sewer lines or any other public utilities, Licensee shall first obtain written approval of the specifications therefor from Licensor's Representative, which approval shall be at Licensor's Representative's sole discretion.

F. Reservation of Rights. Licensor expressly reserves the right to install, repair, or reconstruct streets or roads and all ancillary public uses usual and customary in connection with streets and roads, expressly including but not limited to drainage facilities and related structures in the rights

of way used and occupied by Licensee.

Licensor reserves the right to lay and permit to be laid, sewer, gas, water, and other pipelines or cables and conduits, and to do and permit to be done, any underground or overhead installation or improvement that may be deemed necessary or proper by the governing body of Licensor, in, on, across, along, over, under, and through any property occupied by Licensee. In permitting such work to be done, Licensor shall not be liable to Licensee for any damage so caused to Licensee's system or property, **NOR SHALL LICENSOR BE LIABLE TO LICENSEE FOR ANY DAMAGES TO LICENSEE'S PIPELINE OR OTHER PERMITTED FACILITIES ARISING OUT OF THE NEGLIGENCE BY LICENSOR, ITS EMPLOYEES, OFFICERS OR AGENTS, OR LICENSOR'S CONTRACTORS OR SUBCONTRACTORS.** If Licensor requires Licensee to remove, alter, change, adapt, or conform Licensee's facilities because of changes in the grade or construction of a street or in the location or manner of constructing a water pipe, sewer pipe, or other surface, underground or aboveground structure owned by Licensor, Licensee shall make the alterations or changes as soon as practicable, and in no event longer than one hundred eighty (180) days, when ordered in writing by Licensor, without claim for reimbursement for the cost of the relocation or for damages against Licensor. If these requirements impose a financial hardship upon Licensee, Licensee shall have the right to present alternative proposals for Licensor's consideration.

G. Non-exclusive. Licensor expressly reserves the full right to grant other easements or rights of way crossing or running parallel with the rights of way used by Licensee.

H. Abandonment. It is especially provided, however, that as an express condition of this License, and not as a mere covenant, in the event Licensee abandons any equipment or appurtenances associated with the undertakings contemplated by this License, or the Property ceases to be used for the purposes enumerated herein for any period of twelve (12) consecutive months, or longer, other than the time elapsing between the date hereof and construction, and upon giving Licensee one hundred and twenty (120) days' written notice, then and in that event, this License shall automatically terminate and revert to Licensor, its successors or assigns, free and clear of any right, title, or interest of Licensee.

I. Approval of Specifications. In the event Licensee desires to reconstruct, repair, alter, replace or remove any pipeline or other permitted facilities built hereunder, Licensee shall submit the plans and specifications that pertain to the rebuilding or repairs of Licensor's streets and roads and the rebuilding or repairs of any of Licensor's public utilities to Licensor's Representative for his or her prior written approval, which approval shall be at Licensor's Representative's sole discretion. In the event of emergency repairs necessary to restore service, Licensee shall notify Licensor's Representative before making any repairs if during a Licensor workday. If not on a workday, Licensee shall notify Licensor's Representative on the first workday after repairs have begun.

J. Gates and Fences. Without altering or expanding the limitations on ingress, egress and access to the Property set forth in Paragraph A. of Article III above, Licensee agrees to use existing gates and roadways where available, to enter, leave and cross the Property; provided that Licensee shall not use any road marked "Closed". Licensee and all persons entering or leaving the Property in connection with Licensee's operations hereunder shall keep all outside and interior gates securely closed except during operations related to this License. Licensee shall keep all outside gates, and all other gates designated by Licensor, securely locked except during operations related to this

License. At any gate that is to be locked, Licenser may install its own lock in addition to Licensee's lock.

Licensee agrees that Licensee shall not cut or go over any fence at any time or in connection with any operations on the Property without first obtaining Licenser's express prior consent thereto in writing. All gates or openings in fences shall be at mutually agreeable location(s) between Licensee and Licenser and shall be constructed as reasonably required by Licenser. Upon the termination of this License, at Licenser's election, gates in fences shall be left in place and shall thereafter be owned by Licenser or Licensee shall remove such gates and restore the fence to its original condition as nearly as reasonably practicable. The terms, provisions and requirements of this provision shall survive the termination or expiration of this License.

K. Trash. Licensee shall keep the Property free of trash and debris at all times. Under no circumstances, will Licensee be allowed to bury any trash, debris or foreign material of any kind on or under the Property. Licenser shall have the right to expel and permanently ban from the Property any person observed disposing of trash on the Property. Upon the completion of any operations, all ribbons, flags, stakes and similar items shall be promptly removed from the Property.

L. Hunting, Fishing and Alcohol Prohibited. No agent, employee, representative, contractor or subcontractor of Licensee or any other person allowed to enter the Property by Licensee shall be permitted to hunt, fish, trap, camp, picnic, ride motorcycles or four-wheelers or otherwise conduct any social gathering on the Property, nor shall any such persons be permitted to bring firearms, archery equipment, dogs, alcoholic beverages or illegal drugs on the Property at any time. Violations of this provision shall cause the violator to be regarded as a trespasser and subject to prosecution under trespass laws of the State of Texas. Licenser shall have the right to expel and permanently ban from the Property any person observed on the Property in violation of this provision.

M. Storage of Machinery and Equipment. Licensee shall use no part of the Property to store machinery, equipment, or other property of Licensee while it is not being used.

N. Additional Reservations. Licenser reserves the right to use the surface, subsurface or airspace on, below or above the land covered by this License for any purpose allowed by law and deemed necessary or proper by Licenser and to do and permit to be done, any work in connection therewith which may be deemed necessary or proper by Licenser in, on, across, along, over, under, and through any portion of the Property. In the event of such work in connection with said purposes it shall be deemed necessary or proper by Licenser, at Licenser's sole discretion, to alter, change, or relocate any pipeline, property, or casing of Licensee, such alteration or change or relocation shall be commenced and completed by Licensee within one hundred eighty (180) days after being ordered in writing by Licenser pursuant to directions from Licenser without any claim for reimbursement for the cost of the alteration, change or relocation or damages against Licenser. The relocation, change, or alteration shall be at the sole cost of Licensee. Provided, however, that Licensee shall at all times be entitled to receive from appropriate governmental bodies, excluding Licenser, payment for alteration, change or relocation of its system to which it may be lawfully entitled to under applicable federal or state laws with respect to relocation payments. Without limiting the foregoing, Licenser expressly reserves the full right to grant other licenses, easements and/or rights-of-way in, on, across, along, over, under or through all or any portion of the Property.

Licensors expressly reserves the right to use and grant to third parties the right to use all or any portion of the Property and the surface, subsurface or airspace on, below or above the Property for any purpose.

IV. Standard General Conditions

A. Insurance. Licensee shall at all times during the term of this License maintain and keep in full force and effect insurance in the following types and minimum amounts with companies authorized to do business in the State of Texas:

Commercial General Liability (including Contractual liability):

- Personal Injury: \$1,000,000.00 per person
\$1,000,000.00 per occurrence
- Property Damage: \$100,000.00 per occurrence

Business Automobile Liability: \$1,000,000.00 combined single limit--
Personal Injury and Property Damage

Workers' Compensation: Statutory limits

Employers' Liability: \$1,000,000.00 per accident or occurrence

Umbrella Liability: \$10,000,000.00 each occurrence
\$10,000,000.00 aggregate

The Commercial General Liability shall be on an occurrence basis. This insurance shall name Licensors as an additional insured and all insurance shall waive subrogation in favor of Licensors.

The Workers' Compensation coverage provided by Licensee shall inure to the benefit of employees injured during the course and scope of their employment by Licensee pursuant to this License. The Workers' Compensation insurance shall waive all rights of subrogation against Licensors.

The Business Automobile Liability insurance provided by Licensee shall cover any auto for bodily injury and property damage, including owned vehicles, hired and non-owner vehicles, and employee non-ownership, and the amount of such policy shall be a minimum of \$1,000,000.00 covering any vehicle used for the execution of the work that is the subject of this License. This insurance shall name Licensors as an additional insured and all insurance shall waive subrogation in favor of Licensors.

All insurance required pursuant to this License, except for Worker's Compensation Insurance, shall name Licensors as an additional insured. All insurance required pursuant to this License, including Worker's Compensation Insurance, shall provide for a waiver of subrogation as to Licensors. The parties agree that, prior to the execution of this License, Licensee shall provide one or more certificates of insurance showing that the requirements of this article have been met. Licensors shall determine, in its sole discretion, whether such requirements have been satisfied.

Licensors shall be provided written notice by Licensee's insurance provider not later than thirty

(30) days prior to any reduction or termination of such coverage. Licensor shall not be required to provide any insurance whatsoever pursuant to this License.

Licensee shall contractually require all contractors, subcontractors, and sub-subcontractors that work on any portion of the work that is the subject of this License to obtain insurance coverage that meets or exceeds the policy requirements and minimum amounts as required herein and name the City of Midland as an additional insured (except as to Worker's Compensation Insurance). Licensee certifies that the one or more certificates of insurance provided as required herein complies with the requirements of Chapter 1811 of the Texas Insurance Code. Licensee shall not use an unapproved certificate of insurance or insert inappropriate language on a certificate. Compliance with state law is the sole responsibility of Licensee.

B. Indemnity. TO THE FULLEST EXTENT PERMITTED BY APPLICABLE LAW, LICENSEE, ITS SUCCESSORS AND ASSIGNS, AGREE TO INDEMNIFY, PROTECT, DEFEND AND HOLD HARMLESS LICENSOR AND LICENSOR'S REPRESENTATIVES, AGENTS, ATTORNEYS, EMPLOYEES, SUCCESSORS AND ASSIGNS (COLLECTIVELY, "INDEMNITEES") FOR, FROM AND AGAINST ANY AND ALL CLAIMS, LOSSES, DAMAGES, LIABILITIES, LIENS, FINES, PENALTIES, CAUSES OF ACTION, SUITS, CHARGES, JUDGMENTS, ADMINISTRATIVE ORDERS, REMEDIATION REQUIREMENTS, ENFORCEMENT ACTIONS OF ANY KIND, PERSONAL INJURIES, PROPERTY DAMAGE, AND ALL COSTS AND EXPENSES INCURRED IN CONNECTION THEREWITH (INCLUDING, BUT NOT LIMITED TO, ATTORNEYS' FEES AND EXPENSES, INCLUDING, WITHOUT LIMITATION, ALL ATTORNEYS' FEES AND EXPENSES INCURRED IN ENFORCING THIS INDEMNITY) OF ANY NATURE, KIND OR DESCRIPTION OF ANY PERSON OR ENTITY, DIRECTLY OR INDIRECTLY ARISING OUT OF, CAUSED BY OR RESULTING FROM (IN WHOLE OR IN PART) THIS LICENSE, LICENSEE'S USE OF OR ACTIVITIES ON THE PROPERTY OR ANY OTHER PROPERTY OWNED BY LICENSOR, OR ANY ACT OR OMISSION OF LICENSEE, ANY CONTRACTOR, SUBCONTRACTOR, ANYONE DIRECTLY OR INDIRECTLY EMPLOYED BY THEM, OR ANYONE THAT THEY CONTROL OR EXERCISE CONTROL OVER (COLLECTIVELY, "LIABILITIES"), EVEN IF SUCH LIABILITIES ARISE FROM OR ARE ATTRIBUTED, IN WHOLE OR IN PART, TO THE NEGLIGENCE OF ANY INDEMNITEE. LICENSEE SHALL PROMPTLY ADVISE LICENSOR OF ANY ACTION, ADMINISTRATIVE OR LEGAL PROCEEDING OR INVESTIGATION TO WHICH THIS INDEMNIFICATION MAY APPLY, AND OF WHICH LICENSEE HAS RECEIVED NOTICE, AND LICENSEE, AT LICENSEE'S EXPENSE, SHALL ASSUME ON BEHALF OF LICENSOR (AND THE OTHER INDEMNITEES) AND CONDUCT WITH DUE DILIGENCE AND IN GOOD FAITH THE DEFENSE THEREOF WITH COUNSEL REASONABLY SATISFACTORY TO LICENSOR; PROVIDED, HOWEVER, THAT ANY INDEMNITEE SHALL HAVE THE RIGHT, AT ITS OPTION, TO BE REPRESENTED THEREIN BY COUNSEL OF ITS OWN SELECTION AND AT ITS OWN EXPENSE. IN THE EVENT OF FAILURE BY LICENSEE TO ASSUME THE DEFENSE OF LICENSOR IN ACCORDANCE WITH THIS INDEMNIFICATION, LICENSOR, AT ITS OPTION, AND WITHOUT RELIEVING LICENSEE OF ITS OBLIGATION HEREUNDER, MAY ASSUME SUCH DEFENSE, AFTER WRITTEN NOTICE THEREOF TO LICENSEE AND LICENSEE'S FAILURE TO RESPOND THERETO WITHIN TEN (10) BUSINESS DAYS AFTER

RECEIPT OF SUCH NOTICE (SAID TEN (10) DAY PERIOD SHALL NOT APPLY IN ANY CASE WHERE IMMEDIATE ANSWERS, RESPONSES, OR OTHER AFFIRMATIVE ACTION IS REQUIRED TO PRESERVE THE RIGHTS OF LICENSOR) BUT ALL REASONABLE COSTS AND EXPENSES SO INCURRED BY LICENSOR IN THAT EVENT SHALL BE REIMBURSED BY LICENSEE TO LICENSOR, TOGETHER WITH INTEREST ON THE SAME FROM THE DATE ANY SUCH EXPENSE WAS PAID BY LICENSOR UNTIL REIMBURSED BY LICENSEE, AT THE RATE OF INTEREST PROVIDED TO BE PAID ON JUDGMENTS, BY THE LAWS OF THE STATE OF TEXAS.

WITHOUT LIMITING THE FOREGOING, LICENSEE AGREES THAT LICENSEE SHALL INDEMNIFY, PROTECT, DEFEND AND SAVE LICENSOR HARMLESS FROM ANY AND ALL CLAIMS, LIENS, JUDGMENTS, SUITS, CAUSES OF ACTION, AND DEMANDS OF ANY SUBCONTRACTORS, LABORERS, WORKMEN, MECHANICS, MATERIALMEN, OR FURNISHERS OF MACHINERY AND PARTS THEREOF, EQUIPMENT, POWER TOOLS, OR SUPPLIES, IN CONNECTION WITH THE CONSTRUCTION, OPERATION, REPAIR, MAINTENANCE, REPLACEMENT OR REMOVAL OF THE PIPELINE OR OTHER PERMITTED FACILITIES DESCRIBED HEREIN.

WITHOUT LIMITING ANY OF THE FOREGOING, LICENSEE SHALL INDEMNIFY, PROTECT AND HOLD HARMLESS AND DEFEND EACH INDEMNITEE FROM ALL LIABILITIES, SUITS, ACTIONS, CLAIMS, DAMAGES, CAUSES OF ACTION, CHARGES, JUDGMENTS, PERSONAL INJURIES, ACCIDENTAL DEATH, PROPERTY DAMAGE, LOSSES AND EXPENSES OF ANY CHARACTER WHATSOEVER, INCLUDING, WITHOUT LIMITATION, ATTORNEY'S FEES, BROUGHT FOR OR ON ACCOUNT OF ANY INJURIES OR DAMAGES RECEIVED OR SUSTAINED BY ANY PERSON OR PERSONS OR PROPERTY ON ACCOUNT OF ANY NEGLIGENT ACT OF ANY INDEMNITEE, WHETHER SUCH NEGLIGENT ACT WAS THE SOLE PROXIMATE CAUSE OF THE INJURY OR DAMAGE OR A PROXIMATE CAUSE JOINTLY AND CONCURRENTLY WITH LICENSEE OR LICENSEE'S EMPLOYEES', REPRESENTATIVES', AGENTS', CONTRACTORS' OR SUBCONTRACTORS' NEGLIGENCE, IN THE EXECUTION, SUPERVISION AND OPERATIONS GROWING OUT OF OR IN ANY WAY CONNECTED WITH THE PERFORMANCE OF THIS LICENSE, INCLUDING, WITHOUT LIMITATION, SUCH NEGLIGENT ACTS ARISING FROM OR IN ANY WAY CONNECTED WITH THE PLACEMENT, CONSTRUCTION, OPERATION, REPAIR, MAINTENANCE, REPLACEMENT OR REMOVAL OF ANY PART OF LICENSEE'S PIPELINE OR PERMITTED FACILITIES ON LICENSOR'S PROPERTY. LICENSEE WILL BE REQUIRED TO PAY ANY JUDGMENT WITH COSTS WHICH MAY BE OBTAINED AGAINST LICENSOR OR ANY INDEMNITEE, INCLUDING RELATED ATTORNEY'S FEES.

WITHOUT LIMITING ANY OF THE FOREGOING, LICENSEE, ITS SUCCESSORS AND ASSIGNS, SHALL INDEMNIFY, PROTECT, DEFEND AND HOLD INDEMNITEES HARMLESS FROM AND AGAINST ALL CLAIMS, LOSSES, DAMAGES, LIABILITIES, LIENS, FINES, PENALTIES, CAUSES OF ACTION, SUITS, CHARGES, JUDGMENTS, ADMINISTRATIVE ORDERS, REMEDIATION

REQUIREMENTS, ENFORCEMENT ACTIONS OF ANY KIND, PERSONAL INJURIES, PROPERTY DAMAGE, AND ALL COSTS AND EXPENSES INCURRED IN CONNECTION THEREWITH (INCLUDING, BUT NOT LIMITED TO, ATTORNEYS' FEES AND EXPENSES, INCLUDING, WITHOUT LIMITATION, ALL ATTORNEYS' FEES AND EXPENSES INCURRED IN ENFORCING THIS INDEMNITY) OF ANY NATURE, KIND OR DESCRIPTION OF ANY PERSON OR ENTITY, DIRECTLY OR INDIRECTLY ARISING OUT OF, CAUSED BY OR RESULTING FROM (IN WHOLE OR IN PART) (i) FAILURE OF LICENSEE, ANY CONTRACTOR, SUBCONTRACTOR, ANYONE DIRECTLY OR INDIRECTLY EMPLOYED BY THEM, OR ANYONE THAT THEY CONTROL OR EXERCISE CONTROL OVER (COLLECTIVELY, THE "INDEMNIFYING PARTIES"), TO COMPLY WITH ALL APPLICABLE LOCAL, FEDERAL AND/OR STATE ENVIRONMENTAL LAWS, INCLUDING BUT NOT LIMITED TO THE RESOURCE CONSERVATION AND RECOVERY ACT (RCRA) AND THE COMPREHENSIVE ENVIRONMENTAL RESPONSE, COMPENSATION, AND LIABILITY ACT (CERCLA) (AS THEY MAY BE REAUTHORIZED AND/OR AMENDED) AND ALL OTHER LOCAL, FEDERAL AND STATE LAWS, IN CONNECTION WITH OR RELATED TO ANY INDEMNIFYING PARTY'S OPERATIONS OR ACTIVITIES ON THE PROPERTY, OR (ii) ANY INDEMNIFYING PARTY'S HANDLING, STORING, RELEASING OR TRANSPORTING OR DISPOSING OF ALL SUBSTANCES, INCLUDING BUT NOT LIMITED TO HAZARDOUS SUBSTANCES AND HAZARDOUS WASTES, ON OR FROM THE PROPERTY OR ANY OTHER LANDS OF LICENSOR.

IT IS THE INTENTION OF THE PARTIES HERETO THAT THE PROVISIONS OF THIS INDEMNIFICATION SHALL APPLY TO AND PROTECT EACH INDEMNITEE FROM THE CONSEQUENCES OF STRICT LIABILITY IMPOSED OR THREATENED TO BE IMPOSED ON SUCH INDEMNITEE, AS WELL AS FROM THE CONSEQUENCES OF THE NEGLIGENCE OF ANY INDEMNITEE, WHETHER OR NOT THAT NEGLIGENCE IS A CONTRIBUTING OR CONCURRING CAUSE OF ANY LIABILITY INDEMNIFIED AGAINST IN THIS ARTICLE IV.B.

THE TERMS, PROVISIONS, REQUIREMENTS AND OBLIGATIONS OF THIS ARTICLE IV.B. SHALL SURVIVE TERMINATION OR EXPIRATION OF THIS LICENSE, AND SHALL NOT BE LIMITED BY OR TO DAMAGES, COMPENSATION OR BENEFITS PAYABLE UNDER INSURANCE POLICIES, WORKER'S COMPENSATION ACTS, DISABILITY BENEFIT ACTS OR OTHER EMPLOYEES' BENEFIT ACTS.

C. Assignment. The provisions of this License shall inure to the benefit of and be binding upon Licensor and Licensee and their respective successors and permitted assigns. The rights and privileges granted by Licensor under this License inure to the benefit of Licensee. No rights, privileges or obligations hereunder shall be assignable by Licensee without the express prior written consent of Licensor. Any required consent is to be evidenced by a letter written by Licensor's City Manager that fully recites the terms and conditions, if any, upon which consent is given. The granting of consent is in the sole discretion of Licensor's City Manager

D. Independent Contractor. It is expressly understood and agreed that Licensee shall perform all work described herein as an independent contractor and not as an officer, agent, servant or

employee of Licensor; that Licensee shall have exclusive control of and the exclusive right to control the details of the work performed hereunder, and all persons performing the same; and shall be solely responsible for the acts and omissions of its officers, agents, employees, contractors and subcontractors; that the doctrine of respondeat superior shall not apply as between Licensor and Licensee, its officers, agents, employees, contractors and subcontractors; and that nothing herein shall be construed as creating a partnership or joint enterprise between Licensor and Licensee. No person performing any of the work described hereunder shall be considered an officer, agent, servant or employee of Licensor. Further, it is specifically understood and agreed that nothing in this License is intended or shall be construed as creating a "Community of Pecuniary Interest" or "An Equal Right of Control" which would give rise to vicarious liability. Licensee shall be an independent contractor under this License and shall assume all of the rights, obligations and liabilities applicable to it as such independent contractor hereunder. Licensor does not have the power to direct the order in which the work is done. Licensor shall not have the right to control the means, methods or details of Licensee's work. Licensee shall assume exclusive responsibility for the work. Licensee is entirely free to do the work in its own way. The provisions of this subparagraph (D.) shall not be deemed or construed as contradicting, limiting or conflicting with the provisions of subparagraph (M.) below.

E. Attorney Fees. SHOULD LICENSOR BE REQUIRED TO RESORT TO EMPLOYMENT OF ATTORNEYS TO ENFORCE THIS LICENSE, OR ANY OF ITS RIGHTS UNDER THIS LICENSE, LICENSOR SHALL BE ENTITLED TO REIMBURSEMENT FROM LICENSEE FOR LICENSOR'S ATTORNEYS' FEES. LICENSEE SHALL REIMBURSE LICENSOR FOR LICENSOR'S ATTORNEYS' FEES INCURRED IN CONNECTION WITH THE PREPARATION AND NEGOTIATION OF THIS LICENSE. BY EXECUTING THIS LICENSE, LICENSEE AGREES TO WAIVE, AND DOES HEREBY KNOWINGLY, CONCLUSIVELY, VOLUNTARILY AND INTENTIONALLY WAIVE, ANY CLAIM IT HAS OR MAY HAVE IN THE FUTURE AGAINST LICENSOR REGARDING THE AWARD OF ATTORNEY'S FEES, WHICH ARE IN ANY WAY RELATED TO THIS LICENSE, OR THE CONSTRUCTION, INTERPRETATION, VALIDITY OR BREACH OF THIS LICENSE. WITHOUT LIMITING THE FOREGOING, LICENSEE SPECIFICALLY AGREES THAT IF LICENSEE BRINGS OR COMMENCES ANY LEGAL ACTION OR PROCEEDING RELATED TO THIS LICENSE, OR TO THE CONSTRUCTION, INTERPRETATION, VALIDITY OR BREACH OF THIS LICENSE, INCLUDING BUT NOT LIMITED TO ANY ACTION PURSUANT TO THE PROVISIONS OF THE TEXAS UNIFORM DECLARATORY JUDGMENTS ACT (TEXAS CIVIL PRACTICE AND REMEDIES CODE SECTION 37.001, ET SEQ., AS AMENDED), OR CHAPTER 271 OF THE TEXAS LOCAL GOVERNMENT CODE, LICENSEE AGREES TO ABANDON, WAIVE AND RELINQUISH ANY AND ALL RIGHTS TO THE RECOVERY OF ATTORNEY'S FEES TO WHICH LICENSEE MIGHT OTHERWISE BE ENTITLED.

LICENSEE AGREES THAT THIS IS THE VOLUNTARY AND INTENTIONAL RELINQUISHMENT AND ABANDONMENT OF A PRESENTLY EXISTING, KNOWN RIGHT. LICENSEE ACKNOWLEDGES THAT IT UNDERSTANDS ALL TERMS AND CONDITIONS OF THIS LICENSE. LICENSEE FURTHER ACKNOWLEDGES AND AGREES THAT THERE WAS AND IS NO DISPARITY OF BARGAINING POWER BETWEEN LICENSOR AND LICENSEE. THIS SECTION SHALL NOT BE CONSTRUED OR INTERPRETED AS A WAIVER OF GOVERNMENTAL IMMUNITY.

LICENSEE AND LICENSOR ARE RELYING ON THEIR OWN JUDGMENT. EACH PARTY HAD THE OPPORTUNITY TO DISCUSS THIS LICENSE WITH LEGAL COUNSEL PRIOR TO ITS EXECUTION.

F. Governing Law & Venue. All performance and payments made pursuant to this License shall be deemed to have occurred in Midland County, Texas. Exclusive venue for any claims, suits or any other action arising from or connected in any way to this License, or the performance of this License shall be in Midland County, Texas. The obligations and undertakings of each of the parties to this License shall be deemed to have been performed in Midland County, Texas. This License shall be construed, interpreted and enforced under the laws of the State of Texas. The laws of the State of Texas shall govern, construe and enforce all the rights and duties of the parties, including but not limited to tort claims and any and all other claims or disputes, arising from or relating in any way to the subject matter of this License, without regard to conflict of laws and rules that would direct application of the laws of another jurisdiction.

G. Release. NOTWITHSTANDING ANY OTHER PROVISIONS OF THIS LICENSE, LICENSEE HEREBY RELEASES, ACQUITS, RELINQUISHES AND FOREVER DISCHARGES LICENSOR, AND LICENSOR'S EMPLOYEES AND OFFICERS FROM ANY AND ALL DEMANDS, CLAIMS, DAMAGES OR CAUSES OF ACTION OF ANY KIND WHATSOEVER WHICH LICENSEE HAS OR MIGHT HAVE IN THE FUTURE, INCLUDING BUT NOT LIMITED TO BREACH OF CONTRACT, QUANTUM MERUIT, CLAIMS UNDER THE DUE PROCESS AND TAKINGS CLAUSES OF THE TEXAS AND UNITED STATES CONSTITUTIONS, TORT CLAIMS, OR LICENSOR'S NEGLIGENCE.

H. Governmental Immunity. By executing this License, Licensor is not waiving its right of governmental immunity. Licensor is retaining its immunity from suit. Licensor is not granting consent to be sued by legislative resolution or action. **THERE IS NO WAIVER OF GOVERNMENTAL IMMUNITY.**

I. Third Party Beneficiary. Except as provided in Article IV.B. above with respect to Indemnitees, (i) Licensor's granting of this License does not create any third-party beneficiary, (ii) there is no third-party beneficiary to this License, and (iii) no person or entity who is not a party to this License shall have any third party beneficiary or other rights hereunder.

J. Notices. Any notice or communication required in the administration of this License shall be sent by certified mail, return receipt requested, to the parties' respective mailing addresses as set forth hereinabove.

K. Notice of Alleged Breach; Statutory Prerequisite. Without limiting the provisions of Article IV.G. above, as a condition precedent to filing suit for alleged damages incurred by an alleged breach of an express or implied provision of this License, Licensee or its legal representative, shall give the City Manager, or any other reasonable official of Licensor, notice in writing (consisting of one (1) original and seven (7) copies of notice attached to a copy of this License) of such damages, duly verified, within one hundred eighty (180) days after the same has been sustained. The discovery rule does not apply to the giving of this notice. The notice shall include when, where and how the damages occurred, the apparent extent thereof, the amount of damages sustained, the

amount for which Licensee will settle, the physical and mailing addresses of Licensee at the time and date the claim was presented and the physical and mailing addresses of Licensee for the six (6) months immediately preceding the occurrence of such damages, and the names and addresses of the witnesses upon whom Licensee relies to establish its claim; and a failure to so notify the City Manager or other such official of Licensor within the time and manner provided herein shall exonerate, excuse and except Licensor from any liability whatsoever. Licensor is under no obligation to provide notice to Licensee that Licensee's notice is insufficient. Licensor reserves the right to request reasonable additional information regarding the claim. Said additional information shall be supplied within thirty (30) days after receipt of notice.

The statutory prerequisites outlined herein constitute jurisdictional requirements pursuant to Section 271.154 of the Texas Local Government Code and Section 311.034 of the Texas Government Code. Notwithstanding any other provision, Licensee's failure to comply with the requirements herein shall perpetually bar Licensee's claim for damages under Chapter 271 of the Texas Local Government Code, and Section 311.034 of the Texas Government Code, regardless if Licensor has actual or constructive notice or knowledge of said claim or alleged damages. Licensee agrees that the requirements of this entire License are reasonable.

L. Consideration. The terms of this License are supported by good and valuable consideration, the receipt and sufficiency of which is hereby acknowledged by the parties named herein.

M. Waiver of Governmental Immunity; Chapter 271, TEX. LOC. GOV'T CODE. The parties hereto agree that this License does not constitute a "Contract" for providing goods and/or services to Licensor as discussed in Subchapter I of Chapter 271 of the Texas Local Government Code, and Licensor does not waive, to the maximum extent allowed by law, any constitutional, statutory or common law right to sovereign immunity or governmental immunity from liability or suit. Licensor expressly does not consent to be sued or be liable. To the maximum extent allowed by law, nothing in this License constitutes a waiver of Licensor's governmental immunity and the parties hereto expressly agree that this License shall not constitute, nor be interpreted as a waiver of Licensor's governmental immunity under Subchapter I of Chapter 271 of the Texas Local Government Code, nor shall it constitute nor be interpreted as a waiver of Licensor's governmental immunity for the benefit of any third-party lacking privity to this License.

This License does not obligate Licensee to use the Property to construct, repair, operate, replace, or maintain Licensor's facilities or structures described herein, rather, it merely prohibits Licensee from using the Property for any other purpose. This License restricts the use of the Property to a specific purpose but does not require the use of the Property for a specific purpose. Licensee is not providing a service to Licensor. Licensee is paying Licensor for temporary rights in real property, not for a service. Any such provision shall be deemed to be a covenant against noncomplying use, not a covenant to use. Licensee's use of the Property in compliance with a restriction shall not constitute a service, and such complying use shall not operate to waive Licensor's governmental immunity.

N. Compliance. Licensee agrees that it shall comply with Texas Government Code Section 2252.908, as amended, to the extent that this statute applies to this License. Licensee agrees that it shall comply with Texas Local Government Code Section 176.006, as amended, to the extent that this statute applies to this License.

O. Texas Historical Commission Survey. Licensee agrees that it shall comply with Chapter 191 of the Texas Natural Resources Code. By executing this License, Licensee represents that it has contacted the Texas Historical Commission (the “Commission”) for the purpose of determining whether the Commission will request that an archaeological survey be completed before Licensee commences operations on the Property, as contemplated herein. Licensee agrees that it shall complete or cause to be completed an archaeological survey before commencing any operations on the Property if the Commission so requests and deliver the same to Licensor. Notwithstanding any provision contained herein, in the event that any site, object, artifact, or other feature of archaeological, scientific, educational, cultural, or historical interest is encountered during the operations authorized by this License, Licensee will immediately notify Licensor and the Commission so that adequate measures may be undertaken to protect or recover such discoveries or findings, as deemed appropriate by Licensor or the Commission.

P. Waiver. No waiver of any of the provisions of this License shall be deemed or constitute a waiver of any other provisions of this License, nor shall such waiver constitute a continuing waiver unless otherwise expressly provided. Likewise, the failure of Licensor to enforce any provision of this License shall not be deemed nor shall constitute a waiver of the right of Licensor to enforce such provision.

Q. Counterpart Execution. This License may be executed in several counterparts, and any such agreement shall be deemed an original for all intents and purposes.

R. No Release of Liability. Notwithstanding anything to the contrary contained in this License, the termination or expiration of this License shall not relieve Licensee of any liability, duty or obligation under this License, nor shall it preclude Licensor from asserting any right to specific performance, damages or any other rights or remedies to which Licensor may be entitled. Upon termination or expiration of this License for any reason, Licensee shall execute and deliver a recordable release of this License to Licensor in form and substance satisfactory to Licensor.

S. Entire Agreement. This License constitutes the entire agreement between Licensor and Licensee concerning the subject matter hereof, superseding all negotiations, prior discussions, prior licenses and prior agreements and understandings related to the subject matter hereof. This License may only be amended by written instrument executed by Licensor and Licensee.

[Signature Pages Follow]

**LICENSOR:
CITY OF MIDLAND, TEXAS**

By: _____
Tommy Gonzalez, City Manager

ATTEST:

Marcia Bentley-German, City Secretary

APPROVED AS TO CONTENT AND
COMPLETENESS:

Carl Craig, Director of Utilities

APPROVED ONLY AS TO FORM:

John Ohnemiller, City Attorney

**LICENSEE:
PIONEER NATURAL RESOURCES USA, INC.**

By: [Signature]
Printed Name: Daniel M. Pender
Title: Surface Land and Business Development
Director

CL
[Signature]

THE STATE OF Texas

§
§
§

COUNTY OF Midland

BEFORE ME, the undersigned authority, on this 29th day of August, 2023 personally appeared Daniel M. Pender an officer of Pioneer Natural Resources USA, Inc., known to me to be the person and official whose name is subscribed to the foregoing instrument and acknowledged to me that he executed the same as the act and deed of said entity, for the purposes and consideration therein expressed, and in the capacity therein stated.

GIVEN UNDER MY HAND AND SEAL OF OFFICE this the 29th day of August, 2023.

[Signature]
Notary Public, State of Texas

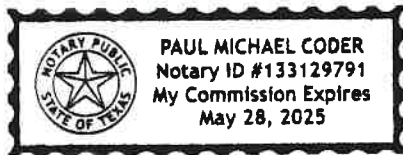
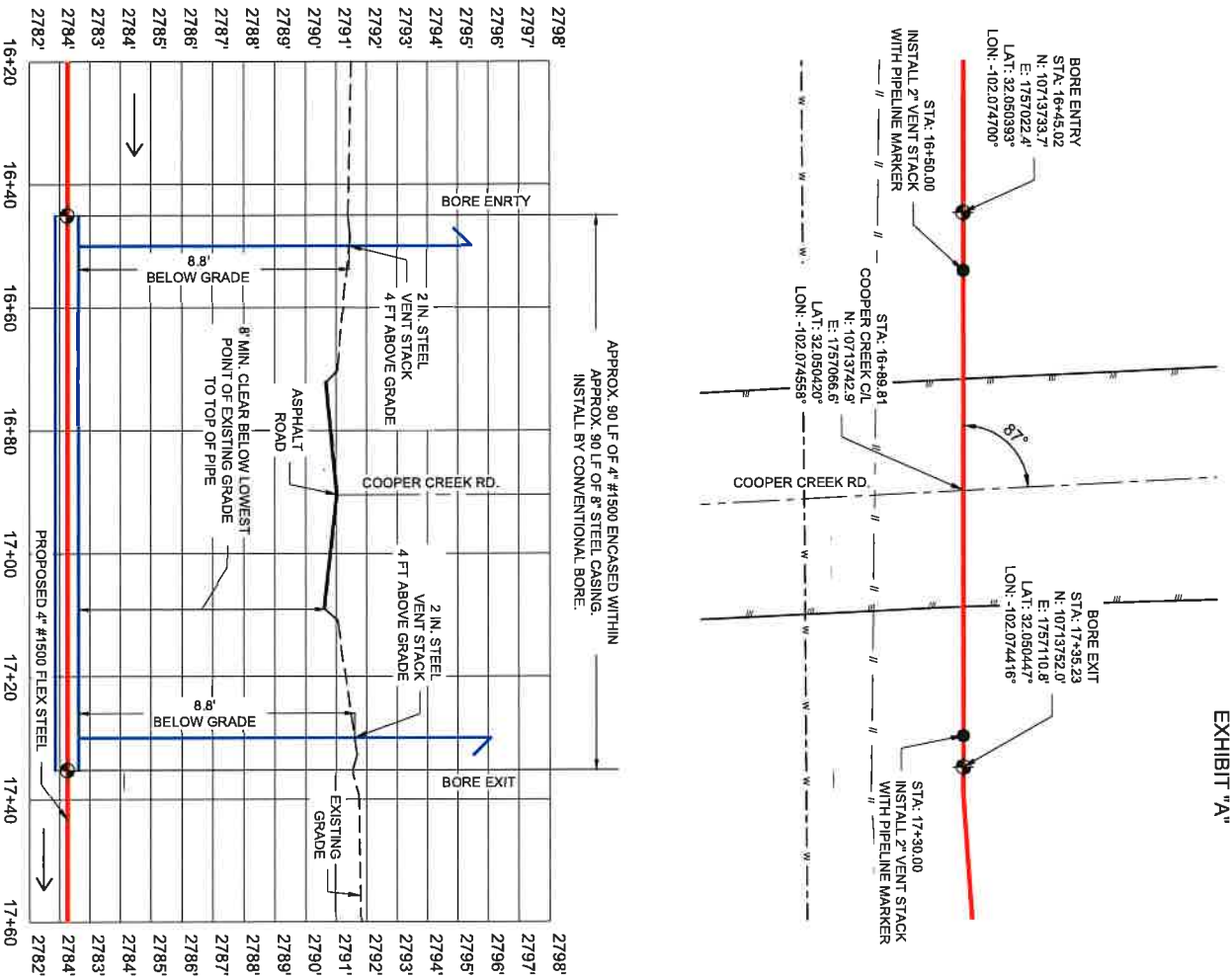


EXHIBIT "A"



II CAUTION II
ALL UNDERGROUND OBSTRUCTIONS
MAY NOT BE LOCATED
BEFORE OVERHEAD ELECTRIC

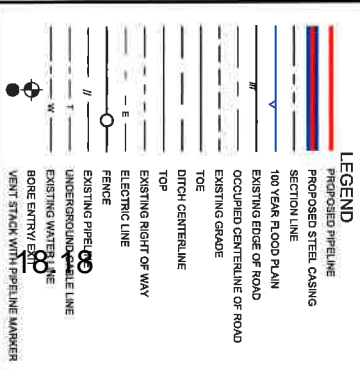
II CAUTION II
SUBSURFACE UTILITY ENGINEERING
(IF NOT REQUESTED) PROVIDED
FOR THIS PIPELINE ROUTE



THE BASIS OF BEARING OF THE SURVEY IS
THE TEXAS COORDINATE SYSTEM, NORTH
AMERICAN DATUM 1983 (NAD 83), CENTRAL
ZONE (4203).

PIPE TABLE			
PIPING SPECIFICATIONS		DESIGN DATA	
DESCRIPTION	O.D. (IN.)	W.T. (IN.)	PIPE GRADE
4\" #1500 FLEX STEEL	4.630	0.480	#1500
8\" STEEL CASING	8.625	0.322	B

		
3500 NORTH A STREET, BUILDING SUITE 120 MIDLAND, TX 79705-6444 TEL (432) 255-3255 THERMIS SURVEYING FIRM #170698		
AVO: 35252 248	DRAWN BY: K. GORDON	
DATE: 6/5/2023	CHECKED BY: M. RIVERA	
PIONEER NATURAL RESOURCES USA, INC.		
REV	DESCRIPTION	DATE
1	RE-ROUTE	7/15/2023
2	DEPTH OF COVER 8' MIN	8/11/2023
3	REVISED PER CITY OF MIDLAND COMMENT	8/15/2023



CALL 811 BEFORE DIGGING

MAP DISCLAIMER
The location of utilities as shown hereon must be considered as approximate only. Before digging, or for an exact location, please contact your state's underground utility location service.

HOGAN COMPRESSION PHASE 2
COOPER CREEK ROAD BORE

LOCATED IN: BLOCK X, ABSTRACT NO. 11,
H.P. HILLIARD SURVEY, MIDLAND COUNTY, TEXAS

COUNTY ROAD BORE

SHEET NO.: SHT003

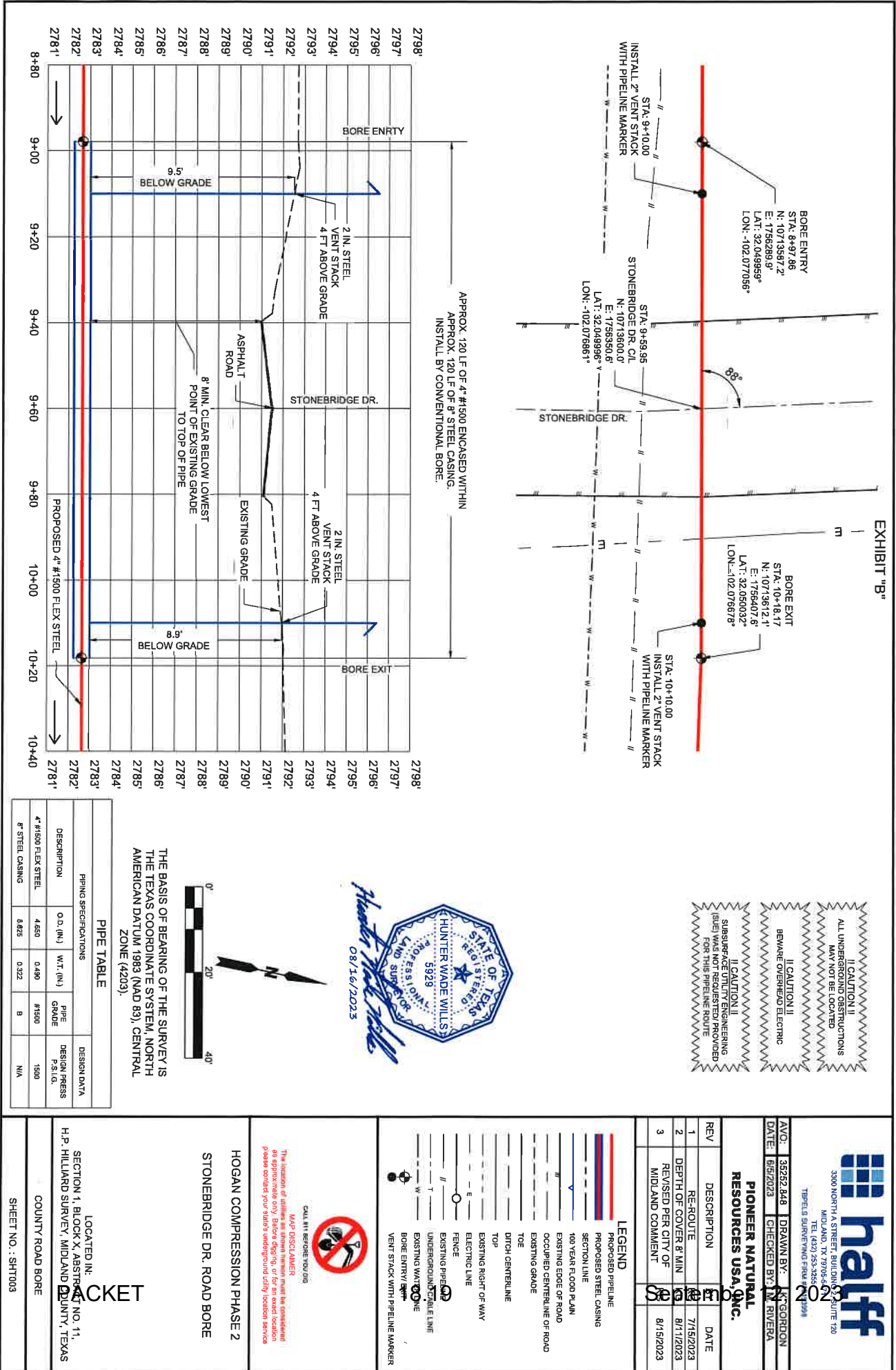
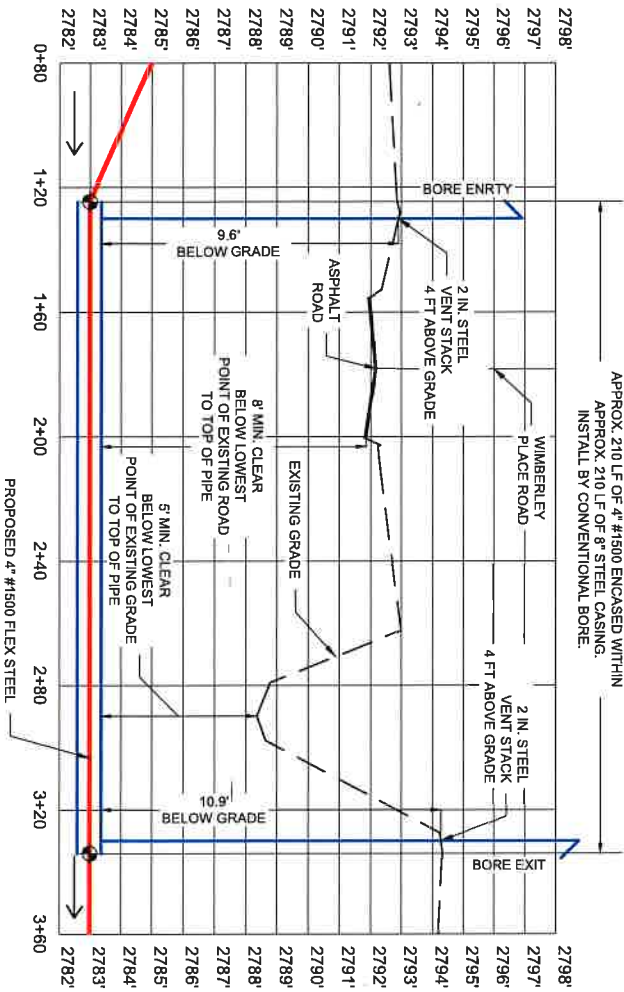
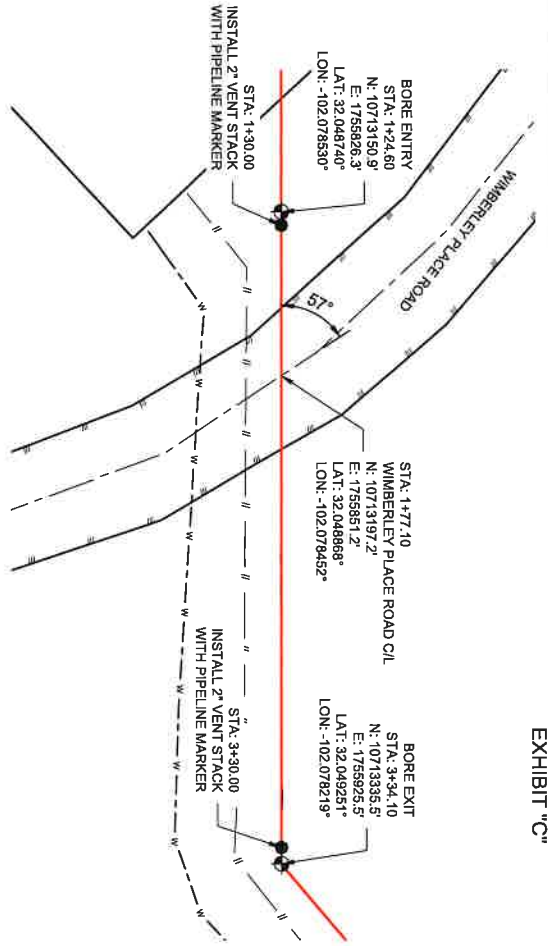


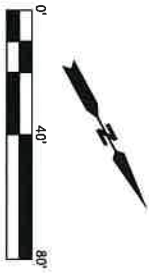
EXHIBIT "C"



II CAUTION II
ALL UNDERGROUND OBSTRUCTIONS
MAY NOT BE LOCATED

II CAUTION II
BEWARE OVERHEAD ELECTRIC

II CAUTION II
SUSPENSE UTILITY ENGINEERING
(SUE) FOR THIS PIPELINE ROUTE



THE BASIS OF BEARING OF THE SURVEY IS
THE TEXAS COORDINATE SYSTEM, NORTH
AMERICAN DATUM 1983 (NAD 83), CENTRAL
ZONE (4203).

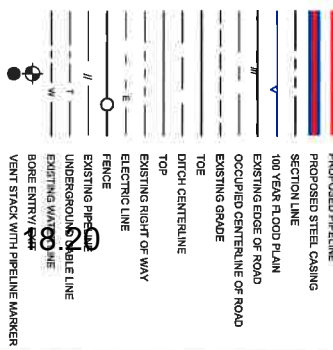
PIPE TABLE

PIPING SPECIFICATIONS			DESIGN DATA	
DESCRIPTION	O.D. (IN.)	W.T. (IN.)	PIPE GRADE	DESIGN PRESS. P.S.I.G.
4" #1500 FLEX STEEL	4.850	0.430	#1500	1500
8" STEEL CASING	8.625	0.332	B	N/A

PIIONEER NATURAL
RESOURCES USA, INC.

AYO:	35252-848	DRAWN BY:	J.C. GORDON
DATE:	8/5/2023	CHECKED BY:	J.C. GORDON
PIONEER NATURAL RESOURCES USA, INC.			
REV	DESCRIPTION	DATE	
1	RE-ROUTE	7/15/2023	
2	DEPTH OF COVER 8 MIN	8/11/2023	
3	REVISED PER CITY OF MIDLAND COMMENT	8/15/2023	

LEGEND



CALL BY REGION: YOU DID

MAP DISCLAIMER
The location of utilities is shown for information only. It is not intended to be used for design purposes. Please contact your utility underground utility location service.

HOGAN COMPRESSION PHASE 2

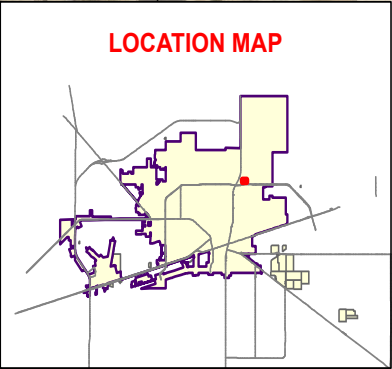
WIMBERLEY PLACE RD. BORE

LOCATED IN:
SECTION 1, BLOCK X, ABSTRACT NO. 11
H.P. HILLIARD SURVEY, MIDLAND COUNTY, TEXAS

COUNTY ROAD BORE

SHEET NO.: SHT003





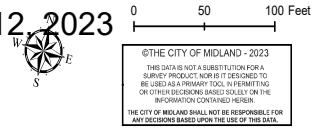
- Proposed Road Bore
- Street
- Survey Section

PACKET

Pioneer Proposed Road Bore

Total Length is 24.6 Rods (405.95 Ft)

September 12, 2023



Date: 8/14/2023

PIONEER

NATURAL RESOURCES

August 10, 2023

City of Midland
300 N. Loraine
P.O Box 1152
Midland, Texas 79702

Re: Request for Proof of Insurance / Self-Insurance

Ladies and Gentlemen,

This letter is to advise that Pioneer Natural Resources USA, Inc. ("Pioneer") is self-insured up to \$25,000,000 for contractual obligations relating to Commercial General Liability insurance. Since there is no primary general liability policy, Pioneer responds to claims that would otherwise be covered by a Commercial General Liability insurance policy, including but not limited to Premises Operations, Products/Completed Operations, Personal/Advertising Liability, Contractual Liability, Sudden and Accidental Pollution, and Cross Liability claims.

Should the Commercial General Liability Insurance requirement under the terms of the agreement between Pioneer and City of Midland ("CoM") require Pioneer to name CoM as additional insured, we confirm this requirement by this letter that CoM is considered an additional insured but only to the extent of the liabilities assumed by Pioneer in a signed and written agreement with CoM.

In addition, should the Commercial General Liability Insurance requirement under the terms of the agreement require Pioneer to provide a Waiver of Subrogation in favor of CoM, we confirm this requirement by this letter that Pioneer agrees to provide a Waiver of Subrogation in favor of CoM but only to the extent of the liabilities assumed by Pioneer in a signed and written agreement with CoM.

This self-insurance letter is in lieu of a certificate of insurance and fulfills Pioneer's proof of insurance requirement by the CoM and will remain valid until the expiration or earlier termination of the agreement (including any renewal thereof). For reporting and tracking purposes, this self-insured Commercial General Liability limit has the same effective/expiration dates as shown on the insurance certificate evidencing Auto Liability and Workers' Compensation/Employer's Liability.

For evidence of requisite net worth of Pioneer, please visit <https://www.pxd.com> to view the current annual and quarterly reports.

If you have any questions or concerns, please contact me at Michael.Bustos@pxd.com or 972.969.5992.

Sincerely,



Michael Bustos
Assistant Risk Manager



CERTIFICATE OF LIABILITY INSURANCE

DATE (MM/DD/YYYY)
08/10/2023

THIS CERTIFICATE IS ISSUED AS A MATTER OF INFORMATION ONLY AND CONFERS NO RIGHTS UPON THE CERTIFICATE HOLDER. THIS CERTIFICATE DOES NOT AFFIRMATIVELY OR NEGATIVELY AMEND, EXTEND OR ALTER THE COVERAGE AFFORDED BY THE POLICIES BELOW. THIS CERTIFICATE OF INSURANCE DOES NOT CONSTITUTE A CONTRACT BETWEEN THE ISSUING INSURER(S), AUTHORIZED REPRESENTATIVE OR PRODUCER, AND THE CERTIFICATE HOLDER.

IMPORTANT: If the certificate holder is an ADDITIONAL INSURED, the policy(ies) must have ADDITIONAL INSURED provisions or be endorsed. If SUBROGATION IS WAIVED, subject to the terms and conditions of the policy, certain policies may require an endorsement. A statement on this certificate does not confer rights to the certificate holder in lieu of such endorsement(s).

PRODUCER MARSH USA LLC. 2929 Allen Parkway, Suite 2500 Houston, TX 77019		CONTACT NAME: PHONE (A/C, No, Ext): FAX (A/C, No): E-MAIL ADDRESS:	
CN102491118-GAWUX-22-23 GAWU U2		INSURER(S) AFFORDING COVERAGE	
INSURED Pioneer Natural Resources Company 777 Hidden Ridge Dr Irving, TX 75038		INSURER A: Liberty Mutual Fire Insurance Company NAIC # 23035	
		INSURER B: The First Liberty Insurance Corporation NAIC # 33588	
		INSURER C: N/A NAIC # N/A	
		INSURER D:	
		INSURER E:	
		INSURER F:	

COVERAGES

CERTIFICATE NUMBER:

HOU-003709956-13

REVISION NUMBER: 23

THIS IS TO CERTIFY THAT THE POLICIES OF INSURANCE LISTED BELOW HAVE BEEN ISSUED TO THE INSURED NAMED ABOVE FOR THE POLICY PERIOD INDICATED. NOTWITHSTANDING ANY REQUIREMENT, TERM OR CONDITION OF ANY CONTRACT OR OTHER DOCUMENT WITH RESPECT TO WHICH THIS CERTIFICATE MAY BE ISSUED OR MAY PERTAIN, THE INSURANCE AFFORDED BY THE POLICIES DESCRIBED HEREIN IS SUBJECT TO ALL THE TERMS, EXCLUSIONS AND CONDITIONS OF SUCH POLICIES. LIMITS SHOWN MAY HAVE BEEN REDUCED BY PAID CLAIMS.

INSR LTR	TYPE OF INSURANCE	ADDL INSD	SUBR WVD	POLICY NUMBER	POLICY EFF (MM/DD/YYYY)	POLICY EXP (MM/DD/YYYY)	LIMITS
X	COMMERCIAL GENERAL LIABILITY			Self-Insured-Attached	11/01/2022	11/01/2023	EACH OCCURRENCE \$ DAMAGE TO RENTED PREMISES (Ea occurrence) \$ MED EXP (Any one person) \$ PERSONAL & ADV INJURY \$ GENERAL AGGREGATE \$ PRODUCTS - COMP/OP AGG \$
	CLAIMS-MADE ☒ OCCUR						
	GEN'L AGGREGATE LIMIT APPLIES PER:						
	☒ POLICY ☐ PRO-JECT ☐ LOC						
	OTHER:						
A	AUTOMOBILE LIABILITY			AS2-691-420373-032	11/01/2022	11/01/2023	COMBINED SINGLE LIMIT (Ea accident) \$ 1,000,000 BODILY INJURY (Per person) \$ BODILY INJURY (Per accident) \$ PROPERTY DAMAGE (Per accident) \$
	☒ ANY AUTO						
	☐ OWNED AUTOS ONLY	☐ SCHEDULED AUTOS					
	☐ HIRED AUTOS ONLY	☐ NON-OWNED AUTOS ONLY					
	☐ UMBRELLA LIAB	☒ OCCUR		Self-Insured-Attached	11/01/2022	11/01/2023	EACH OCCURRENCE \$ 25,000,000
	EXCESS LIAB	CLAIMS-MADE					AGGREGATE \$ 25,000,000
	DED	RETENTION \$					
B	WORKERS COMPENSATION AND EMPLOYERS' LIABILITY			WA6-69D-420373-172	11/01/2022	11/01/2023	☒ PER STATUTE ☐ OTH-ER E.L. EACH ACCIDENT \$ 1,000,000 E.L. DISEASE - EA EMPLOYEE \$ 1,000,000 E.L. DISEASE - POLICY LIMIT \$ 1,000,000
	ANY PROPRIETOR/PARTNER/EXECUTIVE OFFICER/MEMBER EXCLUDED? (Mandatory in NH)	☒ Y ☐ N	N/A				
	If yes, describe under DESCRIPTION OF OPERATIONS below						

DESCRIPTION OF OPERATIONS / LOCATIONS / VEHICLES (ACORD 101, Additional Remarks Schedule, may be attached if more space is required)

Subject always to policy terms, conditions and exclusions, Certificate Holder is named as Additional Insured but only to the extent of risks and liabilities assumed by the Named Insured in a signed written contract. Subject always to policy terms, conditions and exclusions, Subject always to policy terms, conditions and exclusions, Waiver of Subrogation is granted in favor of Certificate Holder but only to the extent of risks and liabilities assumed by the Named Insured in a signed written contract.

Re: Right of Way License and all permitted wells operated in the City limits of Midland

CERTIFICATE HOLDER

CANCELLATION

City of Midland
300 N. Loraine
P.O. Box 1152
Midland, TX 79702

SHOULD ANY OF THE ABOVE DESCRIBED POLICIES BE CANCELLED BEFORE THE EXPIRATION DATE THEREOF, NOTICE WILL BE DELIVERED IN ACCORDANCE WITH THE POLICY PROVISIONS.

AUTHORIZED REPRESENTATIVE

PACKET

18.23

September 12, 2023
Marsh USA Inc.

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ADDITIONAL REMARKS SCHEDULE

Page 2 of 2

AGENCY MARSH USA LLC.		NAMED INSURED Pioneer Natural Resources Company 777 Hidden Ridge Dr Irving, TX 75038
POLICY NUMBER		
CARRIER	NAIC CODE	EFFECTIVE DATE:

ADDITIONAL REMARKS

THIS ADDITIONAL REMARKS FORM IS A SCHEDULE TO ACORD FORM,

FORM NUMBER: 25 FORM TITLE: Certificate of Liability Insurance

The General Liability is self-insured for \$2,000,000.

The Umbrella policy evidenced above is a \$25,000,000 self-insured retention (SIR).



CERTIFICATE OF LIABILITY INSURANCE

DATE (MM/DD/YYYY)
08/10/2023

THIS CERTIFICATE IS ISSUED AS A MATTER OF INFORMATION ONLY AND CONFERS NO RIGHTS UPON THE CERTIFICATE HOLDER. THIS CERTIFICATE DOES NOT AFFIRMATIVELY OR NEGATIVELY AMEND, EXTEND OR ALTER THE COVERAGE AFFORDED BY THE POLICIES BELOW. THIS CERTIFICATE OF INSURANCE DOES NOT CONSTITUTE A CONTRACT BETWEEN THE ISSUING INSURER(S), AUTHORIZED REPRESENTATIVE OR PRODUCER, AND THE CERTIFICATE HOLDER.

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PRODUCER MARSH USA LLC. 2929 Allen Parkway, Suite 2500 Houston, TX 77019		CONTACT NAME: PHONE (A/C, No, Ext): E-MAIL ADDRESS:	
INSURED Pioneer Natural Resources Company 777 Hidden Ridge Dr Irving, TX 75038		INSURER(S) AFFORDING COVERAGE INSURER A : See Additional Page INSURER B : INSURER C : INSURER D : INSURER E : INSURER F :	
CN102491118-EP-22-23	GAWU	U2	NAIC #

COVERAGES

CERTIFICATE NUMBER:

HOU-004038060-14

REVISION NUMBER: 7

THIS IS TO CERTIFY THAT THE POLICIES OF INSURANCE LISTED BELOW HAVE BEEN ISSUED TO THE INSURED NAMED ABOVE FOR THE POLICY PERIOD INDICATED. NOTWITHSTANDING ANY REQUIREMENT, TERM OR CONDITION OF ANY CONTRACT OR OTHER DOCUMENT WITH RESPECT TO WHICH THIS CERTIFICATE MAY BE ISSUED OR MAY PERTAIN, THE INSURANCE AFFORDED BY THE POLICIES DESCRIBED HEREIN IS SUBJECT TO ALL THE TERMS, EXCLUSIONS AND CONDITIONS OF SUCH POLICIES. LIMITS SHOWN MAY HAVE BEEN REDUCED BY PAID CLAIMS.

INSR LTR	TYPE OF INSURANCE	ADDL INSD	SUBR WVD	POLICY NUMBER	POLICY EFF (MM/DD/YYYY)	POLICY EXP (MM/DD/YYYY)	LIMITS
	COMMERCIAL GENERAL LIABILITY						EACH OCCURRENCE \$
	☐ CLAIMS-MADE ☐ OCCUR						DAMAGE TO RENTED PREMISES (Ea occurrence) \$
							MED EXP (Any one person) \$
							PERSONAL & ADV INJURY \$
	GEN'L AGGREGATE LIMIT APPLIES PER:						GENERAL AGGREGATE \$
	☐ POLICY ☐ PRO-JECT ☐ LOC						PRODUCTS - COMP/OP AGG \$
	OTHER:						\$
	AUTOMOBILE LIABILITY						COMBINED SINGLE LIMIT (Ea accident) \$
	☐ ANY AUTO						BODILY INJURY (Per person) \$
	☐ OWNED AUTOS ONLY ☐ SCHEDULED AUTOS						BODILY INJURY (Per accident) \$
	☐ HIRED AUTOS ONLY ☐ NON-OWNED AUTOS ONLY						PROPERTY DAMAGE (Per accident) \$
							\$
	UMBRELLA LIAB ☐ OCCUR						EACH OCCURRENCE \$
	EXCESS LIAB ☐ CLAIMS-MADE						AGGREGATE \$
	☐ DED ☐ RETENTION \$						\$
	WORKERS COMPENSATION AND EMPLOYERS' LIABILITY						☐ PER STATUTE ☐ OTH-ER
	ANY PROPRIETOR/PARTNER/EXECUTIVE OFFICER/MEMBER EXCLUDED? (Mandatory in NH)	☐ Y / ☒ N	N / A				E.L. EACH ACCIDENT \$
	If yes, describe under DESCRIPTION OF OPERATIONS below						E.L. DISEASE - EA EMPLOYEE \$
							E.L. DISEASE - POLICY LIMIT \$
A	Energy Package			B0621EJLPN000122	11/01/2022	11/01/2023	Limit \$10,000,000 SIR \$1,000,000

DESCRIPTION OF OPERATIONS / LOCATIONS / VEHICLES (ACORD 101, Additional Remarks Schedule, may be attached if more space is required)
Re: Right of Way License and all permitted wells operated in the City limits of Midland

CERTIFICATE HOLDER City of Midland 300 N. Lorraine P.O. Box 1152 Midland, TX 79702	CANCELLATION SHOULD ANY OF THE ABOVE DESCRIBED POLICIES BE CANCELLED BEFORE THE EXPIRATION DATE THEREOF, NOTICE WILL BE DELIVERED IN ACCORDANCE WITH THE POLICY PROVISIONS. AUTHORIZED REPRESENTATIVE September 12, 2023 Marsh USA Inc.
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City Council Meeting

Item Number: 19
Meeting Date: September 12, 2023
To: City Council / City Manager
From: Carl Craig, Director
Subject: Motion authorizing the execution of a lease agreement with New Cingular Wireless PCS, LLC regarding City-owned property located at 4203 Shell Avenue, Midland, Texas 79707 (DISTRICT 4) (UTILITIES)

Purpose:

This motion replaces the current lease that expired March 29, 2023 (resolution 2018-120).

Recommended City Council Action:

Approve

Fiscal Impact:

Lessee will pay the City of Midland \$2,500 a month for use of facilities.

Discussion:

The lease has no changes from the previous lease.

A handwritten signature in black ink, appearing to read "Morris Williams Jr.", is positioned above a horizontal line.

City Manager's Office

LEASE AGREEMENT

THIS LEASE AGREEMENT (“Agreement”) is made and effective this 29th day of March, 2023, by and between the CITY OF MIDLAND, TEXAS (“Lessor”), and NEW CINGULAR WIRELESS PCS, LLC (“Lessee”).

I. RECITALS

WHEREAS, Lessor owns certain property described herein that is utilized for water tower and other municipal purposes; and

WHEREAS, Lessee desires to use said property for the purposes of maintaining and operating a communications transmitting and receiving site and control building;

NOW, THEREFORE, in consideration of the mutual covenants hereinafter contained, the parties agree as follows:

II. DEFINITIONS

A. **“Access Facility”** means fencing and an access gate, which Lessee constructs or has constructed, at Lessee’s sole cost and expense. Lessee’s construction of the Access Facility shall be subject to the approval of Lessor. Prior to the construction of the Access Facility, Lessee shall submit the plans and specifications to the Utilities Director for approval. The Access Facility shall be constructed and maintained completely at Lessee’s sole cost and expense.

B. **“City”** means the City of Midland, Texas.

C. **“City Property”** means the City-owned property known as Shell Tower Site as shown on **Exhibit A** attached hereto and incorporated herein for all legal purposes, and within which is the Leased Premises.

D. **“Leased Premises”** means the area (including the Access Facility) within City Property as shown on **Exhibit A**, attached hereto and incorporated herein, and to which Lessee is granted access pursuant to this Agreement for the purpose of accomplishing Lessee’s Telecommunications Activities.

E. **“Telecommunications Activities”** means the transmission and reception of communications signals and the installation, construction, maintenance, operation, repair, replacement of communications equipment, cables, and accessories.

F. **“Permitted Equipment”** means Lessee’s equipment located on the Leased Premises and listed on **Exhibit B**, attached hereto and incorporated herein.

G. **“Utilities Director”** means Carl Craigo, P.E., Utilities Director, City of Midland, Texas, or her successor as appointed by the City Manager.

H. “Authorized Personnel” means a City of Midland employee, or any other person or entity appointed by the City of Midland, who performs specified job duties as associated with the Agreement.

II. USE

A. Lease & Use. Lessor hereby leases to Lessee and Lessee hereby leases from Lessor the Leased Premises. This Agreement does not confer any ownership rights whatsoever to Lessee, and the City Property (inclusive of the Leased Premises) is and shall remain the sole property of the City.

Lessee shall only be granted access to the Leased Premises for the purpose of accomplishing Lessee’s Telecommunications Activities. Lessee has the right but not the obligation to modify or replace its communications equipment, cables and accessories, at Lessee’s sole cost and expense, as may be necessary to comply with applicable governmental rules, regulations or laws, including, but not limited to, those related to emergency 911 communication services. Lessee is prohibited from constructing, installing or placing any other equipment on the Leased Premises other than the Permitted Equipment.

B. Access. Lessor and Lessee agree that Lessee shall at all times during the term of this Agreement have the rights of ingress and egress to and from the Leased Premises via Lessee’s Access Facility for the purpose of accomplishing Lessee’s Telecommunications Activities. Lessee shall enter the Leased Premises through the established gates.

In the event that Lessee requires access to City Property the Lessee shall (i) notify the Utilities Director in writing at least two (2) business days in advance, and (ii) pay to Lessor access fee of \$100.00 for any requested access to City Property outside of normal business hours or on holidays. Lessee shall not access City Property unless escorted and accompanied by Authorized Personnel.

C. Interference. Lessee shall not use the City Property or the Leased Premises in any way which interferes with the use of Lessor’s use of the City Property. Such interference by Lessee shall be deemed a material breach by Lessee, who shall, upon notice from Lessor, terminate said interference immediately. In the event said interference does not cease promptly, as determined by Lessor, Lessor shall have the right to terminate this Agreement immediately upon written notice to Lessee. **LESSEE SHALL INDEMNIFY AND HOLD HARMLESS AND DEFEND LESSOR IN RELATION TO ANY PROBLEMS OR LIABILITY ARISING FROM INTERFERENCE FROM LESSEE’S USE OF THE LEASED PREMISES OR ANY OF ITS OPERATIONS WITHIN LESSOR’S CITY PROPERTY.**

D. Costs. All associated construction costs, along with any costs associated with Lessee’s operations on the Leased Premises including supply of related utilities, shall be the responsibility of Lessee.

E. Fixtures. No building, poles, antenna systems, tower, equipment or other improvements erected or installed in or upon the Leased Premises or the City Property by Lessee shall be

deemed to be a fixture, and Lessee shall have the right at any time prior to sixty (60) days after the termination of this Agreement for any cause, to remove from the Leased Premises or the City Property, at Lessee's sole cost and expense, any and all buildings, poles, antenna systems, towers, equipment or other improvements belonging to Lessee which may have been placed thereon by Lessee. If Lessee does not remove its equipment or improvements by the end of the sixty (60) day period, Lessor may remove such at Lessee's sole cost and expense.

F. "AS IS". LESSEE AGREES AND ACKNOWLEDGES LESSEE IS LEASING THE LEASED PREMISES "AS IS" WITH ANY AND ALL LATENT AND PATENT DEFECTS AND THAT THERE IS NO WARRANTY, EXPRESS OR IMPLIED, BEING MADE BY LESSOR THAT THE LEASED PREMISES ARE FIT FOR A PARTICULAR PURPOSE. LESSEE ACKNOWLEDGES THAT LESSEE IS NOT RELYING UPON ANY REPRESENTATION MADE BY LESSOR WITH RESPECT TO THE CONDITION OF THE LEASED PREMISES, BUT IS RELYING UPON LESSEE'S EXAMINATION OF THE LEASED PREMISES. LESSEE ALSO RECOGNIZES THAT LESSEE IS AGREEING TO LEASE THE LEASED PREMISES "AS IS"; THAT LESSEE AGREES TO MAKE LESSEE'S OWN APPRAISAL OF THE LEASED PREMISES, AND TO ACCEPT THE RISK THAT LESSEE MAY BE WRONG. LESSOR GIVES NO ASSURANCES, EXPRESS OR IMPLIED, CONCERNING THE VALUE OR CONDITION OF THE LEASED PREMISES. IN NO EVENT SHALL LESSEE HAVE A RIGHT TO RECOVER CONSEQUENTIAL DAMAGES. THEREFORE, LESSEE WILL TAKE THE LEASED PREMISES UNDER THE EXPRESS UNDERSTANDING THE LEASED PREMISES ARE ACCEPTED "AS IS" AND WITH ALL FAULTS.

G. Subleases. Lessee shall not sublease the Leased Premises to any person or entity except with the prior written approval of Lessor, which shall be in Lessor's sole discretion. In the event Lessee is permitted by Lessor to sublease a portion of the Leased Premises, Lessee shall pay to Lessor a subletting fee of \$2,500.00 per month, per sublessee, which shall be due on the first (1st) day of each month during the term of this Agreement. Any such subletting fee shall be in addition to any other rental fees or concessions due to Lessor. Lessee agrees that any such sublessee shall assume the same rights, responsibilities and obligations as Lessee under this Agreement, including rental payments due to Lessor.

H. Use by Lessee. Lessee is permitted to maintain, operate, repair, replace and upgrade the Permitted Equipment. All upgrades and replacements will use existing mounting fixtures. Lessee shall not install or use new mounting fixtures or hardware. Lessee shall not be permitted to use generators or any additional devices in order to produce power.

Prior to any modification to the Permitted Equipment, Lessee shall submit its construction and installation plans to Lessor in writing for Lessor's review and approval, which shall not be unreasonably withheld, delayed or conditioned. Lessee shall not alter any plans approved by Lessor without Lessor's prior written consent. Lessee shall be responsible for grounding all external and internal wiring and cabling installed by Lessee.

City Property will be inspected by Lessor prior to and after Lessee performs any modifications, repairs, replacements or upgrades to determine if damage occurred to City Property as a result of Lessee's work. In an emergency, and upon approval by Lessor, repairs may be made by Lessee. Following such repairs, Lessor will inspect City property as soon as practical. Any damage to City Property shall be immediately repaired to Lessor's satisfaction by a contractor approved by Lessor, at the sole expense of Lessee.

Lessee, at sole Lessee's expense, will obtain power and telco directly billed from the local providers.

Lessee shall not use its Permitted Equipment in any way that interferes with the operation, maintenance and repair by Lessor, or third parties, of equipment and systems as installed and operating at the Leased Premises as of the date the Permitted Equipment is installed.

Lessee shall be entitled to unlimited access to the Leased Premises to maintain its Permitted Equipment, subject to the security requirements and reasonable rules and regulations for the telecommunications equipment located on the Leased Premises.

Lessee shall, at Lessee's sole expense, keep and maintain its ground space, if any, as provided for hereunder and its Permitted Equipment in reasonable condition and repair.

Lessee's operations in connection with the Permitted Equipment and ground space, if any, must be in compliance with all federal, state, and local laws, codes and regulations, including but not limited to local zoning requirements, and will adhere to reasonable technical standards, if any, developed for telecommunications equipment and the Leased Premises as amended from time to time. Lessor assumes no responsibility for the licensing, operation or maintenance of the Permitted Equipment.

No tower modifications required to accommodate Lessee's Permitted Equipment are allowed.

III. TERM & TERMINATION

A. Term. This Agreement shall be for a term of five (5) years commencing on March 29, 2023, and ending on March 29, 2028, unless terminated sooner as provided herein.

B. For Cause. This Agreement may be terminated, without any penalty or further liability, upon at least thirty (30) days' written notice by either party upon default of any covenant or term hereof by the other party which is not cured within thirty (30) days of receipt of written notice of default and termination.

C. For Interference. This Agreement may be terminated, without any penalty or further liability, immediately after delivery of written notice to Lessee, upon Lessee's failure to promptly remedy an event deemed by the Lessor as interference as described herein.

D. By Act of Law. If during the term of this Agreement, Lessee shall be prevented by federal, municipal, county, state or other legal authority from maintaining or operating a communications site on the Leased Premises, Lessee shall have the sole option to terminate the Agreement by giving at least thirty (30) days' written notice to Lessor of its termination of the Agreement. Upon termination, all parties hereto shall be relieved of any further obligation hereunder, and Lessor shall not be required to refund any rent which may have been paid in advance by Lessee.

E. Termination at Will. Notwithstanding any other provision of this Agreement, either party to this Agreement may terminate this Agreement at will for no or any reason upon giving at least three hundred sixty-five (365) days' written notice to the other party, without penalty to the terminating party. Neither party has any expectation nor has received any guarantee that this Agreement will not be terminated before the end of the Agreement term. The parties have bargained for the flexibility of terminating this Agreement upon tender of the requisite notice at any time during the term of the Agreement. All work and services under the Agreement shall be suspended upon termination of the Agreement becoming effective. The parties to this Agreement understand and agree that it is in either party's sole discretion to cancel the Agreement during the term of the Agreement without penalty to the cancelling party.

IV. RENT

Lessee agrees to pay Lessor as rent for the use and occupancy of the Leased Premises, and for rights and privileges appurtenant thereto during the term of this Agreement the amount of \$2,500.00 per month. Payment shall be due on or before the 15th day of each month during the term of this Agreement.

V. STANDARD TERMS & CONDITIONS

A. Attorney Fees. BY EXECUTING THIS AGREEMENT, LESSEE AGREES TO WAIVE AND DOES HEREBY KNOWINGLY, CONCLUSIVELY, VOLUNTARILY AND INTENTIONALLY WAIVE ANY CLAIM IT HAS OR MAY HAVE IN THE FUTURE AGAINST LESSOR REGARDING THE AWARD OF ATTORNEY FEES, WHICH ARE IN ANY WAY RELATED TO THE AGREEMENT, OR THE CONSTRUCTION, INTERPRETATION OR BREACH OF THE AGREEMENT. LESSEE SPECIFICALLY AGREES THAT IF LESSEE BRINGS OR COMMENCES ANY LEGAL ACTION OR PROCEEDING RELATED TO THIS AGREEMENT, THE CONSTRUCTION, INTERPRETATION, VALIDITY OR BREACH OF THIS AGREEMENT, INCLUDING BUT NOT LIMITED TO ANY ACTION PURSUANT TO THE PROVISIONS OF THE TEXAS UNIFORM DECLARATORY JUDGMENTS ACT (TEXAS CIVIL PRACTICE AND REMEDIES CODE SECTION 37.001, ET SEQ., AS AMENDED), OR CHAPTER 271 OF THE TEXAS LOCAL GOVERNMENT CODE, LESSEE AGREES TO ABANDON, WAIVE AND RELINQUISH ANY AND ALL RIGHTS TO THE RECOVERY OF ATTORNEY FEES TO WHICH LESSEE MIGHT OTHERWISE BE ENTITLED.

LESSEE AGREES THAT THIS IS THE VOLUNTARY AND INTENTIONAL RELINQUISHMENT AND ABANDONMENT OF A PRESENTLY EXISTING KNOWN RIGHT. LESSEE ACKNOWLEDGES THAT IT UNDERSTANDS ALL TERMS AND CONDITIONS OF THE AGREEMENT. LESSEE FURTHER ACKNOWLEDGES AND AGREES THAT THERE WAS AND IS NO DISPARITY OF BARGAINING POWER BETWEEN LESSOR AND LESSEE. THIS SECTION SHALL NOT BE CONSTRUED OR INTERPRETED AS A WAIVER OF GOVERNMENTAL IMMUNITY.

LESSEE AND LESSOR ARE RELYING ON THEIR OWN JUDGMENT. EACH PARTY HAD THE OPPORTUNITY TO DISCUSS THIS AGREEMENT WITH LEGAL COUNSEL PRIOR TO ITS EXECUTION.

B. Third Party Beneficiary. Lessor's approval of this Agreement does not create a third-party beneficiary. There is no third-party beneficiary to this Agreement. No person or entity who is not a party to this Agreement shall have any third-party beneficiary or other rights hereunder.

C. Governmental Immunity. By executing this Agreement Lessor is not waiving its right of governmental immunity. Lessor is retaining its immunity from suit. Lessor is not granting consent to be sued by legislative resolution or action. **THERE IS NO WAIVER OF GOVERNMENTAL IMMUNITY.**

D. Indemnity. LESSEE WILL INDEMNIFY AND HOLD HARMLESS AND DEFEND LESSOR AND ALL OF LESSOR'S OFFICERS, AGENTS AND EMPLOYEES FROM ALL SUITS, ACTIONS, CLAIMS, DAMAGES, PERSONAL INJURIES, ACCIDENTAL DEATH, LOSSES, PROPERTY DAMAGE AND EXPENSES OF ANY CHARACTER WHATSOEVER, INCLUDING REASONABLE ATTORNEY'S FEES, BROUGHT FOR OR ON ACCOUNT OF ANY INJURIES OR DAMAGES RECEIVED OR SUSTAINED BY ANY PERSON OR PERSONS OR PROPERTY, ON ACCOUNT OF ANY NEGLIGENT ACT OF LESSEE, ITS AGENTS OR EMPLOYEES, OR ANY SUBCONTRACTOR, ARISING OUT OF, OR RESULTING FROM, LESSEE'S USE OF, OR ACTIVITIES ON, THE LEASED PREMISES, AND LESSEE WILL BE REQUIRED TO PAY ANY JUDGMENT WITH COSTS WHICH MAY BE OBTAINED AGAINST LESSOR OR ANY OF ITS OFFICERS, AGENTS OR EMPLOYEES WITH RESPECT TO SUCH INDEMNIFIED CLAIMS, INCLUDING REASONABLE ATTORNEY'S FEES.

LESSEE SHALL INDEMNIFY AND HOLD HARMLESS AND DEFEND LESSOR AND ALL OF LESSOR'S OFFICERS, AGENTS AND EMPLOYEES FROM ALL SUITS, ACTIONS, CLAIMS, DAMAGES, PERSONAL INJURIES, ACCIDENTAL DEATH, PROPERTY DAMAGE, LOSSES, AND EXPENSE OF ANY CHARACTER WHATSOEVER INCLUDING REASONABLE ATTORNEY'S FEES, BROUGHT FOR OR ON ACCOUNT OF ANY INJURIES OR DAMAGES RECEIVED OR SUSTAINED BY ANY PERSON OR PERSONS OR PROPERTY, ON ACCOUNT OF ANY NEGLIGENT ACT OF LESSOR, LESSOR'S OFFICERS, AGENTS AND EMPLOYEES, WHETHER SUCH NEGLIGENT ACT WAS THE SOLE PROXIMATE CAUSE OF THE INJURY OR DAMAGE OR A PROXIMATE CAUSE JOINTLY AND

CONCURRENTLY WITH LESSEE OR LESSEE'S EMPLOYEES, AGENTS OR SUBCONTRACTOR'S NEGLIGENCE, IN THE EXECUTION, SUPERVISION AND OPERATIONS GROWING OUT OF OR IN ANY WAY CONNECTED WITH THE PERFORMANCE OF THIS AGREEMENT AND LESSEE WILL BE REQUIRED TO PAY ANY JUDGMENT WITH COSTS WHICH MAY BE OBTAINED AGAINST LESSOR OR ANY OF LESSOR'S OFFICERS, AGENTS OR EMPLOYEES, INCLUDING ATTORNEY'S FEES.

E. Notice of Alleged Breach; Statutory Prerequisites. As a conditions precedent to filing suit for alleged damages incurred by an alleged breach of an express or implied provision of this Agreement, Lessee or its legal representative, shall give the City Manager notice in writing (consisting of one (1) original and seven (7) copies of the notice attached to a copy of this Agreement) of such damages, duly verified, within one hundred twenty (120) days after the same has been sustained. The discovery rule does not apply to the giving of this notice. The notice shall include when, where and how the damages occurred, the apparent extent thereof, the amount of damages sustained, the amount for which Lessee will settle, the physical and mailing addresses of Lessee at the time and date the claim was presented and the physical and mailing addresses of Lessee for the six (6) months immediately preceding the occurrence of such damages, and the names and addresses of the witnesses upon whom Lessee relies to establish its claim; and a failure to so notify the City Manager within the time and manner provided herein shall exonerate, excuse and except Lessor from any liability whatsoever. Lessor is under no obligation to provide notice to Lessee that Lessee's notice is insufficient. Lessor reserves the right to request reasonable additional information regarding the claim. Said additional information shall be supplied within thirty (30) days after receipt of notice.

The statutory prerequisites outlined herein constitute jurisdictional requirements pursuant to Section 271.154 of the Texas Local Government Code and Section 311.034 of the Texas Government Code. Notwithstanding any other provision, Lessee's failure to comply with the requirements herein shall perpetually bar Lessee's claim for damages under Chapter 271 of the Texas Local Government Code, and Section 311.034 of the Texas Government Code, regardless if Lessor has actual or constructive notice or knowledge of said claim or alleged damages. Lessee agrees that the requirements of this entire Agreement are reasonable.

F. Independent Contractor. It is expressly understood and agreed that Lessee shall perform all work and services described herein as an independent contractor and not as an officer, agent, servant or employee of Lessor; that Lessee shall have exclusive control of and the exclusive right to control the details of the services and work performed hereunder, and all persons performing the same; and shall be solely responsible for the acts and omissions of its officers, agents, employees, contractors and subcontractors; that the doctrine of respondeat superior shall not apply as between Lessor and Lessee, its officers, agents, employees, contractors and subcontractors; and that nothing herein shall be construed as creating a partnership or joint enterprise between Lessor and Lessee. No person performing any of the work and services described hereunder by Lessee shall be considered an officer, agent, servant or employee of the Lessor. Further, it is specifically understood and agreed that nothing in this Agreement is intended or shall be construed as creating a "Community of Pecuniary Interest" or "An Equal Right of Control" which would give rise to vicarious liability. Lessee shall be an

independent contractor under this Agreement and shall assume all of the rights, obligations and liabilities, applicable to it as such independent contractor hereunder. Lessor does not have the power to direct the order in which the work is done. Lessor shall not have the right to control the means, methods or details of Lessee's work. Lessee shall assume exclusive responsibility for the work. Lessee is entirely free to do the work in its own way.

G. Governing Law & Venue. This Agreement shall be governed by the laws of the State of Texas. All performance and payment made pursuant to this Agreement shall be deemed to have occurred in Midland County, Texas. Exclusive venue for any claims, suits or any other action arising from or connected in any way to this Agreement or the performance of this Agreement shall be in Midland County, Texas. The obligations and undertakings of each of the parties to this agreement shall be deemed to have occurred in Midland County, Texas.

H. Release. NOTWITHSTANDING ANY OTHER PROVISION CONTAINED HEREIN, LESSEE HEREBY RELEASES, ACQUITS, RELINQUISHES AND FOREVER DISCHARGES LESSOR, LESSOR'S EMPLOYEES AND OFFICERS, FROM ANY AND ALL DEMANDS, CLAIMS, DAMAGES, OR CAUSES OF ACTION OF ANY KIND WHATSOEVER WHICH LESSEE HAS OR MIGHT HAVE IN THE FUTURE INCLUDING BUT NOT LIMITED TO BREACH OF CONTRACT, QUANTUM MERUIT, CLAIMS UNDER THE DUE PROCESS AND TAKINGS CLAUSES OF THE TEXAS AND UNITED STATES CONSTITUTIONS, TORT CLAIMS, OR LESSOR'S NEGLIGENCE.

I. Assignment. Lessee shall not, either directly or indirectly, assign all or any part of this Agreement or any interest, right or privilege herein, without the prior written consent of Lessor. The issue of whether or not to grant consent to an assignment is in the sole discretion of Lessor.

J. Insurance. Lessee shall at all times during the term of this Agreement maintain and keep in full force and effect insurance in the following types and minimum amounts with companies authorized to do business in the State of Texas:

Commercial General Liability (including Contractual liability):

-Personal Injury:	\$1,000,000.00 per person \$1,000,000.00 per occurrence
-Property Damage:	\$500,000.00 per occurrence
-General Aggregate:	\$2,000,000.00
-Products – COMP/OP AGG:	\$2,000,000.00

Business Automobile Liability: \$1,000,000.00 combined single limit –
Personal Injury and Property Damage

Umbrella Liability: \$3,000,000.00 per occurrence, aggregate

Workers' Compensation:

Statutory limits

Employers' Liability:

\$1,000,000.00 per accident or occurrence

The Commercial General Liability insurance shall be on a per project aggregate, including completed operations, and shall be on an occurrence basis. The Commercial General Liability insurance shall name Lessor as an additional insured and waive all rights of subrogation against Lessor.

The Business Automobile Liability insurance provided by Lessee shall cover any auto for bodily injury and property damage, including owned vehicles, hired and non-owner vehicles, and the amount of such policy shall be a minimum amount of \$1,000,000.00 each accident covering any vehicle used for the execution of the work that is the subject of this Agreement. The Business Automobile Liability insurance shall name Lessor as an additional insured and waive all rights of subrogation against Lessor.

The Workers' Compensation coverage provided by Lessee shall inure to the benefit of employees injured during the course and scope of their employment by Lessee pursuant to this Agreement. The Workers' Compensation insurance shall waive all rights of subrogation against Lessor.

All insurance required pursuant to this Agreement shall provide for a waiver of subrogation in favor of Lessor. All insurance required pursuant to this Agreement, except for Workers' Compensation Insurance, shall name Lessor as an additional insured on a claims occurred basis. Lessor shall provide the notice by Lessee's insurance provider not later than thirty (30) days prior to any reduction or termination of such coverage.

Lessee shall contractually require all contractors, subcontractors, and sub-subcontractors that work on any portion of the work that is the subject of this Agreement to obtain insurance coverage that meets or exceeds the policy requirements and minimum amounts specified herein. All contractors, subcontractors, and sub-subcontractors shall obtain insurance policies that provide blanket waivers of subrogation in favor of Lessor and policies that name Lessor as an additional insured on a claims occurred basis (except workers' compensation).

The parties agree that, prior to the execution of the Agreement, Lessee shall provide one or more certificates of insurance specifically stating that these requirements have been met and subject to the approval of Lessor. Lessor shall not be required to provide any insurance whatsoever pursuant to this Agreement.

Lessee certifies that the certificate of insurance provided as required herein complies with the requirements of Chapter 1811 of the Texas Insurance Code. Lessee shall not use an unapproved certificate of insurance or insert inappropriate language on a certificate. Compliance with state law is the sole responsibility of Lessee.

K. Notice. All notices must be given in writing by certified mail return receipt requested addressed as shown:

If to Lessor:

Utilities Director
City of Midland, Texas
P.O. Box 1152
Midland, TX 79702

If to Lessee:

Copy sent to AT&T Legal

New Cingular Wireless PCS, LLC
Attn: Network Real Estate Administration
Re: Cell Site Name Westwood Shell (TX);
Fixed Asset No.: 10078612
1025 Lenox Park Blvd
NE 3rd Floor
Atlanta, GA 30324

New Cingular Wireless PCS, LLC
Attn: AT&T Legal Department
Re: Cell Site Name Westwood Shell (TX);
Fixed Asset No.: 10078612
208 S. Akard St.
Dallas, TX 75202-4206

L. Entire Agreement. This Agreement constitutes the entire agreement between the parties governing the matters addressed herein. This Agreement shall supersede and replace all prior agreements or representations, whether verbal or written, between the parties concerning the subject matter hereof. The invalidity of any provision of this Agreement shall not affect the validity or enforceability of any other provision of the Agreement. The waiver of any breach of any term or condition of this Agreement does not waive any other breach of that term or condition or of any other term or condition. This Agreement shall be binding upon and inure to the benefit of the successors and assigns of the parties hereto. The terms and conditions of this Agreement are supported by good and valuable consideration, the receipt and sufficiency of which are hereby acknowledged by the parties named herein.

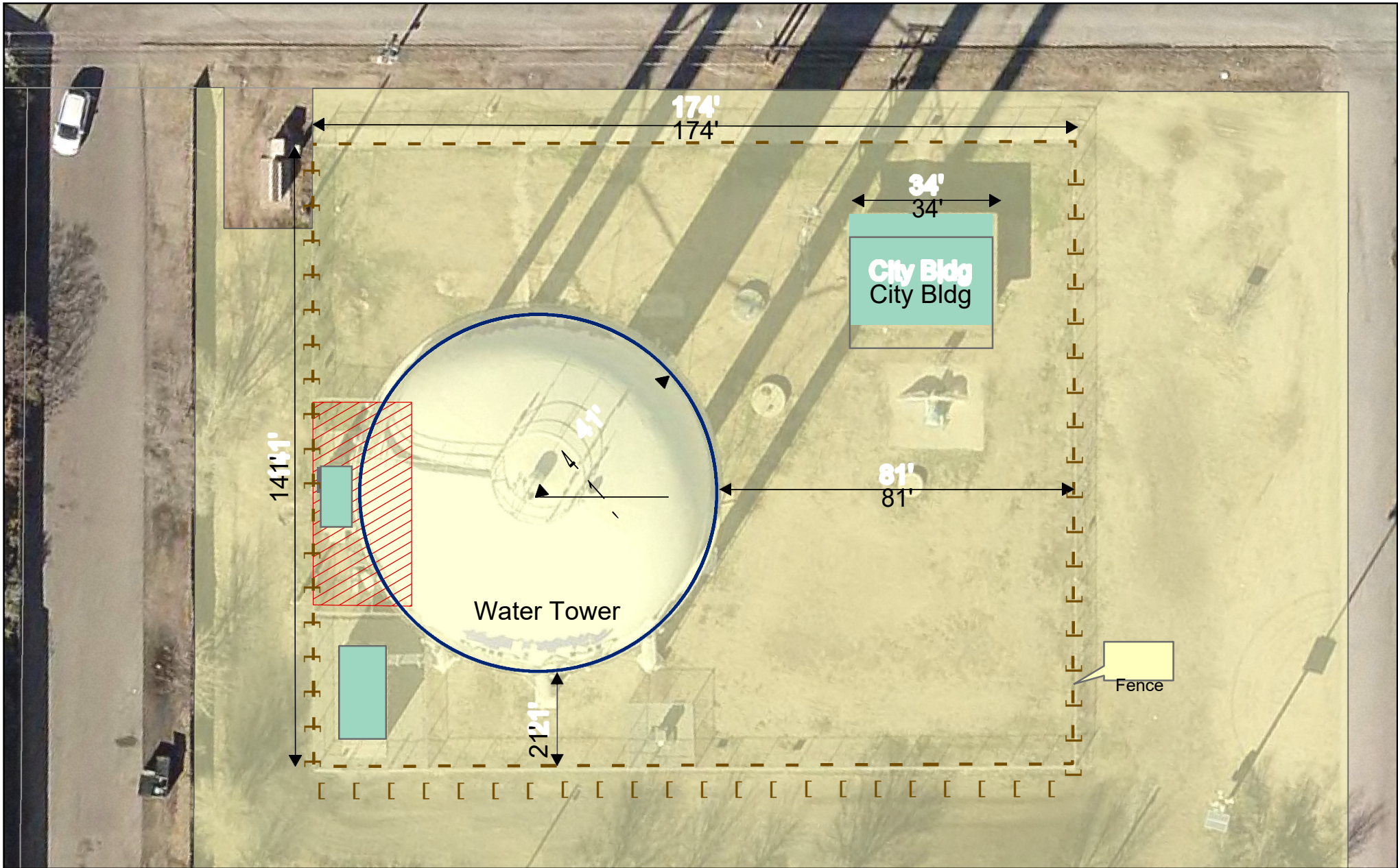
IN WITNESS WHEREOF, the parties hereto have caused this Agreement to be executed by persons duly authorized on the day and year written above.

LESSOR: CITY OF MIDLAND

Tommy Gonzalez, City Manager

ATTEST:

Marcia Bently-German, City Secretary



- Legend**
- Fence
 - State Roads
 - Streets
 - AT&T Lessee
 - Building Footprint
 - City Owned Parcels
 - Parcel

19 14 Exhibit A

1 inch = 30 feet

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THIS DATA IS NOT A SUBSTITUTION FOR A SURVEY PRODUCT, NOR IS IT DESIGNED TO BE USED AS A PRIMARY TOOL IN PERMITTING OR OTHER DECISIONS BASED SOLELY ON THE INFORMATION CONTAINED HEREIN.

September 12, 2023

THE CITY OF MIDLAND SHALL NOT BE RESPONSIBLE FOR ANY DECISIONS BASED UPON THE USE OF THIS DATA.

Date:
3/5/2
018



Exhibit B

AT&T Lessee's equipment list:

FINAL EQUIPMENT PROPOSED EQUIPMENT IS BOLDED	
	TOTAL
EQUIPMENT RAO	142
AZIMUTH	8/128/248
MOUNT TYPE	WATER TANK RAIL
ANTENNAS	(E) (3) SBNHH-1D65C (P) (6) nnh4-65b-R6
TMA's	
DIPLEXERS	(E) (12) e15v90P47 Tower (P) (6) CBC781921WT-DS Tower (P) (6) CBC781921 WT-DS Ground
RRUs	(E)(3) RRUS-32 (1900 LTE) Ground (E}(3) RRUS-32 (2100LTE) Ground (E) (3) RRUS-32 (2300) Tower (P) (3) RRUS-4478 B14 (700 LTE) Ground (P) (3) RUS-4449 85/812 (700/850 LTE) Ground
RRU LOCATION	(12) Ground (3) Tower
ADD'L EQUIPMENT	(E) (1) DC6-48-60-18--8F
COAX	(E} (12) 1 5/8" (P) (12) 1 5/8"
CABLES	(EI (1) RET (EI(1) 3/8" FIBER (E) (2) 7/8" DC POWER



City Council Meeting

Item Number: 20
Meeting Date: August 22, 2023, September 12, 2023
To: City Council / City Manager
From: Gabe McClelland,
Subject: AN ORDINANCE ALTERING PRIMA FACIE SPEED LIMITS ALONG CERTAIN STREETS IN THE CITY; AUTHORIZING INSTALLATION OF APPROPRIATE SIGNS AND MARKINGS; REPEALING ORDINANCE NO. 10283; CONTAINING A CUMULATIVE CLAUSE; CONTAINING A SAVINGS AND SEVERABILITY CLAUSE; PROVIDING FOR A MAXIMUM PENALTY OR FINE OF TWO HUNDRED DOLLARS (\$200.00); AND ORDERING PUBLICATION **(DISTRICT 1) (ENGINEERING SERVICES)**

Purpose:

Consider an ordinance altering Prima facie speed limits along certain streets in the City; authorizing installation of appropriate signs and markings; containing a cumulative clause; containing a savings and severability clause; providing for a maximum penalty or fine of two hundred dollars (\$200.00); and ordering publication.

Recommended City Council Action:

Approve

Fiscal Impact:

None

Discussion:

The City attorney's Office has prepared an ordinance authorizing altering the speed limits at Big Spring Street (Business State Highway 349C and State Highway 349) generally located from just south of Loop 250 to the Martin County line. The locations for altering the speed limit are listed below:

Business State Highway 349C (both directions)

65 mph - from the northern boundary of Midland County to a point 797 feet north of Occidental Parkway

50 mph - from a point 797 feet north of Occidental Parkway to a point 370 feet south of the centerline of the south service road of Loop 250

State Highway 349 (both directions)

65 mph - from the northern City limits to the southern boundary of Martin County



City Manager's Office

ORDINANCE NO. _____

AN ORDINANCE ALTERING PRIMA FACIE SPEED LIMITS ALONG CERTAIN STREETS IN THE CITY; AUTHORIZING INSTALLATION OF APPROPRIATE SIGNS AND MARKINGS; REPEALING ORDINANCE NO. 10283; CONTAINING A CUMULATIVE CLAUSE; CONTAINING A SAVINGS AND SEVERABILITY CLAUSE; PROVIDING FOR A MAXIMUM PENALTY OR FINE OF TWO HUNDRED DOLLARS (\$200.00); AND ORDERING PUBLICATION

WHEREAS, under Section 542.202 and Section 545.356 of the Texas Transportation Code, the City Council is authorized to make certain findings based upon engineering and traffic investigations and to alter the prima facie speed limits on City streets or portions thereof; and

WHEREAS, the City Traffic Engineer has made studies and surveys of the traffic flowing along certain streets within the City limits of Midland, Texas; and

WHEREAS, the Council finds and determines from the above mentioned studies that certain streets, as hereinafter described in this ordinance, should be speed zoned to rates hereinafter set out in this ordinance;

NOW, THEREFORE, BE IT ORDAINED BY THE CITY COUNCIL OF THE CITY OF MIDLAND, TEXAS:

SECTION ONE. That no person shall drive a vehicle on those certain streets as set out below at a speed greater than is reasonable or prudent under the circumstances then existing. The speed limits specified in this Section shall be lawful, but any speed in excess of the limits specified in this Section shall be prima facie evidence that the speed is not reasonable or prudent and is unlawful. Such speed limits are hereby fixed at the rates of speed indicated for vehicles traveling upon the named streets and highways, or parts thereof, described as follows:

A Street (both directions)

40 mph - from the northern terminus of A Street to the centerline of Loop 250

40 mph - from the centerline of Veterans Airpark Lane to the centerline of Scharbauer Drive

35 mph - from the centerline of Scharbauer Drive to the centerline of Wall Street

30 mph - from the centerline of Wall Street to the southern terminus of A Street

Avalon Drive (both directions)

40 mph - from the northern terminus of Avalon Drive to the centerline of Briarwood Avenue

40 mph - from the centerline of State Highway 191 to the southern terminus of Avalon Drive

Bent Tree Trail (both directions)

25 mph - in its entirety

Bluebird Lane (both directions)

35 mph - from the centerline of Midland Drive to the centerline of Kingston Drive

25 mph - from the centerline of Kingston Drive to the eastern terminus of Bluebird Lane

Briarwood Avenue (both directions)

60 mph - from the centerline of State Highway 158 to the centerline of Avalon Drive

45 mph - from the centerline of Avalon Drive to the centerline of Holiday Hill Road

40 mph - from the centerline of Holiday Hill Road to the centerline of Mathis Street

35 mph - from the centerline of Mathis Street to the centerline of Midland Drive

Business State Highway 349C (both directions)

65 mph - from the northern boundary of Midland County to a point 797 feet north of Occidental Parkway

50 mph - from a point 797 feet north of Occidental Parkway to a point 370 feet south of the centerline of the south service road of Loop 250

Candlestick Drive (both directions)

25 mph - in its entirety

Cardinal Lane (both directions)

30 mph - from the centerline of Oriole Drive to the centerline of Midland Drive

35 mph - from the centerline of Midland Drive to the centerline of Midkiff Road

Champions Drive (both directions)

25 mph - from the centerline of Tradewinds Boulevard to the centerline of Koufax Court

Clemente Court (both directions)

25 mph - in its entirety

Coliseum Court (both directions)

25 mph - in its entirety

Colt Court (both directions)

25 mph - in its entirety

Comiskey Court (both directions)

25 mph - in its entirety

Coyote Trail (both directions)

40 mph - in its entirety

Crestgate Avenue (both directions)

25 mph - from the centerline of Midland Drive to the centerline of Gateway Street

Crosley Drive (both directions)

25 mph - in its entirety

Cuthbert Avenue (both directions)

30 mph - from the western terminus of Cuthbert Avenue to the centerline of Midkiff Road

35 mph - from the centerline of Midkiff Road the centerline of Ward Street

25 mph - from the centerline of Ward Street to the centerline of Garfield Street

25 mph - from the centerline of Garfield Street to a point 220 feet east of F Street

30 mph - from a point 220 feet east of F Street to the eastern terminus of Cuthbert Avenue

Deauville Boulevard (both directions)

40 mph - from the centerline of Avalon Drive to the centerline of Loop 250

DiMaggio Court (both directions)

25 mph - in its entirety

DiMaggio Drive (both directions)

25 mph - in its entirety

Driftwood Drive (both directions)

25 mph - in its entirety

Fairgrounds Road (both directions)

45 mph - from the northern terminus of Fairgrounds Road to the centerline of Loop 250

50 mph - from the centerline of Loop 250 to the southern City limits

Florida Avenue (both directions)

35 mph - from the centerline of Garfield Street to the centerline of Big Spring Street

Garfield Street (both directions)

40 mph - from the northern terminus of Garfield Street to the centerline of Bluebird Lane

45 mph - from the centerline of Bluebird Lane to the centerline of Loop 250

40 mph - from the centerline of Loop 250 to the centerline of Wadley Avenue

35 mph - from the centerline of Wadley Avenue to the centerline of Michigan Avenue

Gehrig Avenue (both directions)

25 mph - in its entirety

Golden Gate Drive (both directions)

40 mph - from the northern terminus of Golden Gate Drive to the centerline of Briarwood Avenue

Golf Course Road (both directions)

35 mph - from the centerline of Andrew Highway/Alpine Street to the centerline of Scharbauer Drive

30 mph - from the centerline of Scharbauer Drive to the centerline of A Street

30 mph - from the centerline of Big Spring Street to the centerline of Fairgrounds Road

35 mph - from the centerline of Fairgrounds Road to the eastern terminus of Golf Course Road

Green Tree Boulevard (both directions)

35 mph - from the western terminus of Green Tree Boulevard to the centerline of Holiday Hill Road

25 mph - from the centerline of Holiday Hill Road to the centerline of Midland Drive

Griffith Court (both directions)

25 mph - in its entirety

Griffith Drive (both directions)

25 mph - from the centerline of Deauville Boulevard to the centerline of Candlestick Drive

Hall of Fame Boulevard (both directions)

25 mph - from the centerline of Avalon Drive to the centerline of Riverfront Drive

Holiday Hill Road (both directions)

40 mph - from the northern City limits to the centerline of Loop 250

Humble Avenue (both directions)

25 mph - from the centerline of Scharbauer Drive to the centerline of Big Spring Street

Illinois Avenue (both directions)

35 mph - from the centerline of Thomason Drive to the centerline of Andrews Highway

25 mph - from the centerline of Andrews Highway to the centerline of N Street

35 mph - from the centerline of N Street to the centerline of A Street

30 mph - from the centerline of A Street to the centerline of Front Street

Island Circle (both directions)

25 mph - in its entirety

Island Drive (both directions)

25 mph - in its entirety

King Kelly Court (both directions)

25 mph - in its entirety

Koufax Court (both directions)

25 mph - in its entirety

La Force Boulevard (both directions)

35 mph - from the centerline of Business Interstate 20 to the centerline of Banks Drive

30 mph - from the centerline of Banks Drive to a point 590 feet east of Banks Drive

20 mph - from a point 590 feet east of Banks Drive to a point 1,155 feet east of Banks Drive

15 mph - from a point 1,155 feet east of Banks Drive to a point 2,560 feet east of Banks Drive

30 mph - from a point 2,560 feet east of Banks Drive to the centerline of La Force Boulevard

Lamesa Road (northbound)

45 mph - from the southern City limits to a point 195 feet north of the centerline of Taylor Avenue

40 mph - from a point 195 feet north of the centerline of Taylor Avenue to a point 245 feet north of the centerline of Wall Street

35 mph - from a point 245 feet north of the centerline of Wall Street to a point 170 feet north of Wadley Avenue

45 mph - from a point 170 feet north of Wadley Avenue to the centerline of the north service road of Loop 250

Lamesa Road (southbound)

45 mph - from the centerline of the north service road of Loop 250 to a point 130 feet south of the centerline of Wadley Avenue

35 mph - from a point 130 feet south of the centerline of Wadley Avenue to a point 140 feet north of the centerline of Missouri Avenue

40 mph - from a point 140 feet north of the centerline of Missouri Avenue to a point 180 feet south of the centerline of Taylor Avenue

45 mph - from a point 180 feet south of the centerline of Taylor Avenue to the southern City limits

Legends Boulevard (both directions)

25 mph - in its entirety

Mac Drive (both directions)

25 mph - in its entirety

Mantle Court (both directions)

25 mph - in its entirety

Mays Drive (both directions)

25 mph - in its entirety

Mel Ott Lane (both directions)

25 mph - in its entirety

Memorial Court (both directions)

25 mph - in its entirety

Midkiff Road (both directions)

40 mph - from the northern terminus of Midkiff Road to the centerline of Mockingbird Drive

45 mph - from the centerline of Mockingbird Lane to the centerline of Loop 250

40 mph - from the centerline of Loop 250 to the centerline of Wall Street

35 mph - from the centerline of Wall Street to the centerline of Industrial Avenue

40 mph - from the centerline of Industrial Avenue to the centerline of Stokes Avenue

45 mph - from the centerline of Stokes Avenue to the southern City limits

Midland Drive (both directions)

35 mph - from the northern terminus of Midland Drive to the centerline of Green Tree Boulevard

45 mph - from the centerline of Green Tree Boulevard to the centerline of Loop 250

35 mph - from the centerline of Andrews Highway to the centerline of Wall Street

Mile High Lane (both directions)

25 mph - in its entirety

Mockingbird Lane (both directions)

30 mph - from the western terminus of Mockingbird Lane to the centerline of Midland Drive

45 mph - from the centerline of Midland Drive to the centerline of Midkiff Road

40 mph - from the centerline of Midkiff Road to the centerline of Big Spring Street

45 mph - from the centerline of Big Spring Street to the eastern terminus of Mockingbird Lane

Musial Way (both directions)

25 mph - in its entirety

Neely Avenue (both directions)

30 mph - in its entirety

Nolan Ryan Drive (both directions)

25 mph - in its entirety

Olympic Court (both directions)

25 mph - in its entirety

O'Rourke Street (both directions)

25 mph - in its entirety

Polo Parkway (both directions)

25 mph - from the centerline of Loop 250 to the northern terminus of Polo Parkway

Rangers Court (both directions)

25 mph - in its entirety

Riverfront Drive (both directions)

25 mph - in its entirety

Roadrunner Trail (both directions)

40 mph - in its entirety

Rustic Trail (both directions)

25 mph - in its entirety

Scharbauer Drive (both directions)

35 mph - from the centerline Golf Course Road to the eastern terminus of Scharbauer Drive

Sequoia Drive (both directions)

25 mph - in its entirety

Shea Lane (both directions)

25 mph - in its entirety

Sloan Field Boulevard (both directions)

35 mph - from the centerline of Wright Drive to the centerline of Windecker Street

30 mph - from to centerline of Windecker Street to the eastern terminus of Sloan Field Boulevard into La Force Boulevard

Solomon Lane (both directions)

30 mph - in its entirety

Spahn Street (both directions)

25 mph - in its entirety

State Highway 349 (both directions)

65 mph - from the northern City limits to the southern boundary of Martin County

Teakwood Trace (both directions)

25 mph - in its entirety

Thomason Drive (both directions)

35 mph - from the western terminus of Thomason Drive to the centerline of Holly Drive/Anetta Drive

30 mph - from the centerline of Holly Drive/Anetta Drive to the centerline of Wall Street

Three Rivers Lane (both directions)

25 mph - in its entirety

Todd Drive (both directions)

40 mph - from the northern terminus of Todd Drive to the centerline of Golf Course Road (within the City limits)

30 mph - from the centerline of Golf Course Road to the centerline of Business

Interstate 20

Tradewinds Boulevard (both directions)

35 mph - from the centerline of the south service road of State Highway 191 to the centerline of Thomason Drive

40 mph - from the centerline of Thomason Drive to the centerline of the north service road of Business Interstate 20

Tumbleweed Trail (both directions)

40 mph - in its entirety

Veterans Airpark Lane (both directions)

40 mph - in its entirety

Wadley Avenue (both directions)

40 mph - from the western terminus of Wadley Avenue to the centerline of Big Spring Street

35 mph - from the centerline of Big Spring Street to the centerline of Lamesa Road

45 mph - from the centerline of Lamesa Road to the eastern terminus of Wadley Avenue

Wagner Drive (both directions)

25 mph - in its entirety

Wagner Street (both directions)

25 mph - in its entirety

Wall Street (both directions)

35 mph - from the centerline of Andrews Highway to the centerline of B Street

30 mph - from the centerline of B Street to the centerline of Front Street

Wright Drive (both directions)

35 mph - in its entirety

SECTION TWO. That the above speed zoning is based upon findings and determinations of the City Council made as a result of certain traffic surveys and studies made by the City Traffic Engineer.

SECTION THREE. That the Traffic Engineer of the City of Midland is hereby authorized and directed to install appropriate speed zone signs commensurate with the provisions of this ordinance.

SECTION FOUR. That any person violating the prima facie speed limits established by this ordinance shall, upon conviction, be punished by a fine of not less than one Dollar (\$1.00) nor more than Two Hundred Dollars (\$200.00), as fully prescribed by Section 542.401 of the Texas Transportation Code.

SECTION FIVE. That Ordinance No. 10283 is hereby expressly repealed; and the provisions of this ordinance are to be cumulative of all other ordinances or parts of ordinances governing or regulating the same subject matter as that covered herein; provided, however, that all prior ordinances or parts of ordinances inconsistent with or in conflict with any of the provisions of this ordinance are hereby expressly repealed to the extent of any such inconsistency or conflict.

Not repealed, amended, or in any way affected by this ordinance are those ordinances establishing speed limits in school zones or school crossings and those ordinances establishing temporary regulatory construction speed limits.

SECTION SIX. That repeal of the ordinances, or parts of ordinances, effectuated by the enactment of this ordinance shall not be construed as abating any actions pending under or by virtue of such ordinances; or as discontinuing, abating, modifying or altering any penalty accruing or to accrue; or as affecting the liability of any person, firm or corporation; or as waiving any right of the municipality under any section or provision existing at the time of the passage of this ordinance.

SECTION SEVEN. If any section, subsection, sentence, clause or phrase of this ordinance is, for any reason, held to be unconstitutional or invalid, such holding shall not affect the validity of the remaining portions of this ordinance. The Council of the City of Midland hereby declares that it would have passed this ordinance and each section,

subsection, sentence, clause, or phrase hereof irrespective of the fact that any one or more sections, subsections, sentences, clauses, or phrases be declared unconstitutional or invalid.

SECTION EIGHT. The City Secretary is hereby authorized and directed to publish the descriptive caption of this ordinance in the manner and for the length of time prescribed by the law as an alternative method of publication.

The above and foregoing ordinance was duly proposed, read in full and adopted on first reading, the _____ day of _____, A.D., 2023; and passed to second reading on motion of Council member _____, seconded by Council member _____, by the following vote:

Council members voting "AYE":

Council members voting "NAY":

The above and foregoing ordinance was read in full and finally adopted by the following vote upon motion of Council member _____, seconded by Council member _____, on the _____ day of _____, A.D., 2023, at a regular meeting of the City Council:

Council members voting "AYE":

Council members voting "NAY":

PASSED AND APPROVED THIS _____ day of _____, A.D., 2023.

Lori Merritt Blong, Mayor

ATTEST:

Marcia Bentley-German, City Secretary

APPROVED AS TO CONTENT
AND COMPLETENESS:

Jose Ortiz, Engineering Services Director

APPROVED ONLY AS TO FORM:

John Ohnemiller, City Attorney



City Council Meeting

Item Number: 21
Meeting Date: September 12, 2023
To: City Council / City Manager
From: Landon Ochoa, Senior Planner
Subject: AN ORDINANCE GRANTING A SPECIAL EXCEPTION FOR A 0.32-ACRE TRACT OF LAND, BEING THE NORTH 100 FEET OF THE NORTHWEST QUARTER OF BLOCK 17, HOMESTEAD ADDITION, CITY AND COUNTY OF MIDLAND, TEXAS (GENERALLY LOCATED AT THE SOUTHEAST CORNER OF THE INTERSECTION OF NORTH FORT WORTH STREET AND EAST KANSAS AVENUE), BY PERMITTING A REDUCED MINIMUM LOT WIDTH IN THE EVENT THAT THE ZONING DISTRICT MAP OF THE CITY OF MIDLAND IS AMENDED TO REZONE THE PROPERTY FROM C, COMMERCIAL DISTRICT TO SF-3, SINGLE-FAMILY DWELLING DISTRICT; CONTAINING A CUMULATIVE CLAUSE; CONTAINING A SAVINGS AND SEVERABILITY CLAUSE; PROVIDING FOR A MAXIMUM PENALTY OR FINE OF TWO THOUSAND DOLLARS (\$2,000.00); ORDERING RECORDATION BY THE CITY SECRETARY IN THE DEED RECORDS OF MIDLAND COUNTY, TEXAS; AND ORDERING PUBLICATION (DISTRICT 2) (DEVELOPMENT SERVICES)

Purpose:

The applicant, Schumann Surveying, Inc., is requesting a Special Exception from the City of Midland Zoning Ordinance for reduced lot width for a corner lot from the required 55 feet to a lot width of 50 feet.

Recommended City Council Action:

Approve

Fiscal Impact:

No City funds are required to process this request.

Discussion:

The applicant has applied for a Zone Change from C, Commercial District, to SF-3, Single-Family Dwelling District. On August 7, 2023, the Planning and Zoning Commission's recommended motion for approval failed by a 2-2 vote.

The Preliminary Plat was approved with conditions on August 21, 2023, Planning and Zoning Commission meeting. The property is located at 708 North Fort Worth Avenue and is a vacant lot. The applicant is requesting a special exception to the minimum lot width requirement for a corner lot zoned SF-3, Single-Family Dwelling District.

Per our City of Midland Zoning Ordinance, *Section 5.04 – Residential Zoning District Dimensional Regulations Chart*, concerning the minimum lot width for a corner lot in SF-3.

*SF-3, Single Family Dwelling District
Lot Dimensions
Minimum Lot Width
Corner Lot – 55 feet*

This request has been circulated to all pertinent City departments for review. Below are the departments comments.

Fire: (Approved)

No objections.

Building: (Approved)

No issues. All future structures must adhere to the 2018 International Building Codes, the 2015 International Energy Code, the 2020 NEC requirements, the 2015 International Fire Codes, local city ordinances, zoning requirements, established setbacks, oil and gas considerations, and floodplain requirements if necessary. Code versions are subject to change depending on time of new code edition adoption in the City of Midland and date of permit application.

Engineering: (Approved)

No objections to zoning/zone change. [For Applicant's Information Only.]

Code: (Approved)

No Oil and Gas issues.

Transportation: (Approved)

No objections. [For the Applicant's information only.]

Planning (Approved):

The property is vacant and surrounded by residential uses to the south and east, including the corner lot immediately to the east which also has a 50-foot lot width. Based on current residential uses in this area a minimum lot width of 50 feet for the corner lot is in line with the existing developments.

The Tall City Tomorrow Comprehensive Plan, Chapter 4 - Housing & Neighborhoods, Goals 3 and 4 encourages infill developments to provide affordable and diverse housing options for all income levels. The reduction in the lot width for the corner will aid in carrying out these policies within the City of Midland.

Staff recommends approval of this Special Exception subject to conditions A through C.

Condition:

- A. That the minimum allowable lot width for a corner lot shall be fifty feet (50').**
- B. That the associated request for a Zone Change from C, Commercial District to SF-3, Single-Family Dwelling District be approved by City Council.**
- C. That a Final Plat for a Replat of the property be approved by the Planning & Zoning Commission.**

Letters of Objection:

Staff has not received any letters of objection as of August 31, 2023.

Attachments:

Metes & Bounds (Exhibit A)
Preliminary Plat
Application
Maps

City Manager's Office

ORDINANCE NO. _____

AN ORDINANCE GRANTING A SPECIAL EXCEPTION FOR A 0.32-ACRE TRACT OF LAND, BEING THE NORTH 100 FEET OF THE NORTHWEST QUARTER OF BLOCK 17, HOMESTEAD ADDITION, CITY AND COUNTY OF MIDLAND, TEXAS (GENERALLY LOCATED AT THE SOUTHEAST CORNER OF THE INTERSECTION OF NORTH FORT WORTH STREET AND EAST KANSAS AVENUE), BY PERMITTING A REDUCED MINIMUM LOT WIDTH IN THE EVENT THAT THE ZONING DISTRICT MAP OF THE CITY OF MIDLAND IS AMENDED TO REZONE THE PROPERTY FROM C, COMMERCIAL DISTRICT TO SF-3, SINGLE-FAMILY DWELLING DISTRICT; CONTAINING A CUMULATIVE CLAUSE; CONTAINING A SAVINGS AND SEVERABILITY CLAUSE; PROVIDING FOR A MAXIMUM PENALTY OR FINE OF TWO THOUSAND DOLLARS (\$2,000.00); ORDERING RECORDATION BY THE CITY SECRETARY IN THE DEED RECORDS OF MIDLAND COUNTY, TEXAS; AND ORDERING PUBLICATION

WHEREAS, the City Council modified the authority of the Board of Adjustment in Title XI, Chapter 1, Section 7 (“Section 11-1-7”) of the Midland City Code; and

WHEREAS, Section 11-1-7 provides for the consideration of requests for special exceptions to the Midland Zoning Ordinance; and

WHEREAS, the Council finds that satisfactory evidence has been presented that the use to be authorized by the granting of the special exception will not be detrimental to the health, safety, comfort and welfare of the occupants of the land area near the tract on which the use to be allowed by special exception will be located; and

WHEREAS, the Council finds that it is clearly and specifically authorized by the terms of Section 11-1-7 to grant such a special exception, and said exception will be in harmony with the general purposes and intent of the zoning provisions of the Midland City Code; and

WHEREAS, after a full and fair public hearing at which all parties in interest were offered an opportunity to be heard, all pursuant to law, the Council finds it to be in the public interest to grant a special exception to the Zoning Ordinance, pursuant to Section 11-1-7, for

the purposes herein stated, subject to special conditions;

NOW, THEREFORE, BE IT ORDAINED BY THE CITY COUNCIL OF THE CITY OF MIDLAND, TEXAS:

SECTION ONE. That a special exception is hereby granted for the property described as a 0.32-acre tract of land, being the north 100 feet of the northwest quarter of Block 17, Homestead Addition, City and County of Midland, Texas (the “Property”), said tract being more specifically described by metes and bounds in Exhibit “A”, which is attached hereto and incorporated herein. Said special exception shall allow a reduced minimum lot width in the event that the Zoning District Map of the City of Midland, Texas, is amended to rezone the Property from C, Commercial District to SF-3, Single-Family Dwelling District.

SECTION TWO. That said special exception is subject to the following special conditions:

- A. That the minimum lot width shall be 50 feet.
- B. That said special exception shall be of no force or effect unless and until:
 - 1. the Property is rezoned as described in Section One of this ordinance; and
 - 2. a replat of the Property that satisfies Subsection A above has been approved by the City of Midland and recorded in the official real property records of Midland County, Texas.

SECTION THREE. The provisions of this ordinance are to be cumulative of all other ordinances or parts of ordinances governing or regulating the same subject matter as that covered herein; provided, however, that all prior ordinances or parts of ordinances inconsistent with or in conflict with any of the provisions of this ordinance are hereby expressly repealed to the extent of any such inconsistency or conflict.

SECTION FOUR. If any section, subsection, sentence, clause or phrase of this ordinance is, for any reason, held to be unconstitutional or invalid, such holding shall not affect the validity of the remaining portions of this ordinance. The Council of the City of

Midland hereby declares that it would have passed this ordinance and each section, subsection, sentence, clause, or phrase hereof irrespective of the fact that any one or more sections, subsections, sentences, clauses, or phrases be declared unconstitutional or invalid.

SECTION FIVE. The penalty for violation of this ordinance shall be in accordance with the general penalty provisions contained in Section 1-3-1 of the City Code of Midland, Texas, which provides for a fine not exceeding two thousand dollars (\$2,000.00).

SECTION SIX. The City Secretary is hereby authorized and directed to file this ordinance with the Office of the County Clerk for purposes of recordation.

SECTION SEVEN. The City Secretary is hereby authorized and directed to publish the descriptive caption of this ordinance in the manner and for the length of time prescribed by the law as an alternative method of publication.

The above and foregoing ordinance was duly proposed, read in full and adopted on first reading, the _____ day of _____, A.D., 2023; and passed to second reading on motion of Council member _____, seconded by Council member _____, by the following vote:

Council members voting "AYE":

Council members voting "NAY":

The above and foregoing ordinance was read in full and finally adopted by the following vote upon motion of Council member _____, seconded by Council member _____, on the _____ day of _____, A.D., 2023, at a regular meeting of the City Council:

Council members voting "AYE":

Council members voting "NAY":

PASSED AND APPROVED THIS _____ day of _____, A.D., 2023.

Lori Merritt Blong, Mayor

ATTEST:

Marcia Bentley-German, City Secretary

APPROVED AS TO CONTENT
AND COMPLETENESS:

Rolandrea Russell, Interim Director of Development Services

APPROVED ONLY AS TO FORM:

John Ohnemiller, City Attorney

EXHIBIT "A"



SCHUMANN
SURVEYING, INC.
A LATERAL LAND COMPANY

FIELD NOTE DESCRIPTION OF A 0.32 ACRE TRACT OF LAND, OUT OF THE NORTHWEST HALF OF BLOCK 17, HOMESTEAD ADDITION, , AN ADDITION TO THE CITY OF MIDLAND, MIDLAND COUNTY, TEXAS, ACCORDING TO THE MAP OR PLAT RECORDED IN VOLUME 1, PAGE 242, DEED RECORDS OF MIDLAND COUNTY, TEXAS. SAID 0.32 ACRE TRACT DESCRIBED MORE FULLY BY METES AND BOUNDS AS FOLLOWS:

BEGINNING AT A REINF BAR FOUND (N:10697127.95, E:1757977.13) IN THE EAST RIGHT OF WAY OF FORT WORTH AVENUE, AND IN THE SOUTH RIGHT OF WAY LINE OF KANSAS AVENUE FOR THE NORTHWEST CORNER OF THIS TRACT, ALSO BEING THE NORTHWEST BLOCK CORNER OF SAID BLOCK 17;

THENCE NORTH 89°32'56" EAST, ALONG SAID SOUTH RIGHT OF WAY LINE OF SAID KANSAS AVENUE, 140.00 FEET TO A REINF BAR SET FOR THE NORTHEAST CORNER OF THIS TRACT;

THENCE SOUTH 0°27'04" EAST 100.00 FEET TO A REINF BAR SET FOR THE SOUTHEAST CORNER OF THIS TRACT;

THENCE SOUTH 89°32'56" WEST 140.00 FEET TO A REINF BAR SET IN SAID EAST RIGHT OF WAY LINE OF SAID FORT WORTH AVENUE FOR THE SOUTHWEST CORNER OF THIS TRACT;

THENCE NORTH 0°27'04" WEST, ALONG SAID EAST RIGHT OF WAY LINE OF SAID FORT WORTH AVENUE, 100.00 FEET TO THE PLACE OF BEGINNING.

BEARINGS AND DISTANCES SHOWN ARE BASED ON GPS OBSERVATIONS AND CONFORM TO THE "TEXAS COORDINATE SYSTEM" TEXAS CENTRAL ZONE, NORTH AMERICAN DATUM OF 1983.



SCHUMANN

SURVEYING, INC.

A LATERAL LAND COMPANY

FIELD NOTE DESCRIPTION OF A 0.32 ACRE TRACT OF LAND, OUT OF THE NORTHWEST HALF OF BLOCK 17, HOMESTEAD ADDITION, , AN ADDITION TO THE CITY OF MIDLAND, MIDLAND COUNTY, TEXAS, ACCORDING TO THE MAP OR PLAT RECORDED IN VOLUME 1, PAGE 242, DEED RECORDS OF MIDLAND COUNTY, TEXAS. SAID 0.32 ACRE TRACT DESCRIBED MORE FULLY BY METES AND BOUNDS AS FOLLOWS:

BEGINNING AT A REINF BAR FOUND (N:10697127.95, E:1757977.13) IN THE EAST RIGHT OF WAY OF FORT WORTH AVENUE, AND IN THE SOUTH RIGHT OF WAY LINE OF KANSAS AVENUE FOR THE NORTHWEST CORNER OF THIS TRACT, ALSO BEING THE NORTHWEST BLOCK CORNER OF SAID BLOCK 17;

THENCE NORTH 89°32'56" EAST, ALONG SAID SOUTH RIGHT OF WAY LINE OF SAID KANSAS AVENUE, 140.00 FEET TO A REINF BAR SET FOR THE NORTHEAST CORNER OF THIS TRACT;

THENCE SOUTH 0°27'04" EAST 100.00 FEET TO A REINF BAR SET FOR THE SOUTHEAST CORNER OF THIS TRACT;

THENCE SOUTH 89°32'56" WEST 140.00 FEET TO A REINF BAR SET IN SAID EAST RIGHT OF WAY LINE OF SAID FORT WORTH AVENUE FOR THE SOUTHWEST CORNER OF THIS TRACT;

THENCE NORTH 0°27'04" WEST, ALONG SAID EAST RIGHT OF WAY LINE OF SAID FORT WORTH AVENUE, 100.00 FEET TO THE PLACE OF BEGINNING.

BEARINGS AND DISTANCES SHOWN ARE BASED ON GPS OBSERVATIONS AND CONFORM TO THE "TEXAS COORDINATE SYSTEM" TEXAS CENTRAL ZONE, NORTH AMERICAN DATUM OF 1983.

PRELIMINARY
HOMESTEAD ADDITION,
SECTION 21
BEING A REPLAT OF THE NORTHWEST 0.32 ACRES
OF BLOCK 17, HOMESTEAD ADDITION,
AN ADDITION TO THE CITY OF MIDLAND, MIDLAND COUNTY,

STATE OF TEXAS &
COUNTY OF MIDLAND &

WHEREAS, WE ARE THE RECORD OWNER(S) OF A TRACT OF LAND SITUATED IN THE NORTHWEST HALF OF BLOCK 17, HOMESTEAD ADDITION, SECTION 21, AN ADDITION TO THE CITY OF MIDLAND, MIDLAND COUNTY, TEXAS, ACCORDING TO THE MAP OR PLAT RECORDED IN VOLUME 1, PAGE 242, DEED RECORDS OF MIDLAND COUNTY, TEXAS AND MORE PARTICULARLY DESCRIBED HEREON.

FIELD NOTE DESCRIPTION OF A 0.32 ACRE TRACT OF LAND, OUT OF THE NORTHWEST HALF OF BLOCK 17, HOMESTEAD ADDITION, AN ADDITION TO THE CITY OF MIDLAND, MIDLAND COUNTY, TEXAS, ACCORDING TO THE MAP OR PLAT RECORDED IN VOLUME 1, PAGE 242, DEED RECORDS OF MIDLAND COUNTY, TEXAS. SAID 0.32 ACRE TRACT DESCRIBED MORE FULLY BY METES AND BOUNDS AS FOLLOWS:

BEGINNING AT A REINF BAR FOUND (N:10697127.95, E:1757977.13) IN THE EAST RIGHT OF WAY OF FORT WORTH AVENUE, AND IN THE SOUTH RIGHT OF WAY LINE OF KANSAS AVENUE FOR THE NORTHWEST CORNER OF THIS TRACT, ALSO BEING THE NORTHWEST BLOCK CORNER OF SAID BLOCK 17;

THENCE NORTH 89°32'56" EAST, ALONG SAID SOUTH RIGHT OF WAY LINE OF SAID KANSAS AVENUE, 140.00 FEET TO A REINF BAR SET FOR THE NORTHEAST CORNER OF THIS TRACT;

THENCE SOUTH 0°27'04" EAST 100.00 FEET TO A REINF BAR SET FOR THE SOUTHEAST CORNER OF THIS TRACT;

THENCE SOUTH 89°32'56" WEST 140.00 FEET TO A REINF BAR SET IN SAID EAST RIGHT OF WAY LINE OF SAID FORT WORTH AVENUE FOR THE SOUTHWEST CORNER OF THIS TRACT;

THENCE NORTH 0°27'04" WEST, ALONG SAID EAST RIGHT OF WAY LINE OF SAID FORT WORTH AVENUE, 100.00 FEET TO THE PLACE OF BEGINNING.

NOW, THEREFORE, KNOW ALL MEN BY THESE PRESENTS:

THAT I DO HEREBY ADOPT THIS PLAT DESIGNATING THE HEREINABOVE DESCRIBED PROPERTY AS HOMESTEAD ADDITION, SECTION 21, BLOCK 17, AN ADDITION OF 0.32 ACRES IN MIDLAND COUNTY, TEXAS, AND DO HEREBY DEDICATE TO THE PUBLIC USE FOREVER THE STREETS, ALLEY, AND EASEMENTS, (AND PARKWAYS) SHOWN HEREON.

WITNESS MY HAND AT MIDLAND, TEXAS, THIS ____ DAY OF _____, 2023.

JORGE CHAVEZ,

LEGEND:

- MONUMENT AS DESCRIBED
- PROPERTY LINE
- - - ADJOINING PROPERTIES
- - - SECTION LINE
- - - UTILITY EASEMENT
- X - FENCE LINE
- - - OVERHEAD ELECTRIC
- UTILITY POLE
- FIRE HYDRANT
- WV WATER VALVE
- WATER LINE
- SEWER LINE

NOTES:

1. BEARINGS, DISTANCES AND ACREAGE SHOWN ARE BASED ON GPS OBSERVATIONS AND CONFORM TO THE "TEXAS COORDINATE SYSTEM" TEXAS CENTRAL ZONE, NORTH AMERICAN DATUM OF 1983.
2. MONUMENTS ARE A 1/2 INCH REINFORCING BAR SET WITH YELLOW PLASTIC CAP MARKED "SCHUMANN ENGINEERING" UNLESS OTHERWISE NOTED.
3. SELLING A PORTION OF THIS ADDITION BY METES AND BOUNDS MAY BE A VIOLATION OF CITY ORDINANCE AND STATE LAW AND SUBJECT TO FINES AND WITHHOLDING OF UTILITIES AND BUILDING PERMITS.
4. APPROVAL OF A SITE PLAN BY THE CITY OF MIDLAND MAY BE REQUIRED BEFORE THE DEVELOPMENT OF ANY LOT AND BEFORE A BUILDING PERMIT MAY BE OBTAINED.
5. INITIAL IMPACT FEES WILL BE ASSESSED DURING THE FINAL PLATING PROCESS. IMPLEMENTATION AND COLLECTION OF IMPACT FEES WILL TAKE PLACE DURING THE BUILDING PERMIT PROCESS. ADDITIONAL IMPACT FEES OR INCREASE OF FEES MAY NOT BE ASSESSED AGAINST THE TRACT UNLESS THE NUMBER OF SERVICE UNITS TO BE DEVELOPED ON THE TRACT INCREASES.
6. THE INSTALLATION OF PUBLIC IMPROVEMENTS MAY BE REQUIRED BY THE CITY OF MIDLAND AS SUCH TIME AS: (1) ANY LOT IS RE-PLATTED FOR SUBDIVISION INTO MORE THAN ONE TRACT OR (2) THE PROPERTY IS REZONED FOR A MORE INTENSIVE USE.
7. REPRESENTATION OF FLOODPLAIN BOUNDARIES ARE APPROXIMATE AND FOR ILLUSTRATIVE PURPOSES ONLY. ANY DEVELOPMENT WITHIN FLOODPLAIN AREAS WILL REQUIRE A FLOODPLAIN DEVELOPMENT PERMIT FROM THE CITY OF MIDLAND FLOODPLAIN ADMINISTRATOR. PROPERTY ACCORDING TO FEMA FLOOD PLAIN MAPS IS IN PANEL 48329C0089F, SEPTEMBER 16, 2005. THIS PROPERTY IS IN ZONE "X" UNSHADED.
8. ANY PERSON WHO DESIRES TO ERECT A NEW STRUCTURE OR REBUILD, REPLACE OR ENLARGE AN EXISTING STRUCTURE, ESTABLISH A NEW USE OR SUBSTANTIALLY CHANGE AN EXISTING USE IN THE ADD-4 MUST APPLY FOR AND RECEIVE A PERMIT. A PERMIT SHALL BE GRANTED UNLESS THE NEW STRUCTURE OR THE NEW USE WOULD BE A HEIGHT HAZARD OR A PROHIBITED LAND USE AS SET FORTH IN SECTIONS 11-11-8, 11-11-9, AND TABLE 1 OF THIS CHAPTER OR WOULD OTHERWISE VIOLATE THIS CHAPTER. APPLICATIONS FOR PERMITS SHALL BE SUBMITTED TO AND ISSUED BY THE CITY OF MIDLAND BUILDING OFFICIAL.

21.10

GRAPHIC SCALE
0 50 100
(1 INCH = 50' FEET)

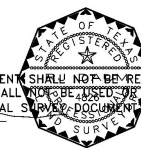
OWNER(S):

JORGE CHAVEZ

THAT I, RJ DAUM, A REGISTERED PROFESSIONAL LAND SURVEYOR, DO HEREBY CERTIFY THAT I PREPARED THIS PLAT FROM AN ADEQUATE AND ACCURATE SURVEY OF THE LAND AND THAT THE CORNER MONUMENTS SHOWN THEREON WERE PROPERLY PLACED UNDER MY PERSONAL SUPERVISION, IN ACCORDANCE WITH THE SUBDIVISION REGULATIONS OF THE CITY OF MIDLAND, TEXAS.

RJ DAUM
TEXAS RPLS 4826

"PRELIMINARY. THIS DOCUMENT SHALL NOT BE RECORDED FOR ANY PURPOSE AND SHALL NOT BE USED OR FILED UPON AS A FINAL SURVEY DOCUMENT."



PLAT FILED FOR RECORD
MIDLAND COUNTY, TEXAS
NO. _____ CABINET _____
DATE _____ PAGE _____

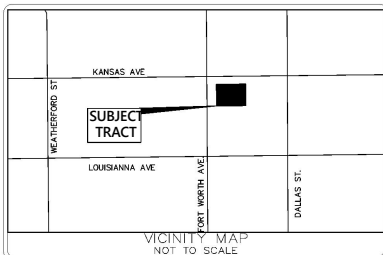


808 N. WARDEN RD. SUITE 100
MIDLAND, TEXAS 79701

Office (409) 894-5548

HOMESTEAD ADDITION, SECTION 21

HOMESTEAD ADDITION, SECTION 21



THIS PLAT HAS BEEN CHECKED FOR ACCESSIBILITY OF UTILITIES:

SIGNED: ONCOR ELECTRIC DELIVER COMPANY
SIGNED: AT&T TEXAS
SIGNED: ATMOS ENERGY
SIGNED: OPTIMUM COMMUNICATIONS
SIGNED: ASTOUND COMMUNICATIONS

PACKET



**Zone Change/Planned District
Amendment/Site Plan Approval**

Project Number: _____

Case Number: _____

Applicant (if acting as Agent, see affidavit on page 2) Printed Name: _____		Phone () Email _____	
Address _____	City _____	State _____	Zip _____

Property Owner Printed Name: JORGE CHAVEZ		Phone () Email _____	
Address _____	City _____	State _____	Zip _____

Representative (if different from Applicant or Property Owner) Firm: SCHUMANN SURVEYING, INC. Printed Name: ED ALEMAN		Phone (432) 684-5548 Email EALEMAN@SCHUMANNONLINE.NET	
Address 800 N. MARIENFELD	City MIDLAND	State TX	Zip 79701

Street Address: 708 N. FORT WORTH AVENUE

Legal Description
Lot: _____ Block: 17 Subdivision: HOMESTEAD ADDITION, SECTION 21

Current Zoning: "C" COMMERCIAL	Proposed Zone: SINGLE FAMILY RESIDENTIAL, LOT 1 & LOT 2 (List by tracts if more than one district is requested)
--	---

Reason for Zone Change Request: To build house

Present Use of Property: VACANT

Proposed Use of Property: Residential

How would this zone change affect the public health, safety and welfare? _____

Describe how conditions affecting the property have changed since present zoning designation: _____

Submittal and Fees

Items to be submitted with this application form:

- Application Fee – Payable to the 'City of Midland'
- Dimensioned Site Plan
- Digital Copies of Site Plan (PDF/JPEG)

Signature (by property owner only – authorized agent must sign affidavit below)

Applicant (signature):

Date:

Applicant (printed):

Property Owner (signature):

Jorge Chavez

Date:

6-15-23

Property Owner (printed):

Jorge Chavez

The Zone Change/Planned District Amendment/Site Plan Approval shall be considered officially received in the Planning office only when it has been submitted in full compliance with the provisions of Section 212 of the Texas Local Government Code and the Zoning Code of Ordinances of the City of Midland and when such required items for the application are also received.

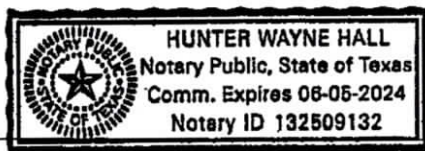
All materials, including exhibits, submitted in support of an application, or displayed during a public hearing, shall remain the property of the City of Midland.

STATE OF TEXAS
COUNTY OF MIDLAND

Before me, the undersigned authority, on this day personally appear Ed Aleman who, being by me duly sworn, upon oath says: That (s)he is the owner of _____ or authorized by Jorge Chavez, the owner of the above described property, to fully represent him/her in this application and that (s)he had the legal right, power and authority to sign said owner's name hereto as his/her attorney in fact.

Edوارد Aleman
Authorized Agent (signature)

Subscribed and sworn to before me, this 15th day of June, 20 23, to certify which witness my hand and seal of office.



NOTARY PUBLIC, MIDLAND COUNTY, TEXAS

FOR OFFICE USE ONLY

☒ Property Owner Authorization

☒ Dimensioned Site Plan

☒ Application Fee

☒ Plans in Digital Format (PDF/JPEG)

Check #

2039

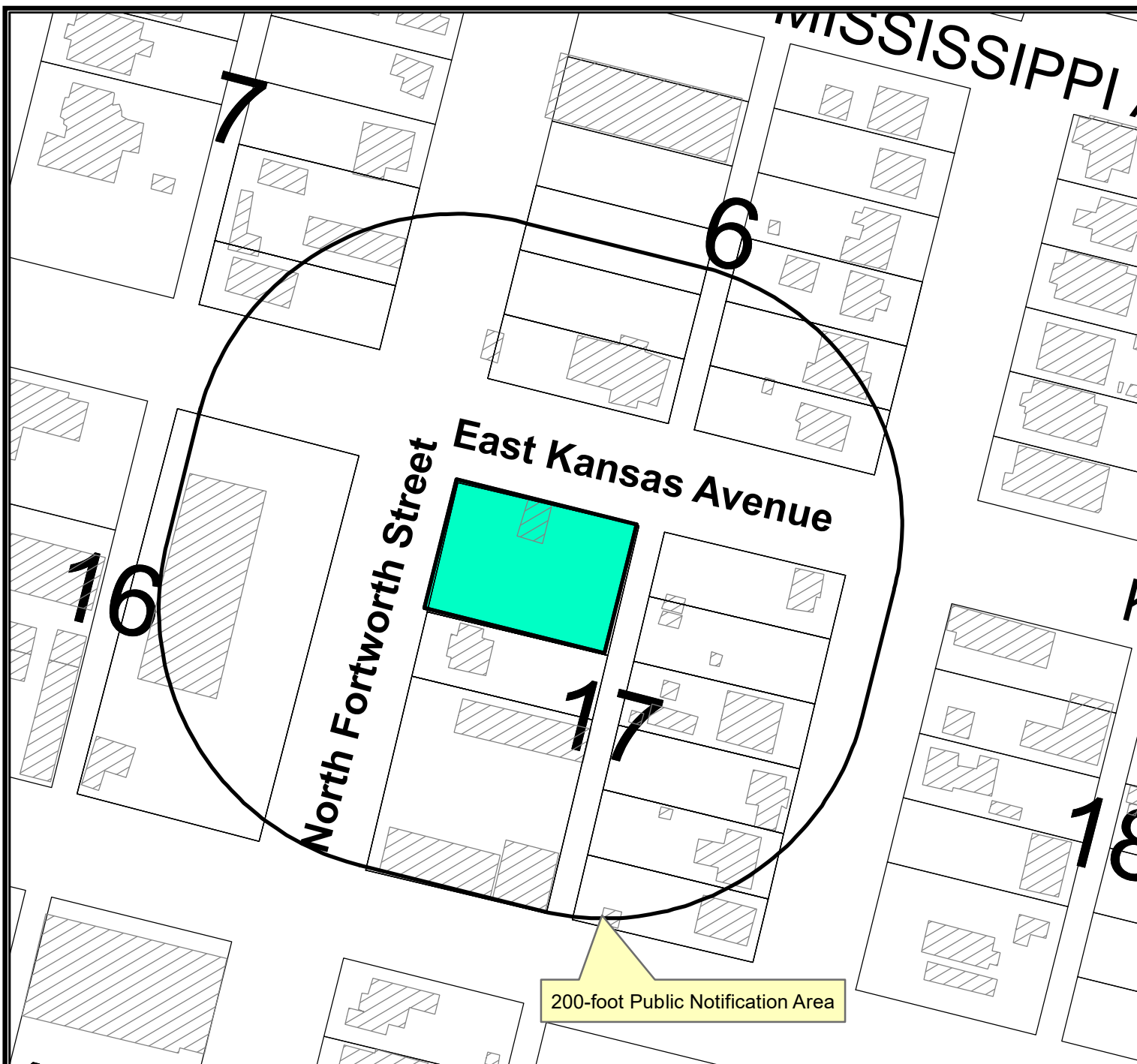
Received By:

Londan Ochoa

Date:

JUL 24 2023

BY:



LOCATION MAP

E-23-0101

Scale: 1" = 1,1303'

A request by Jorge Chavez for a Special Exception from the City of Midland Zoning Ordinance, Section 5.04 – Residential Zoning District Dimensional Regulations Chart, concerning the minimum lot width for a corner lot on 0.321-acres out of the northwest quarter of Block 17, Homestead Addition, City and County of Midland, Texas.

Generally located on the southeast corner of the intersection of North Fort Worth Street and East Kansas Avenue. (Council District 2)

LEGEND

- CITY LIMITS
- PARCEL
- PRIVATE BLDGS

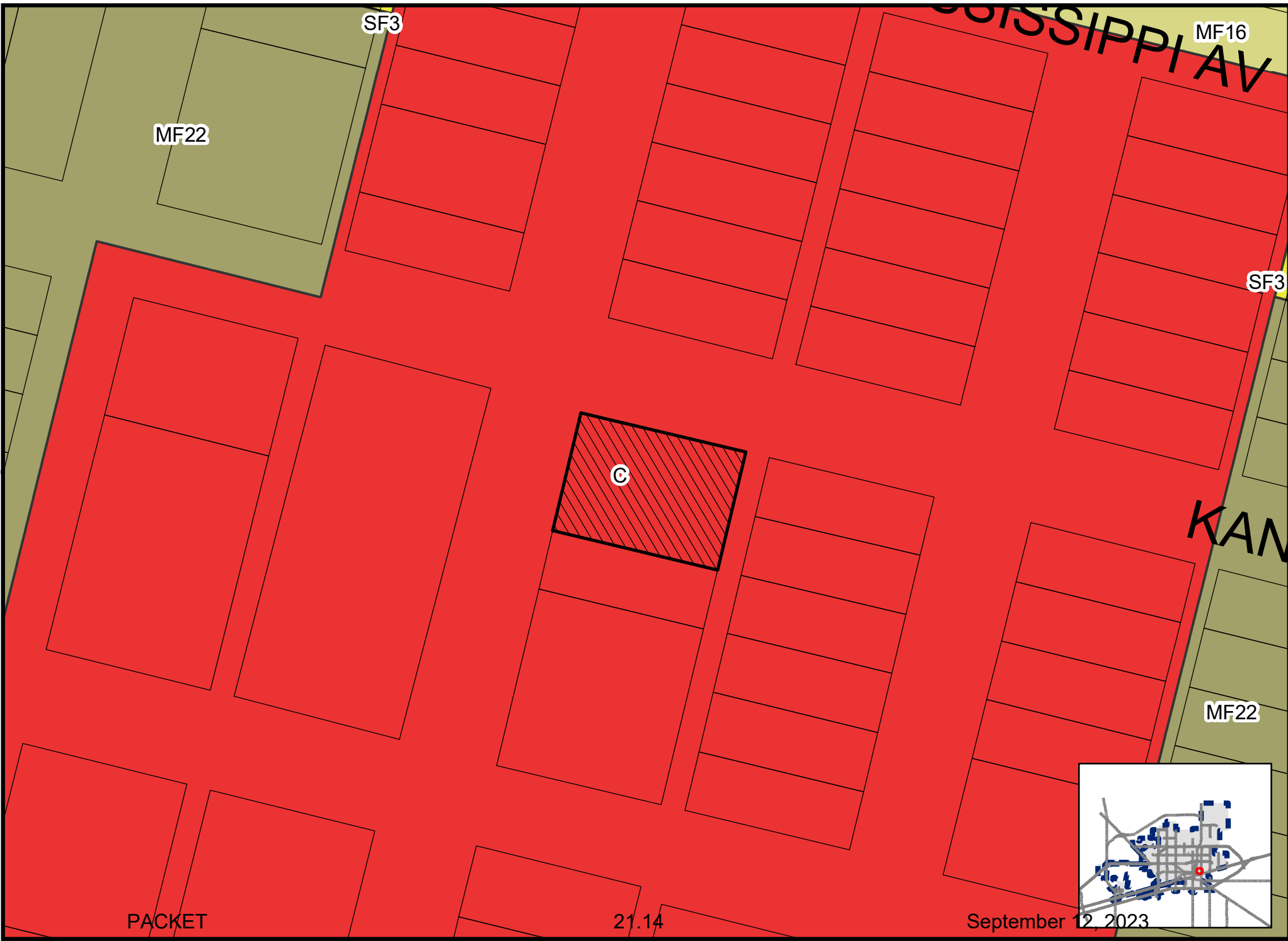


©THE CITY OF MIDLAND - 2021

THIS DATA IS NOT A SUBSTITUTION FOR A SURVEY OR ENGINEERING DRAWING. IT IS DESIGNED TO BE USED AS A GUIDANCE TOOL IN PERMITTING OR OTHER DECISIONS BASED SOLELY ON THE INFORMATION CONTAINED HEREIN.

THE CITY OF MIDLAND SHALL NOT BE RESPONSIBLE FOR ANY DECISIONS BASED UPON THE USE OF THIS DATA.

September 12, 2023













City Council Meeting

Item Number: 22
Meeting Date: September 12, 2023
To: City Council / City Manager
From: Landon Ochoa, Senior Planner
Subject: AN ORDINANCE AMENDING THE ZONING DISTRICT MAP OF THE CITY OF MIDLAND TO REZONE A 0.32-ACRE TRACT OF LAND, BEING THE NORTH 100 FEET OF THE NORTHWEST QUARTER OF BLOCK 17, HOMESTEAD ADDITION, CITY AND COUNTY OF MIDLAND, TEXAS, FROM C, COMMERCIAL DISTRICT TO SF-3, SINGLE-FAMILY DWELLING DISTRICT (GENERALLY LOCATED AT THE SOUTHEAST CORNER OF THE INTERSECTION OF NORTH FORT WORTH STREET AND EAST KANSAS AVENUE); CONTAINING A CUMULATIVE CLAUSE; CONTAINING A SAVINGS AND SEVERABILITY CLAUSE; PROVIDING FOR A MAXIMUM PENALTY OR FINE OF TWO THOUSAND DOLLARS (\$2,000.00); AND ORDERING PUBLICATION (DISTRICT 2) (DEVELOPMENT SERVICES)

Purpose:

The applicant is requesting a zone change from C, Commercial to SF-3, Single-Family Dwelling District to allow the property to be used for the construction of houses.

Recommended City Council Action:

Approve

Fiscal Impact:

This request has no significant impact on the City's budget.

Current Zoning:

C, Commercial District.

Surrounding Zoning and Land Use:

The properties to the north, east, and south are zoned C, Commercial, and the location of residential uses. The property to the west is zoned C, Commercial, and the location of residential uses. The property to the west is zoned C, Commercial, and the location of a non-residential building.

Analysis:

The applicant is requesting this zone change to construct single-family homes. The previous zoning ordinance allowed single-family homes to be constructed in commercial zoning districts. As of July 1, 2019, the updated zoning ordinance does not allow the use of single-family homes within C, Commercial District. Based on the current residential uses in this neighborhood the zone change to SF-3, Single-Family Dwelling District-3 is compatible with the existing land uses.

The applicant has submitted a preliminary plat for the property to be replatted into two lots and for an exception to allow the corner lot with a minimum 50-foot lot width instead of the required 55 feet. The SF-3, Single-Family-3 Dwelling District zoning and special exception will allow the two single-family homes to be built on the lots. On August 7, 2023, the Planning and Zoning Commission recommended the motion for approval fail by a 2-2 vote.

The Preliminary Plat was approved with conditions at the August 21, 2023, Planning and Zoning Commission meeting.

This proposed zone change has been circulated to the respective City departments for internal review and their comments, conditions, and requirements are as follows:

Fire: (Approved)

No objection.

Building: (Approved)

No issues. All future structures must adhere to the 2018 International Building Codes, the 2015 International Energy Code, the 2020 NEC requirements, the 2015 International Fire Codes, local city ordinances, zoning requirements, established setbacks, and floodplain requirements if necessary. Code versions are subject to change depending on time of new code edition adoption in the City of Midland and date of permit application.

Engineering: (Approved)

No objections to zone change. [For Applicant's Information Only.]

Code: (Approved)

No Oil and Gas Issues.

Transportation: (Approved)

Site drainage, utilities, driveway access, and traffic circulation may be adjusted during construction drawing review as necessary to receive building permit approval from Engineering and Traffic Operations. [For the Applicant's information only. No objection to zone change. [For the Applicant's information only].

Planning:

The Tall City Tomorrow Comprehensive Plan, Chapter 4 - Housing & Neighborhoods, Goals 3 and 4 encourages infill developments to provide affordable and diverse housing options for all income levels. This request is consistent with the referenced goals.

Staff recommends approval of this zone change from C, Commercial, to SF-3, Single-Family Dwelling District, subject to condition A.

Condition:

- A. That the use and development of this property shall conform to the regulations of the SF-3, Single-Family Dwelling District.**

Letters of Objection:

As of August 31, 2023, staff has received no letters of objection for this request.

Attachments:

Metes and Bounds (Exhibit A)
Application
Maps



City Manager's Office

ORDINANCE NO. _____

AN ORDINANCE AMENDING THE ZONING DISTRICT MAP OF THE CITY OF MIDLAND TO REZONE A 0.32-ACRE TRACT OF LAND, BEING THE NORTH 100 FEET OF THE NORTHWEST QUARTER OF BLOCK 17, HOMESTEAD ADDITION, CITY AND COUNTY OF MIDLAND, TEXAS, FROM C, COMMERCIAL DISTRICT TO SF-3, SINGLE-FAMILY DWELLING DISTRICT (GENERALLY LOCATED AT THE SOUTHEAST CORNER OF THE INTERSECTION OF NORTH FORT WORTH STREET AND EAST KANSAS AVENUE); CONTAINING A CUMULATIVE CLAUSE; CONTAINING A SAVINGS AND SEVERABILITY CLAUSE; PROVIDING FOR A MAXIMUM PENALTY OR FINE OF TWO THOUSAND DOLLARS (\$2,000.00); AND ORDERING PUBLICATION

WHEREAS, the City Planning and Zoning Commission and the Governing Body of the City of Midland, in compliance with the City Charter, the City Code, and State law, have given the requisite notices by United States mail, publication and otherwise; and after a full and fair hearing to all of the property owners generally and particularly to those interested persons situated in the affected area and in the vicinity thereof, the Governing Body finds that the public health, safety and general welfare will be best served by rezoning a 0.32-acre tract of land, being the north 100 feet of the northwest quarter of Block 17, Homestead Addition, City and County of Midland, Texas, said tract being more specifically described by metes and bounds in Exhibit “A”, which is attached hereto and incorporated herein (the “Property”) to SF-3, Single-Family Dwelling District, as set out hereinafter;

NOW, THEREFORE, BE IT ORDAINED BY THE CITY COUNCIL OF THE CITY OF MIDLAND, TEXAS:

SECTION ONE. That the Zoning District Map of the City of Midland, Texas, is hereby amended to rezone the Property from C, Commercial District to SF-3, Single-Family Dwelling District.

SECTION TWO. That the definitions given in the zoning regulations contained in the City Code of the City of Midland, Texas, shall be applicable to such of those terms as are used herein.

SECTION THREE. The provisions of this ordinance are to be cumulative of all other ordinances or parts of ordinances governing or regulating the same subject matter as that covered herein; provided, however, that all prior ordinances or parts of ordinances inconsistent with or in conflict with any of the provisions of this ordinance are hereby expressly repealed to the extent of any such inconsistency or conflict.

SECTION FOUR. If any section, subsection, sentence, clause or phrase of this ordinance is, for any reason, held to be unconstitutional or invalid, such holding shall not affect the validity of the remaining portions of this ordinance. The Council of the City of Midland hereby declares that it would have passed this ordinance and each section, subsection, sentence, clause, or phrase hereof irrespective of the fact that any one or more sections, subsections, sentences, clauses, or phrases be declared unconstitutional or invalid.

SECTION FIVE. The penalty for violation of this ordinance shall be in accordance with the general penalty provisions contained in Section 1-3-1 of the City Code of Midland, Texas, which provides for a fine not exceeding two thousand dollars (\$2,000.00).

SECTION SIX. The City Secretary is hereby authorized and directed to publish the descriptive caption of this ordinance in the manner and for the length of time prescribed by the law as an alternative method of publication.

The above and foregoing ordinance was duly proposed, read in full and adopted on first reading, the _____ day of _____, A.D., 2023; and passed to second reading on motion of Council member _____, seconded by Council member _____, by the following vote:

Council members voting "AYE":

Council members voting "NAY":

The above and foregoing ordinance was read in full and finally adopted by the following vote upon motion of Council member _____, seconded by Council

member _____, on the _____ day of _____, A.D., 2023, at a regular meeting of the City Council:

Council members voting "AYE":

Council members voting "NAY":

PASSED AND APPROVED THIS _____ day of _____, A.D., 2023.

Lori Merritt Blong, Mayor

ATTEST:

Marcia Bentley-German, City Secretary

APPROVED AS TO CONTENT
AND COMPLETENESS:

Rolandrea Russell, Interim Director of Development Services

APPROVED ONLY AS TO FORM:

John Ohnemiller, City Attorney

EXHIBIT "A"



SCHUMANN
SURVEYING, INC.
A LATERAL LAND COMPANY

FIELD NOTE DESCRIPTION OF A 0.32 ACRE TRACT OF LAND, OUT OF THE NORTHWEST HALF OF BLOCK 17, HOMESTEAD ADDITION, , AN ADDITION TO THE CITY OF MIDLAND, MIDLAND COUNTY, TEXAS, ACCORDING TO THE MAP OR PLAT RECORDED IN VOLUME 1, PAGE 242, DEED RECORDS OF MIDLAND COUNTY, TEXAS. SAID 0.32 ACRE TRACT DESCRIBED MORE FULLY BY METES AND BOUNDS AS FOLLOWS:

BEGINNING AT A REINF BAR FOUND (N:10697127.95, E:1757977.13) IN THE EAST RIGHT OF WAY OF FORT WORTH AVENUE, AND IN THE SOUTH RIGHT OF WAY LINE OF KANSAS AVENUE FOR THE NORTHWEST CORNER OF THIS TRACT, ALSO BEING THE NORTHWEST BLOCK CORNER OF SAID BLOCK 17;

THENCE NORTH 89°32'56" EAST, ALONG SAID SOUTH RIGHT OF WAY LINE OF SAID KANSAS AVENUE, 140.00 FEET TO A REINF BAR SET FOR THE NORTHEAST CORNER OF THIS TRACT;

THENCE SOUTH 0°27'04" EAST 100.00 FEET TO A REINF BAR SET FOR THE SOUTHEAST CORNER OF THIS TRACT;

THENCE SOUTH 89°32'56" WEST 140.00 FEET TO A REINF BAR SET IN SAID EAST RIGHT OF WAY LINE OF SAID FORT WORTH AVENUE FOR THE SOUTHWEST CORNER OF THIS TRACT;

THENCE NORTH 0°27'04" WEST, ALONG SAID EAST RIGHT OF WAY LINE OF SAID FORT WORTH AVENUE, 100.00 FEET TO THE PLACE OF BEGINNING.

BEARINGS AND DISTANCES SHOWN ARE BASED ON GPS OBSERVATIONS AND CONFORM TO THE "TEXAS COORDINATE SYSTEM" TEXAS CENTRAL ZONE, NORTH AMERICAN DATUM OF 1983.



SCHUMANN

SURVEYING, INC.

A LATERAL LAND COMPANY

FIELD NOTE DESCRIPTION OF A 0.32 ACRE TRACT OF LAND, OUT OF THE NORTHWEST HALF OF BLOCK 17, HOMESTEAD ADDITION, , AN ADDITION TO THE CITY OF MIDLAND, MIDLAND COUNTY, TEXAS, ACCORDING TO THE MAP OR PLAT RECORDED IN VOLUME 1, PAGE 242, DEED RECORDS OF MIDLAND COUNTY, TEXAS. SAID 0.32 ACRE TRACT DESCRIBED MORE FULLY BY METES AND BOUNDS AS FOLLOWS:

BEGINNING AT A REINF BAR FOUND (N:10697127.95, E:1757977.13) IN THE EAST RIGHT OF WAY OF FORT WORTH AVENUE, AND IN THE SOUTH RIGHT OF WAY LINE OF KANSAS AVENUE FOR THE NORTHWEST CORNER OF THIS TRACT, ALSO BEING THE NORTHWEST BLOCK CORNER OF SAID BLOCK 17;

THENCE NORTH 89°32'56" EAST, ALONG SAID SOUTH RIGHT OF WAY LINE OF SAID KANSAS AVENUE, 140.00 FEET TO A REINF BAR SET FOR THE NORTHEAST CORNER OF THIS TRACT;

THENCE SOUTH 0°27'04" EAST 100.00 FEET TO A REINF BAR SET FOR THE SOUTHEAST CORNER OF THIS TRACT;

THENCE SOUTH 89°32'56" WEST 140.00 FEET TO A REINF BAR SET IN SAID EAST RIGHT OF WAY LINE OF SAID FORT WORTH AVENUE FOR THE SOUTHWEST CORNER OF THIS TRACT;

THENCE NORTH 0°27'04" WEST, ALONG SAID EAST RIGHT OF WAY LINE OF SAID FORT WORTH AVENUE, 100.00 FEET TO THE PLACE OF BEGINNING.

BEARINGS AND DISTANCES SHOWN ARE BASED ON GPS OBSERVATIONS AND CONFORM TO THE "TEXAS COORDINATE SYSTEM" TEXAS CENTRAL ZONE, NORTH AMERICAN DATUM OF 1983.





**Zone Change/Planned District
Amendment/Site Plan Approval**

Project Number: _____

Case Number: 2-23-0337

Applicant (if acting as Agent, see affidavit on page 2) Printed Name: _____		Phone () Email _____	
Address _____	City _____	State _____	Zip _____

Property Owner Printed Name: <u>JORGE CHAVEZ</u>		Phone () Email _____	
Address _____	City _____	State _____	Zip _____

Representative (if different from Applicant or Property Owner) Firm: <u>SCHUMANN SURVEYING, INC.</u> Printed Name: <u>ED ALEMAN</u>		Phone (432) 684-5548 Email _____ <u>EALEMAN@SCHUMANNONLINE.NET</u>	
Address <u>800 N. MARIENFELD</u>	City <u>MIDLAND</u>	State <u>TX</u>	Zip <u>79701</u>

Street Address: <u>708 N. FORT WORTH AVENUE</u>			
Legal Description Lot: _____ Block: <u>17</u> Subdivision: <u>HOMESTEAD ADDITION, SECTION 21</u>			

Current Zoning: "C" COMMERCIAL	Proposed Zone: SINGLE FAMILY RESIDENTIAL, LOT 1 & LOT 2 (List by tracts if more than one district is requested)
--	---

Reason for Zone Change Request: To build house

Present Use of Property: VACANT

Proposed Use of Property: Residential

How would this zone change affect the public health, safety and welfare? _____

Describe how conditions affecting the property have changed since present zoning designation: _____

Submittal and Fees Items to be submitted with this application form: • Application Fee – Payable to the 'City of Midland' • Dimensioned Site Plan • Digital Copies of Site Plan (PDF/JPEG)

Signature (by property owner only – authorized agent must sign affidavit below)

Applicant (signature):

Date:

Applicant (printed):

Property Owner (signature):

Jorge Chavez

Date:

6-15-23

Property Owner (printed):

Jorge Chavez

The Zone Change/Planned District Amendment/Site Plan Approval shall be considered officially received in the Planning office only when it has been submitted in full compliance with the provisions of Section 212 of the Texas Local Government Code and the Zoning Code of Ordinances of the City of Midland and when such required items for the application are also received.

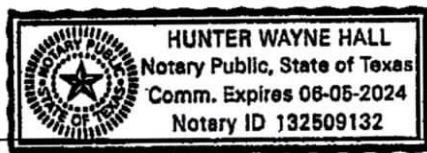
All materials, including exhibits, submitted in support of an application, or displayed during a public hearing, shall remain the property of the City of Midland.

**STATE OF TEXAS
COUNTY OF MIDLAND**

Before me, the undersigned authority, on this day personally appear Ed Aleman who, being by me duly sworn, upon oath says: That (s)he is the owner of _____ or authorized by Jorge Chavez, the owner of the above described property, to fully represent him/her in this application and that (s)he had the legal right, power and authority to sign said owner's name hereto as his/her attorney in fact.

Edmanuel Aleman
Authorized Agent (signature)

Subscribed and sworn to before me, this 15th day of June, 20 23, to certify which witness my hand and seal of office.



NOTARY PUBLIC, MIDLAND COUNTY, TEXAS

FOR OFFICE USE ONLY

☒ Property Owner Authorization

☒ Dimensioned Site Plan

☒ Application Fee

☒ Plans in Digital Format (PDF/JPEG)

Check # 2030

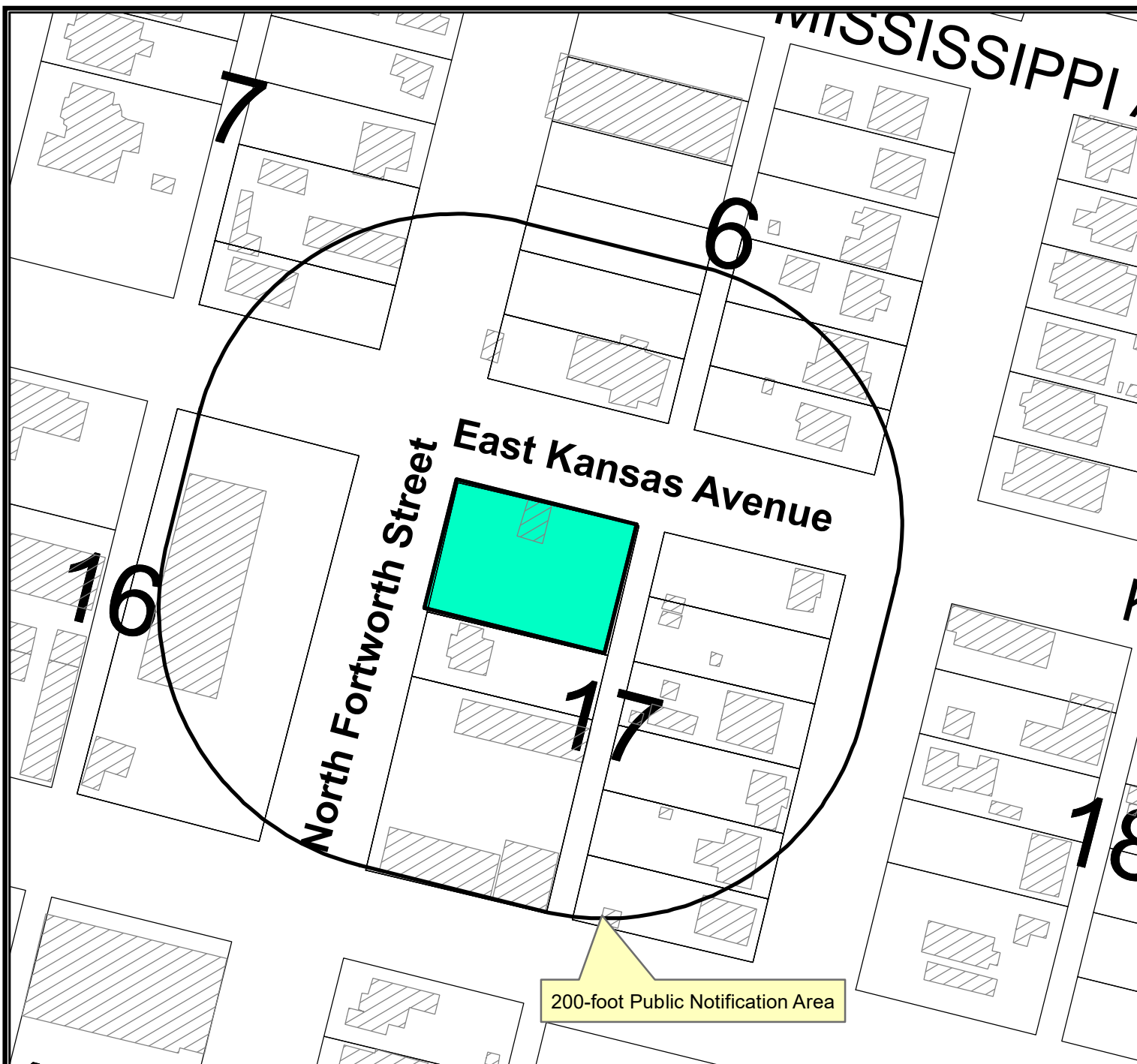
Received By:

London Edra

Date:

JUL 10 2023

BY: _____



LOCATION MAP

Z-23-0337

Scale: 1" = 1,1303'

A request by Schumann Engineering for a zone change from, C, Commercial District to SF-3, Single-Family Dwelling District out of a 0.321-acre tract of land, being the north 100 feet of the northwest quarter, Block 17, Homestead Addition, City and County of Midland, Texas.

Generally located on the southeast corner of the intersection of North Fort Worth Street and East Kansas Avenue. (Council District 2)

LEGEND

- CITY LIMITS
- PARCEL
- PRIVATE BLDGS

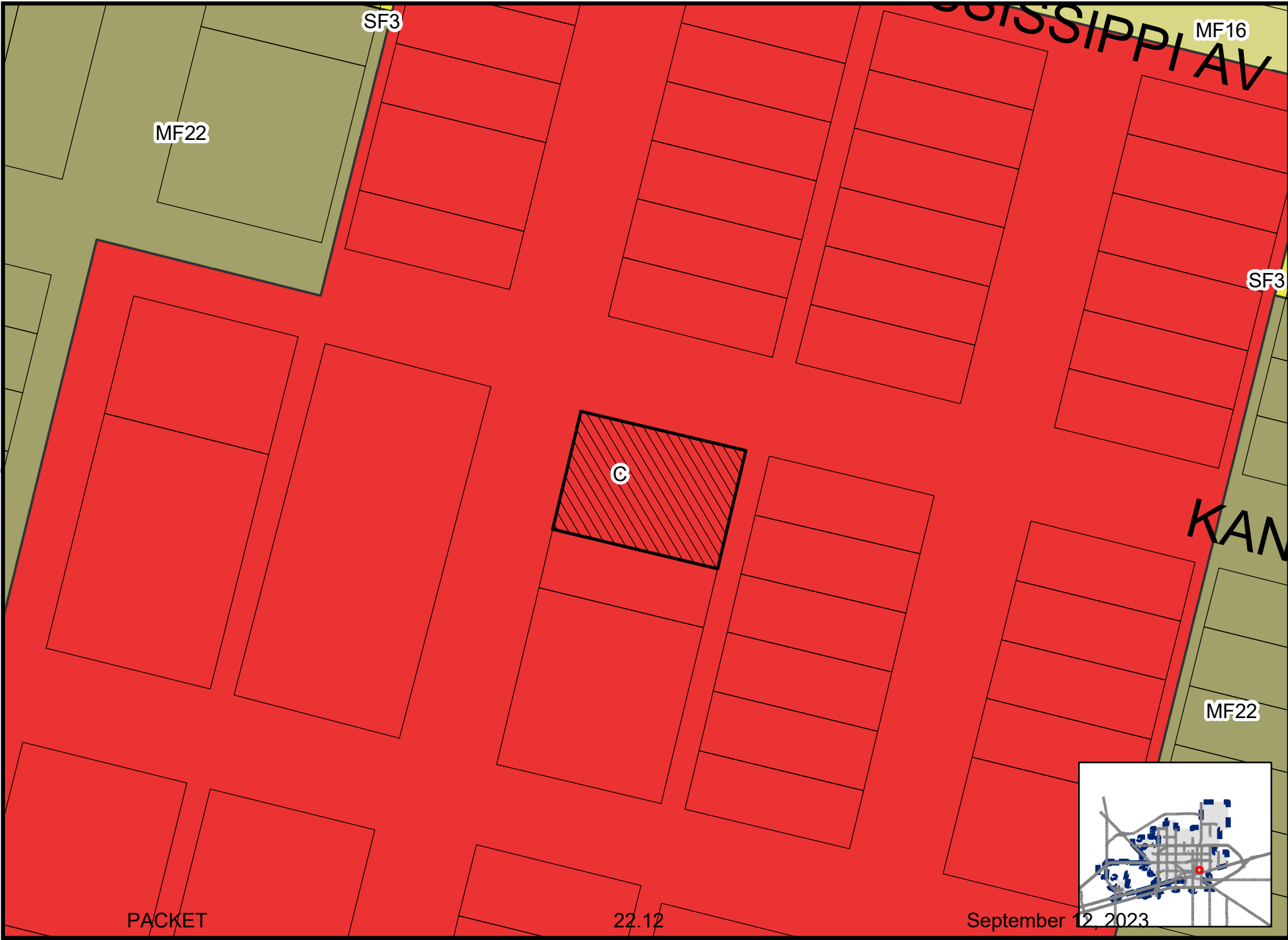


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THIS DATA IS NOT A SUBSTITUTION FOR A SURVEY OR FOR A PROFESSIONAL ENGINEER'S DESIGN OR FOR A PROFESSIONAL ENGINEER'S TOOL IN PERMITTING OR OTHER DECISIONS BASED SOLELY ON THE INFORMATION CONTAINED HEREIN.

THE CITY OF MIDLAND SHALL NOT BE RESPONSIBLE FOR ANY DECISIONS BASED UPON THE USE OF THIS DATA.

September 12, 2023













City Council Meeting

Item Number: 23
Meeting Date: September 12, 2023
To: City Council / City Manager
From: Landon Ochoa, Senior Planner
Subject: AN ORDINANCE GRANTING A SPECIAL EXCEPTION FOR LOT 2, BLOCK 3, MELODY ACRES, SECTION 4, CITY AND COUNTY OF MIDLAND, TEXAS (GENERALLY LOCATED ON THE NORTH SIDE OF TANFORAN AVENUE, APPROXIMATELY 200 FEET EAST OF ORIOLE DRIVE), BY PERMITTING A REDUCED MINIMUM LOT AREA; CONTAINING A CUMULATIVE CLAUSE; CONTAINING A SAVINGS AND SEVERABILITY CLAUSE; PROVIDING FOR A MAXIMUM PENALTY OR FINE OF TWO THOUSAND DOLLARS (\$2,000.00); ORDERING RECORDATION BY THE CITY SECRETARY IN THE DEED RECORDS OF MIDLAND COUNTY, TEXAS; AND ORDERING PUBLICATION (DISTRICT 4) (DEVELOPMENT SERVICES)

Purpose:

The applicant, Shane Huffman, is requesting a Special Exception from the City of Midland Zoning Ordinance, *Section 5.04 - Residential District Dimensional Regulations Chart*, to allow the creation of two lots with reduced minimum lot areas of 1.847-acres instead of the required 2.0 acre minimum in the AE, Agricultural Estate District.

Recommended City Council Action:

Deny

Fiscal Impact:

No City funds are required to process this request.

Discussion:

The AE, Agricultural Estate District requires a minimum lot area of 2 acres (87,120 square feet). An exception is required because the proposed lots will be less than the required acreage.

This request has been circulated to all pertinent City departments for review. Below are the departments' comments.

Fire: (Approved)

No objections.

Building: (Approved)

No issues. All future structures must adhere to the 2018 International Building Codes, the 2015 International Energy Code, the 2020 NEC requirements, the 2015 International Fire Codes, local city ordinances, zoning requirements, established setbacks, oil and gas considerations, and floodplain requirements if necessary. Code versions are subject to change depending on time of new code edition adoption in the City of Midland and date of permit application.

Engineering: (Approved)

No objections. [For the Applicant's information only.]

Code Compliance: (Approved)

No Oil and Gas issues.

Transportation: (Approved)

No objections. [For the Applicant's information only.]

Planning (Denied):

The properties along Tanforan Avenue were annexed into the city in 1980 and the subject property was platted as one 3.7-acre lot in 1987 as part of Melody Acres, Fourth Section in compliance with the AE, Agricultural Estate Zoning District minimum 2.0-acre lot area requirement. The adjacent lot to the east which contains a single-family home is 2.0 acres in size, also in compliance. There is no hardship for the proposed request, as the lots were legally platted with the minimum lot sizes. The AE, Agricultural Estate District is intended for minimum of 2.0-acre sized lots.

Staff is recommending denial of this special exception, however, should it be approved, staff recommends that it be subject to condition A.

Condition:

- A. That each lot shall have a minimum lot area of 1.847 acres.**

Letters of Objection:

Staff has not received any letters of objection as of August 31, 2023.

Attachments:

Proposed Plat (Exhibit A)
Metes & Bounds (Exhibit B)
Application
Maps

City Manager's Office

ORDINANCE NO. _____

AN ORDINANCE GRANTING A SPECIAL EXCEPTION FOR LOT 2, BLOCK 3, MELODY ACRES, SECTION 4, CITY AND COUNTY OF MIDLAND, TEXAS (GENERALLY LOCATED ON THE NORTH SIDE OF TANFORAN AVENUE, APPROXIMATELY 200 FEET EAST OF ORIOLE DRIVE), BY PERMITTING A REDUCED MINIMUM LOT AREA; CONTAINING A CUMULATIVE CLAUSE; CONTAINING A SAVINGS AND SEVERABILITY CLAUSE; PROVIDING FOR A MAXIMUM PENALTY OR FINE OF TWO THOUSAND DOLLARS (\$2,000.00); ORDERING RECORDATION BY THE CITY SECRETARY IN THE DEED RECORDS OF MIDLAND COUNTY, TEXAS; AND ORDERING PUBLICATION

WHEREAS, the City Council modified the authority of the Board of Adjustment in Title XI, Chapter 1, Section 7 (“Section 11-1-7”) of the Midland City Code; and

WHEREAS, Section 11-1-7 provides for the consideration of requests for special exceptions to the Midland Zoning Ordinance; and

WHEREAS, the Council finds that satisfactory evidence has been presented that the use to be authorized by the granting of the special exception will not be detrimental to the health, safety, comfort and welfare of the occupants of the land area near the tract on which the use to be allowed by special exception will be located; and

WHEREAS, the Council finds that it is clearly and specifically authorized by the terms of Section 11-1-7 to grant such a special exception, and said exception will be in harmony with the general purposes and intent of the zoning provisions of the Midland City Code; and

WHEREAS, after a full and fair public hearing at which all parties in interest were offered an opportunity to be heard, all pursuant to law, the Council finds it to be in the public interest to grant a special exception to the Zoning Ordinance, pursuant to Section 11-1-7, for the purposes herein stated, subject to special conditions;

NOW, THEREFORE, BE IT ORDAINED BY THE CITY COUNCIL OF THE CITY OF MIDLAND, TEXAS:

SECTION ONE. That a special exception is hereby granted for the property described as Lot 2, Block 3, Melody Acres, Section 4, City and County of Midland, Texas. Said special exception shall allow a reduced minimum lot area.

SECTION TWO. Said special exception is subject to the following special conditions:

That the minimum lot area of any lot on the Property that is zoned AE, Agricultural Estate District shall be 1.847 acres.

SECTION THREE. The provisions of this ordinance are to be cumulative of all other ordinances or parts of ordinances governing or regulating the same subject matter as that covered herein; provided, however, that all prior ordinances or parts of ordinances inconsistent with or in conflict with any of the provisions of this ordinance are hereby expressly repealed to the extent of any such inconsistency or conflict.

SECTION FOUR. If any section, subsection, sentence, clause or phrase of this ordinance is, for any reason, held to be unconstitutional or invalid, such holding shall not affect the validity of the remaining portions of this ordinance. The Council of the City of Midland hereby declares that it would have passed this ordinance and each section, subsection, sentence, clause, or phrase hereof irrespective of the fact that any one or more sections, subsections, sentences, clauses, or phrases be declared unconstitutional or invalid.

SECTION FIVE. The penalty for violation of this ordinance shall be in accordance with the general penalty provisions contained in Section 1-3-1 of the City Code of Midland, Texas, which provides for a fine not exceeding two thousand dollars (\$2,000.00).

SECTION SIX. The City Secretary is hereby authorized and directed to file this ordinance with the Office of the County Clerk for purposes of recordation.

SECTION SEVEN. The City Secretary is hereby authorized and directed to publish the descriptive caption of this ordinance in the manner and for the length of time prescribed by the law as an alternative method of publication.

The above and foregoing ordinance was duly proposed, read in full and adopted on first reading, the _____ day of _____, A.D., 2023; and passed to second reading on motion of Council member _____, seconded by Council member _____, by the following vote:

Council members voting “AYE”:

Council members voting “NAY”:

The above and foregoing ordinance was read in full and finally adopted by the following vote upon motion of Council member _____, seconded by Council member _____, on the _____ day of _____, A.D., 2023, at a regular meeting of the City Council:

Council members voting “AYE”:

Council members voting “NAY”:

PASSED AND APPROVED THIS _____ day of _____, A.D., 2023.

Lori Merritt Blong, Mayor

ATTEST:

Marcia Bentley-German, City Secretary

APPROVED AS TO CONTENT
AND COMPLETENESS:

Rolandrea Russell, Interim Director of Development Services

APPROVED ONLY AS TO FORM:

John Ohnemiller, City Attorney

BEING A 3.69 ACRE TRACT OF LAND, BEING LOT 2, BLOCK 3,
MELODY ACRES, FOURTH SECTION (SECTION 4), AN ADDITION TO THE CITY
AND COUNTY OF MIDLAND, TEXAS, AS SHOWN ON A PLAT RECORDED AS
DOCUMENT NUMBER 7257 IN PART ABSTRACT D ON PAGE 387 OF THE PLAT
RECORDS OF SAID MIDLAND COUNTY, TEXAS



STATE OF TEXAS §
COUNTY OF MIDLAND §

**FIELD NOTE DESCRIPTION OF LOT 2, BLOCK 3,
FOURTH SECTION, MELODY ACRES**

FIELD NOTE DESCRIPTION OF A 3.69 ACRE TRACT OF LAND, BEING LOT 2, BLOCK 3, MELODY ACRES, FOURTH SECTION (SECTION 4), AN ADDITION TO THE CITY AND COUNTY OF MIDLAND, TEXAS, AS SHOWN ON A PLAT RECORDED AS DOCUMENT NUMBER 7257 IN PLAT CABINET D ON PAGE 387 OF THE PLAT RECORDS OF SAID MIDLAND COUNTY, AND BEING MORE PARTICULARLY DESCRIBED AS FOLLOWS;

BEGINNING AT N.(y):10712410.20, E.(x):1730777.12, A ONE HALF INCH IRON ROD FOUND AND ACCEPTED AS BEING THE NORTHEAST CORNER OF LOT 4, BLOCK 3, MELODY ACRES, SECTION 16, AS SHOWN ON A PLAT RECORDED AS DOCUMENT NUMBER 2023-5355, IN PLAT CABINET M ON PAGE 195 OF SAID PLAT RECORDS FOR THE NORTHWEST CORNER HEREOF;

THENCE N.75°41'21"E., ALONG THE SOUTH LINE OF A CALLED 15 FOOT ALLEY, 608.55 FEET TO A POINT WITHIN A FENCE CORNER, BEING THE NORTHWEST CORNER OF LOT 1 OF THIS BLOCK FOR THE NORTHEAST CORNER HEREOF;

THENCE S.14°29'41"E., ALONG THE WEST LINE OF SAID LOT 1, 264.44 FEET TO A POINT WITHIN A FENCE CORNER, BEING ON THE NORTH RIGHT-OF-WAY LINE OF TANFORAN AVENUE, AS RECORDED IN VOLUME 469 ON PAGE 269 OF THE DEED RECORDS OF SAID MIDLAND COUNTY FOR THE SOUTHEAST CORNER HEREOF;

THENCE S.75°41'21"W., ALONG SAID TANFORAN AVENUE, 608.55 FEET TO A THREE EIGHTHS INCH IRON ROD FOUND AND ACCEPTED AS THE SOUTHEAST CORNER OF SAID LOT 4 FOR THE SOUTHWEST CORNER HEREOF;

THENCE N.14°29'41"W., ALONG THE EAST LINE OF SAID LOT 4, 264.44 FEET TO THE **POINT OF BEGINNING**, CONTAINING 160925 SQUARE FEET OR 3.69 ACRES OF LAND.



Gregory W. Shoults
www.maverick-eng.com

Texas RPLS - No. 5356
Maverick Engineering (FIRM – No. 10194514)

August 1, 2023





Special Exception Application

Project Number: _____

Case Number: E-23-0103**Applicant** (if acting as Agent, see affidavit on page 2)Printed Name: See OwnerPhone ()
Email

Address

City

State

Zip

Property OwnerPrinted Name: Shane HuffmanPhone ()
Email

Address

4709 Woodbar Court

City

Midland

State

TX

Zip

79707**Representative** (if different from Applicant or Property Owner)Firm: Maverick EngineeringPrinted Name: Andrew Mellen

Phone (432) 262-0999

Email
amellen@maverick-eng.comAddress 1909 W Wall St Ste KCity MidlandState TXZip 79701**Street Address:** 4416 Tanforan Avenue, Midland, TX**Legal Description**Lot: 2 Block: 3 Subdivision: Melody Acres, Section 4 (also see attached Metes & Bounds)**Current Zoning:** AE Agricultural Estates**This property qualifies as an exception to the City Code because:**

- ☒ It is an expansion of a nonconforming use.
- ☐ There are existing nonconforming structures in the area.
- ☐ The addition of architectural or other projections of a minor extent.

Reason for Request: Applicant is seeking to re-plat the existing Lot 2, (approximately 3.7 acres total) into two lots less than the 2-acre minimum required by existing zoning. Other area non-conforming lots exist within this subdivision.

Submittal and Fees**Items to be submitted with this application form:**

- Application Fee – Payable to the 'City of Midland'
- Dimensioned Site Plan showing:
 - Parking
 - Building Footprint
- Digital Copies of Site Plan (PDF/JPEG)

Signatures

Applicant (signature):

Date:

Applicant (printed):

Property Owner (signature):

Date: 7/24/23

Property Owner (printed): Shane Hoffman

The Special Exception shall be considered officially received in the Planning office only when it has been submitted in full compliance with the provisions of Section 212 of the Texas Local Government Code and the Zoning Code of Ordinances of the City of Midland and when such required items for the application are also received.

All materials, including exhibits, submitted in support of an application, or displayed during a public hearing, shall remain the property of the City of Midland.

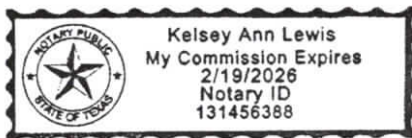
If an agent is authorized by the property owner to file and execute the application on behalf of the property owner, the agent must complete the affidavit below.

STATE OF TEXAS
COUNTY OF MIDLAND

Before me, the undersigned authority, on this day personally appeared Andrew L. Mellen who, being by me duly sworn, upon oath says: That (s)he is authorized by Shane Hoffman, the owner of the above described property, to fully represent him/her in this application and that (s)he had the legal right, power and authority to sign said owner's name hereto as his/her attorney in fact.

Andrew L. Mellen
Authorized Agent (signature)

Subscribed and sworn to before me, this 24th day of July, 2023, to certify which witness my hand and seal of office.



Kelsey Ann Lewis

NOTARY PUBLIC, MIDLAND COUNTY, TEXAS

FOR OFFICE USE ONLY

☒ Property Owner Authorization

☒ Dimensioned Site Plan

☒ Application Fee

☒ Plans in Digital Format (PDF/JPEG)

Check # 4369

Received By:

Date:

RECEIVED
JUL 24 2023

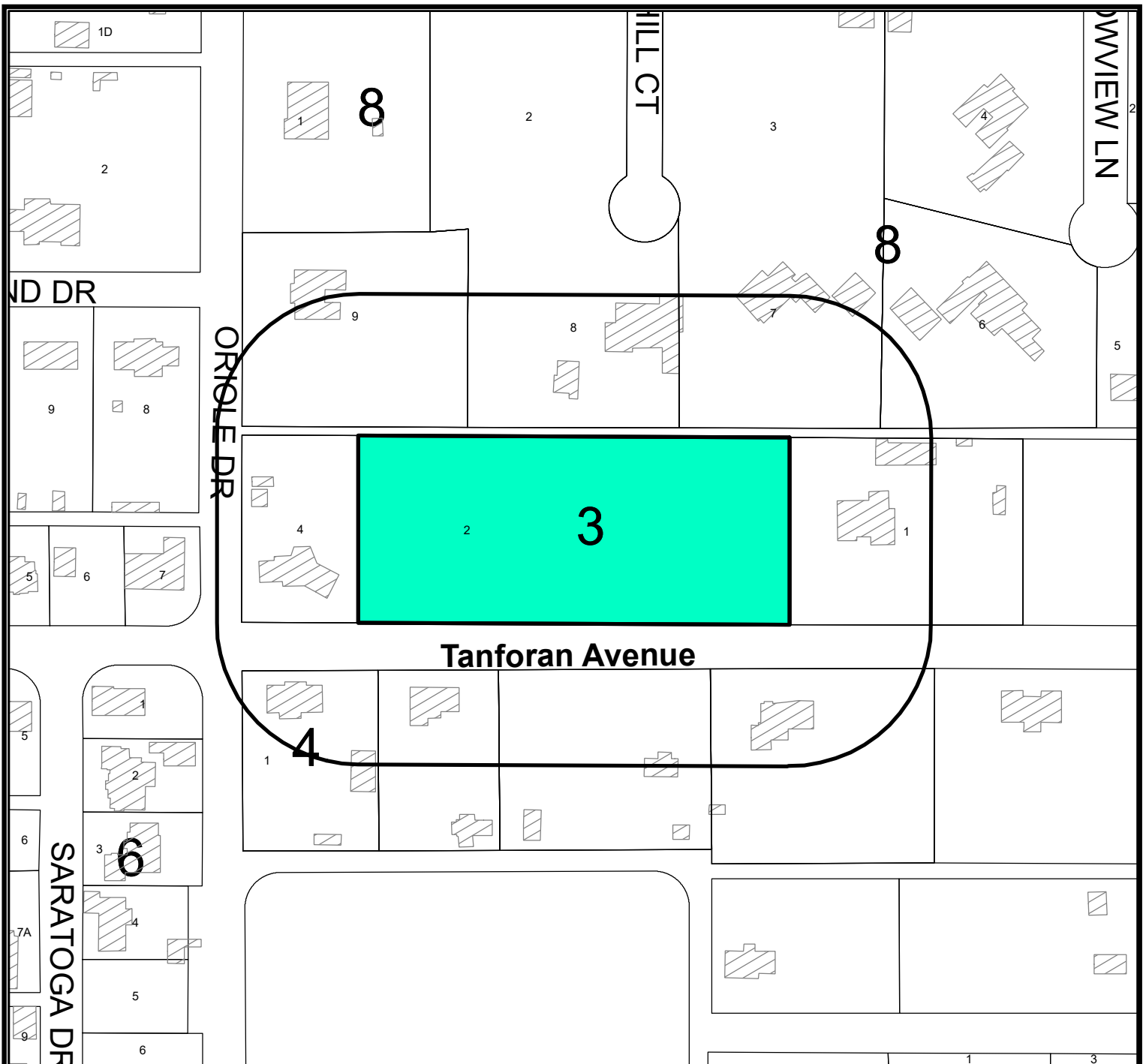
BY:

PACKET

2311

September 12, 2023

**Application will not be considered for scheduling until reviewed by a planner.



LOCATION MAP

E-23-0103

Scale: 1" = 2,442'

A request by Maverick Engineering for a Special Exception from the City of Midland Zoning Ordinance, Section 5.04 - Residential District Dimensional Regulations Chart, for a reduced minimum lot area on Lot 2, Block 3, Melody Acres, Section 4, City of and County of Midland, Texas.

Genrally located on the north side of Tanforan Avenue approximately 200-feet east of Oriole Drive.

(Council District 4)

23.13

LEGEND

- CITY LIMITS
- PARCEL
- PRIVATE BLDGS

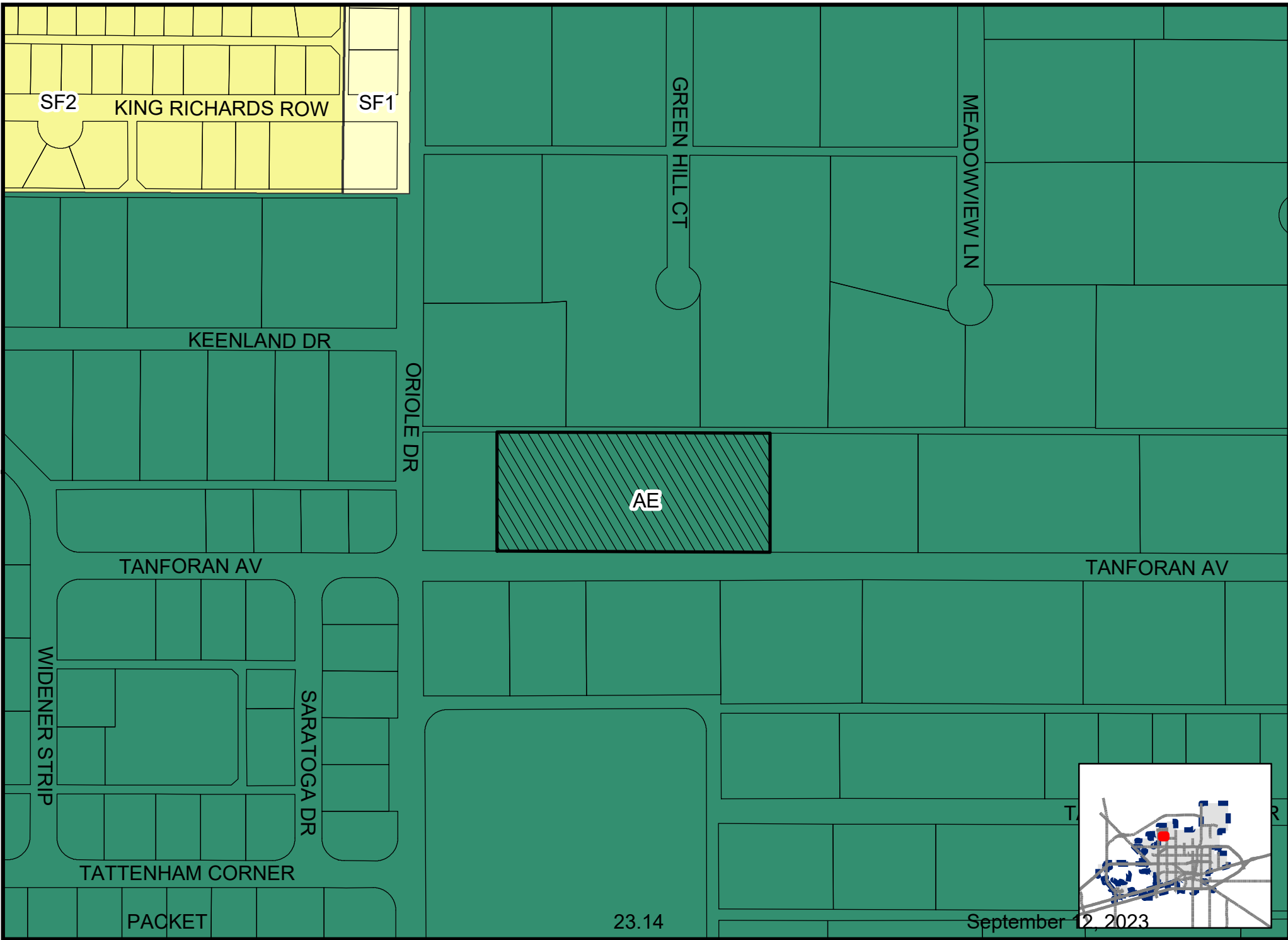


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THIS DATA IS NOT A SUBSTITUTION FOR A SURVEY OR FOR IT IS DESIGNED TO BE USED AS A TOOL IN PERMITTING OR OTHER DECISIONS BASED SOLELY ON THE INFORMATION CONTAINED HEREIN.

THE CITY OF MIDLAND SHALL NOT BE RESPONSIBLE FOR ANY DECISIONS BASED UPON THE USE OF THIS DATA.

September 12, 2023





City Council Meeting

Item Number: 24
Meeting Date: September 12, 2023
To: City Council / City Manager
From: Landon Ochoa, Senior Planner
Subject: AN ORDINANCE GRANTING A SPECIAL EXCEPTION FOR BLOCKS 202 AND 203, SOUTHERN ADDITION, CITY AND COUNTY OF MIDLAND, TEXAS (GENERALLY LOCATED AT THE SOUTHEAST CORNER OF THE INTERSECTION OF SOUTH COLORADO STREET AND WEST DAKOTA AVENUE), BY PERMITTING A REDUCED MINIMUM SEPARATION OF ACCESSORY BUILDINGS FROM THE PRINCIPAL BUILDING; CONTAINING A CUMULATIVE CLAUSE; CONTAINING A SAVINGS AND SEVERABILITY CLAUSE; PROVIDING FOR A MAXIMUM PENALTY OR FINE OF TWO THOUSAND DOLLARS (\$2,000.00); ORDERING RECORDATION BY THE CITY SECRETARY IN THE DEED RECORDS OF MIDLAND COUNTY, TEXAS; AND ORDERING PUBLICATION (DISTRICT 2) (DEVELOPMENT SERVICES)

Purpose:

The applicant, South Elementary School, is requesting a Special Exception from the City of Midland Zoning Ordinance, to allow shade structures to be separated two feet from the school instead of the required 10 feet.

Recommended City Council Action:

Approve

Fiscal Impact:

No City funds are required to process this request.

Discussion:

The property is located at 200 West Dakota Avenue and the location of South Elementary School. The shade structures as shown on Exhibit A are four proposed shade structures that will

be located on the south side of the school. However, there will only be a 2-foot separation between the school and shade structures instead of the required 10-feet.

Per our City of Midland Zoning Ordinance, *Section 4.09 – Accessory Buildings and Uses, concerning the minimum separation from a principal building and accessory buildings:*

B. Accessory Buildings and Use Limitations

3. Any Accessory Building that is not a part of the principal building shall be separated from the principal building by a minimum of 10 feet.

This request has been circulated to all pertinent City departments for review. Below are the departments' comments.

Fire: (Approved)

No objections.

Building: (Approved)

No issues.

Engineering: (Approved)

No objection. [For the Applicant's information only.]

Code: (Approved)

No Oil and Gas issues.

Transportation: (Approved)

No objection. [For the Applicant's information only.]

Planning (Approved):

Granting this exception would allow the structures to be placed closer to the school where the students would be waiting.

Staff is recommends approval of this special exception subject to condition A.

Condition:

A. That the Property shall significantly conform to the site plan shown in Exhibit "A" and maintain a minimum of two (2) feet of separation between the proposed shade structures and the principal building.

Letters of Objection:

Staff has not received any letters of objection as of August 31, 2023.

Attachments:

Site Plan (Exhibit A)
Application
Maps



City Manager's Office

ORDINANCE NO. _____

AN ORDINANCE GRANTING A SPECIAL EXCEPTION FOR BLOCKS 202 AND 203, SOUTHERN ADDITION, CITY AND COUNTY OF MIDLAND, TEXAS (GENERALLY LOCATED AT THE SOUTHEAST CORNER OF THE INTERSECTION OF SOUTH COLORADO STREET AND WEST DAKOTA AVENUE), BY PERMITTING A REDUCED MINIMUM SEPARATION OF ACCESSORY BUILDINGS FROM THE PRINCIPAL BUILDING; CONTAINING A CUMULATIVE CLAUSE; CONTAINING A SAVINGS AND SEVERABILITY CLAUSE; PROVIDING FOR A MAXIMUM PENALTY OR FINE OF TWO THOUSAND DOLLARS (\$2,000.00); ORDERING RECORDATION BY THE CITY SECRETARY IN THE DEED RECORDS OF MIDLAND COUNTY, TEXAS; AND ORDERING PUBLICATION

WHEREAS, the City Council modified the authority of the Board of Adjustment in Title XI, Chapter 1, Section 7 (“Section 11-1-7”) of the Midland City Code; and

WHEREAS, Section 11-1-7 provides for the consideration of requests for special exceptions to the Midland Zoning Ordinance; and

WHEREAS, the Council finds that satisfactory evidence has been presented that the use to be authorized by the granting of the special exception will not be detrimental to the health, safety, comfort and welfare of the occupants of the land area near the tract on which the use to be allowed by special exception will be located; and

WHEREAS, the Council finds that it is clearly and specifically authorized by the terms of Section 11-1-7 to grant such a special exception, and said exception will be in harmony with the general purposes and intent of the zoning provisions of the Midland City Code; and

WHEREAS, after a full and fair public hearing at which all parties in interest were offered an opportunity to be heard, all pursuant to law, the Council finds it to be in the public interest to grant a special exception to the Zoning Ordinance, pursuant to Section 11-1-7, for the purposes herein stated, subject to special conditions;

NOW, THEREFORE, BE IT ORDAINED BY THE CITY COUNCIL OF THE

CITY OF MIDLAND, TEXAS:

SECTION ONE. That a special exception is hereby granted for the property described as Blocks 202 and 203, Southern Addition, City and County of Midland, Texas. Said special exception shall allow a reduced minimum separation of accessory buildings from the principal building.

SECTION TWO. Said special exception is subject to the following special conditions:

- A. That the minimum building separation between the shade structures and the principal building shall be two feet (2') as shown in Exhibit "A", which is attached hereto and incorporated herein for all purposes.
- B. That said special exception shall not apply to accessory buildings other than the shade structures shown in Exhibit "A".

SECTION THREE. The provisions of this ordinance are to be cumulative of all other ordinances or parts of ordinances governing or regulating the same subject matter as that covered herein; provided, however, that all prior ordinances or parts of ordinances inconsistent with or in conflict with any of the provisions of this ordinance are hereby expressly repealed to the extent of any such inconsistency or conflict.

SECTION FOUR. If any section, subsection, sentence, clause or phrase of this ordinance is, for any reason, held to be unconstitutional or invalid, such holding shall not affect the validity of the remaining portions of this ordinance. The Council of the City of Midland hereby declares that it would have passed this ordinance and each section, subsection, sentence, clause, or phrase hereof irrespective of the fact that any one or more sections, subsections, sentences, clauses, or phrases be declared unconstitutional or invalid.

SECTION FIVE. The penalty for violation of this ordinance shall be in accordance with the general penalty provisions contained in Section 1-3-1 of the City Code of Midland, Texas, which provides for a fine not exceeding two thousand dollars (\$2,000.00).

SECTION SIX. The City Secretary is hereby authorized and directed to file this

ordinance with the Office of the County Clerk for purposes of recordation.

SECTION SEVEN. The City Secretary is hereby authorized and directed to publish the descriptive caption of this ordinance in the manner and for the length of time prescribed by the law as an alternative method of publication.

The above and foregoing ordinance was duly proposed, read in full and adopted on first reading, the _____ day of _____, A.D., 2023; and passed to second reading on motion of Council member _____, seconded by Council member _____, by the following vote:

Council members voting “AYE”:

Council members voting “NAY”:

The above and foregoing ordinance was read in full and finally adopted by the following vote upon motion of Council member _____, seconded by Council member _____, on the _____ day of _____, A.D., 2023, at a regular meeting of the City Council:

Council members voting “AYE”:

Council members voting “NAY”:

PASSED AND APPROVED THIS _____ day of _____, A.D., 2023.

Lori Merritt Blong, Mayor

ATTEST:

Marcia Bentley-German, City Secretary

APPROVED AS TO CONTENT
AND COMPLETENESS:

Rolandrea Russell, Interim Director of Development Services

APPROVED ONLY AS TO FORM:

John Ohnemiller, City Attorney

EXHIBIT "A"





This will be a 4-dome 96'x10'x10' tall cantilever shade. Located 2ft from the south wall of the school

24'x10'x10' tall hip

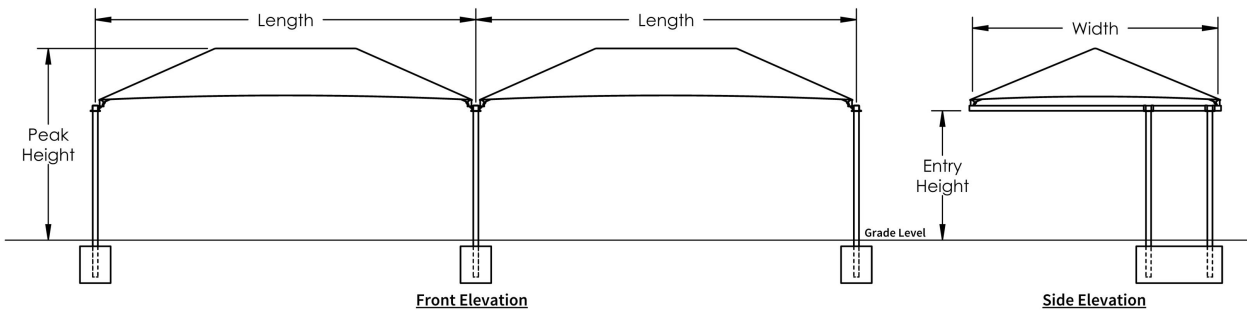
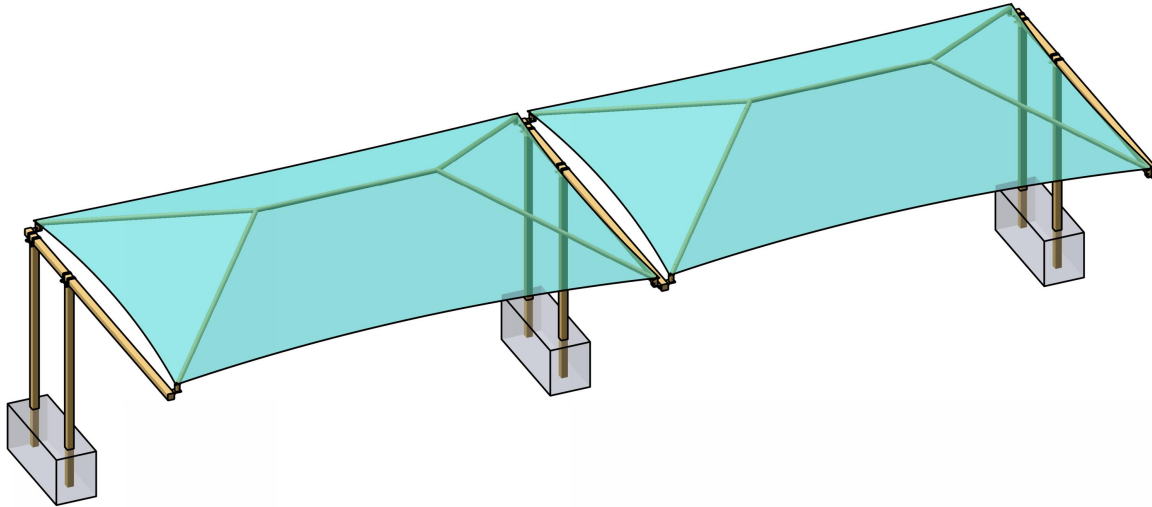
24'x10'x10' tall hip

24'x10'x10' tall hip

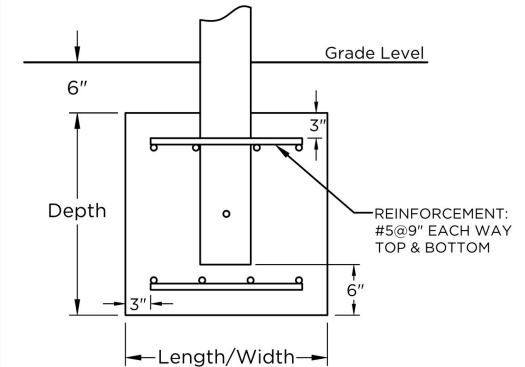
24'x10'x10' tall hip

Multi-Dome Standard Cantilever Hip Shade

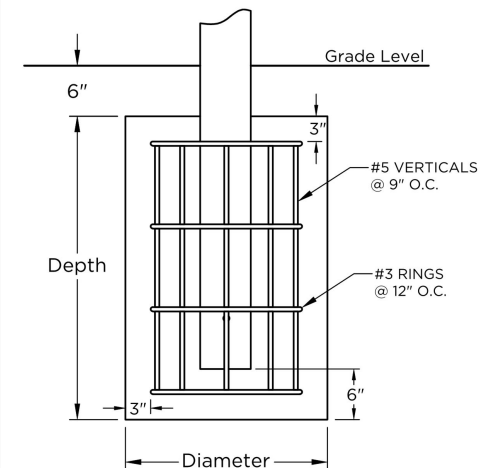
Length	24'	Width	10'	Entry Height	10'
Peak Height	12.02'	Elbow	Glide	Column Mount	Embedded
Column Size	Ø5.0" 11-Ga	Rafter Size	Ø3.5" 11-Ga	Ridge Size	Ø3.5" 11-Ga
Column Length	13'	Rafter Length	7.11'	Ridge Length	14.73'
Dome Qty.	4	Column Qty.	10	Beam Size	5"x5"x1/4"



Square Footing		
Column	Length & Width	Depth
Single Cap	2.31	3
Double Cap	2.541	3



Auger Footing		
Diameter	Single Cap Depth	Double Cap Depth
1'-6"		
2'-0"	4.09	4.94
2'-6"	Out of range	3.16
3'-0"	Out of range	Out of range



SuperiorShade

PACKET

QUOTE

SHADE SIZE

24 X 10

SHADE STYLE

Multi-Dome Standard
Cantilever Hip Shade

24.10

These drawings are for reference only and should not be used as construction details. They show the general character and rough dimensions of the structural features. Exact spans, fasteners, materials, and foundations can be determined by a licensed professional engineer upon request. Estimated footing size above is based on 1,500 PSF soil bearing pressure.

September 12, 2023



Special Exception Application

Project Number:

Case Number:

E-23-0104**Applicant** (if acting as Agent, see affidavit on page 2)

Printed Name: Cynthia Rodriguez

Phone 432-240-8105
EmailAddress 200 West Dakota Ave.City MidlandState TXZip 79701**Property Owner**Printed Name: Midland ISDPhone 432-240-8105
EmailAddress 615 W. Missouri Ave.City MidlandState TXZip 79701**Representative** (if different from Applicant or Property Owner)Firm: South Elementary School

Printed Name: Cynthia Rodriguez

Phone 432-240-8105
EmailAddress 615 W. Missouri Ave.City MidlandState TXZip 79701**Street Address:** 200 West Dakota Ave.**Legal Description**

Lot:

Block:

Subdivision:

Current Zoning:**This property qualifies as an exception to the City Code because:**

- ☐ It is an expansion of a nonconforming use.
- ☐ There are existing nonconforming structures in the area.
- ☒ The addition of architectural or other projections of a minor extent.

Reason for Request: We are requesting this variance for the students at South Elementary because there is no shade for the students during dismissal.The 10ft requirement would put the shade in the driveway and it would not benefit the students. The shade will be 2ft from building.
With the extreme heat we are having it is important to get the shade installed as soon as possible for the students.**Submittal and Fees****Items to be submitted with this application form:**

- Application Fee – Payable to the 'City of Midland'
- Dimensioned Site Plan showing:
 - Parking
 - Building Footprint
- Digital Copies of Site Plan (PDF/JPEG)

Signatures

Applicant (signature):

Cynthia Rodriguez

Date:

8/08/2023

Applicant (printed):

Cynthia Rodriguez

Property Owner (signature):

Cortney Smith

Date:

08/08/2023

Property Owner (printed):

Cortney Smith

The Special Exception shall be considered officially received in the Planning office only when it has been submitted in full compliance with the provisions of Section 212 of the Texas Local Government Code and the Zoning Code of Ordinances of the City of Midland and when such required items for the application are also received.

All materials, including exhibits, submitted in support of an application, or displayed during a public hearing, shall remain the property of the City of Midland.

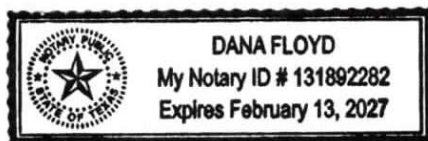
If an agent is authorized by the property owner to file and execute the application on behalf of the property owner, the agent must complete the affidavit below.

STATE OF TEXAS
COUNTY OF MIDLAND

Before me, the undersigned authority, on this day personally appeared Cortney Smith who, being by me duly sworn, upon oath says: That (s)he is authorized by Cortney Smith, the owner of the above described property, to fully represent him/her in this application and that (s)he had the legal right, power and authority to sign said owner's name hereto as his/her attorney in fact.

Cortney Smith
Authorized Agent (signature)

Subscribed and sworn to before me, this 8th day of August, 2023, to certify which witness my hand and seal of office.



Dana Floyd
NOTARY PUBLIC, MIDLAND COUNTY, TEXAS

FOR OFFICE USE ONLY☒ Property Owner Authorization☒ Dimensioned Site Plan☐ Application Fee WAIVED☒ Plans in Digital Format (PDF/JPEG)Check # MISD NO Fee

Received By:

Rolanda Russell

Date:

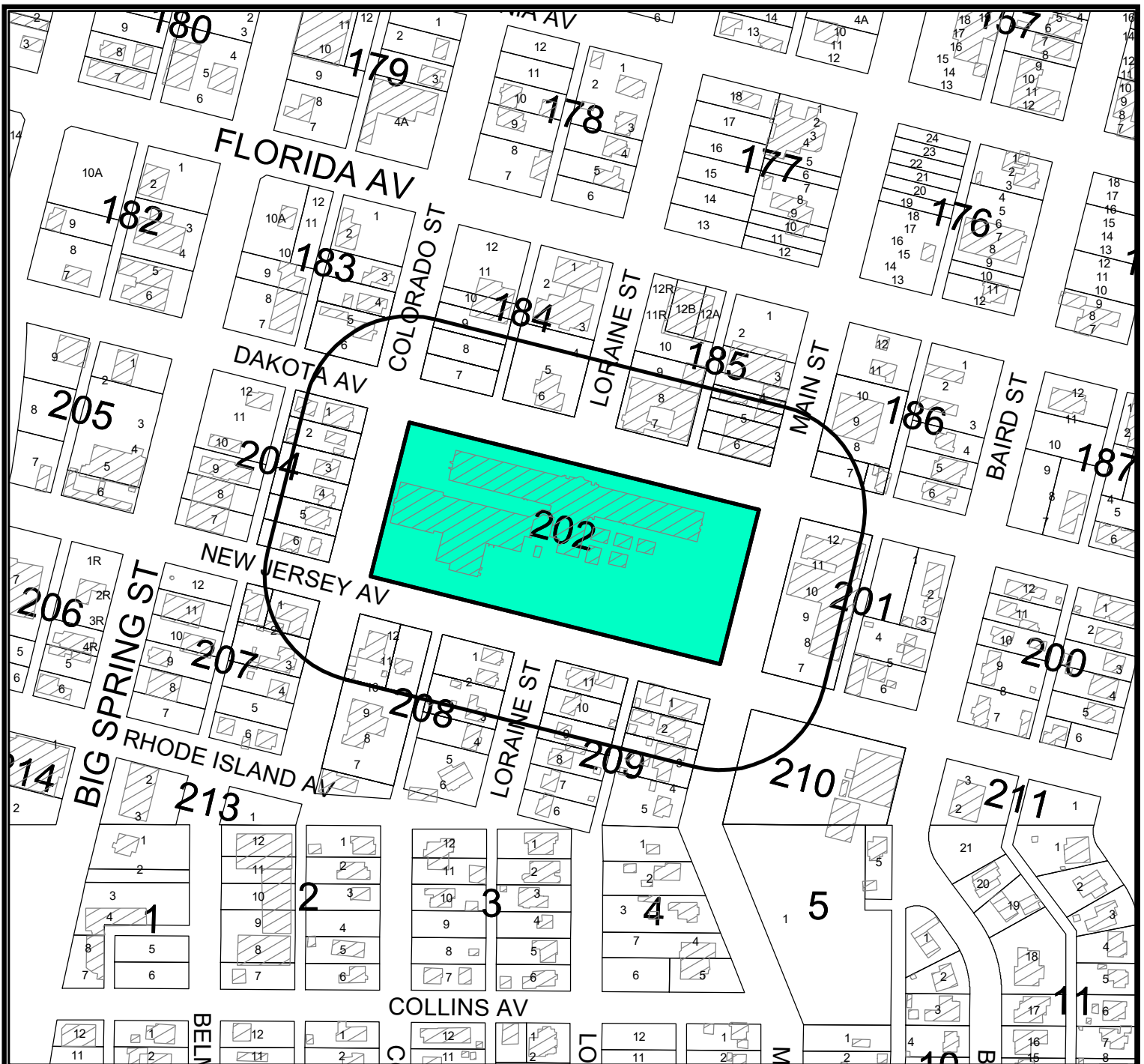
AUG 08 2023BY: www.midlandtx.gov

PACKET

24-12

September 12, 2023

Application will not be considered for scheduling until reviewed by a planner.



LOCATION MAP

E-23-101

Scale: 1" = 3,256'

A request by South Elementary School for a Special Excpetion from the City of Midland Zoning Ordinance, Section 4.09.B.3 – Accessory Buildings and Uses, for a reduced minimum setback between the principal building and accessory buildings on Block 202 & 203, Southern Addition, City and County of Midland, Texas.

Generally located on the southeast corner of the intersection of South Colorado Street and West 24.13 Dakota Avenue. (Council District 2)

LEGEND

- CITY LIMITS
- PARCEL
- PRIVATE BLDGS

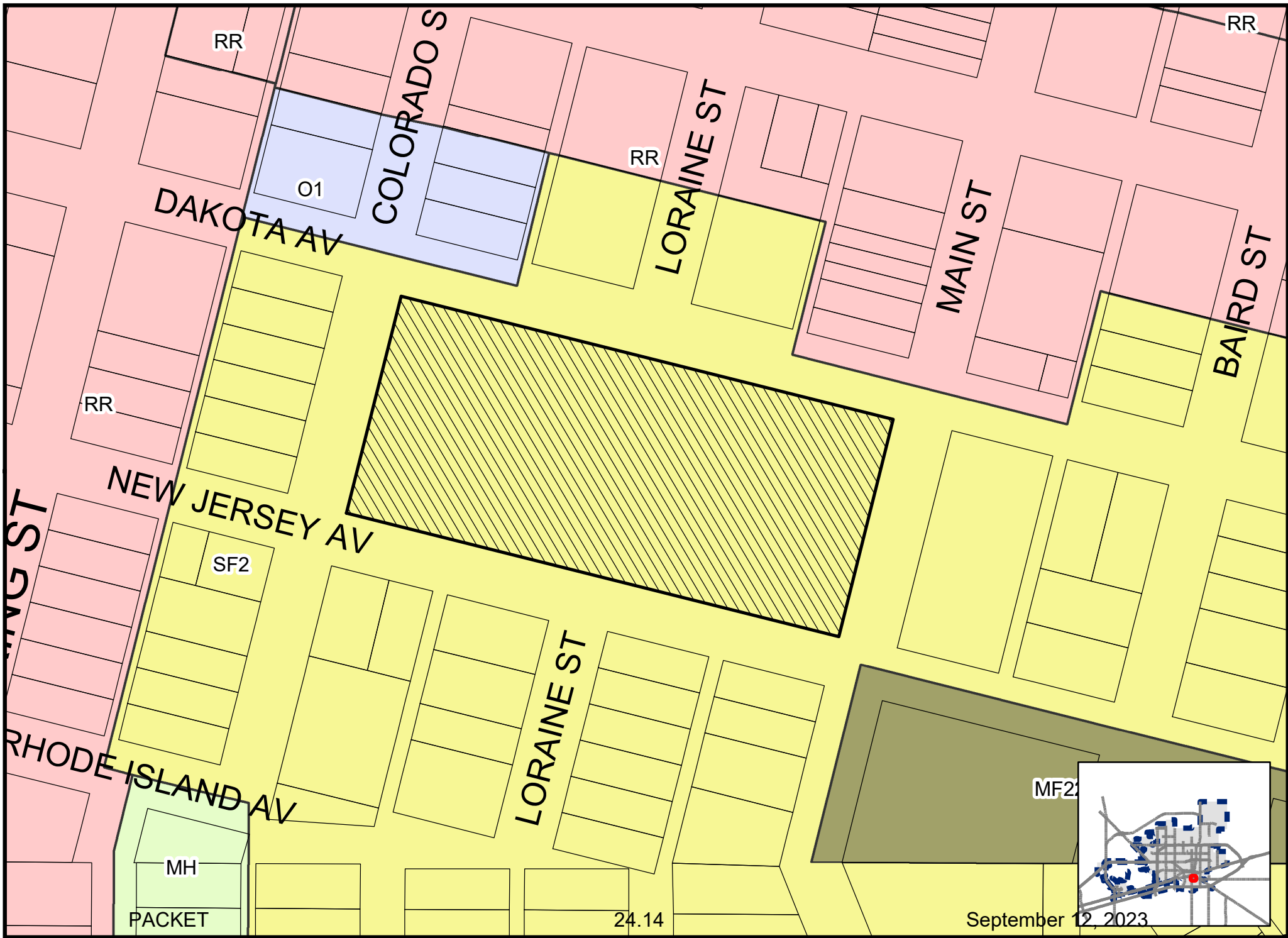


©THE CITY OF MIDLAND - 2021

THIS DATA IS NOT A SUBSTITUTION FOR A SURVEY OR ENGINEERING DRAWING. IT IS DESIGNED TO BE USED AS A LOCATION TOOL IN PERMITTING OR OTHER DECISIONS BASED SOLELY ON THE INFORMATION CONTAINED HEREIN.

THE CITY OF MIDLAND SHALL NOT BE RESPONSIBLE FOR ANY DECISIONS BASED UPON THE USE OF THIS DATA.

September 12, 2023













City Council Meeting

Item Number: 25
Meeting Date: September 12, 2023
To: City Council / City Manager
From: Landon Ochoa, Senior Planner
Subject: AN ORDINANCE EXTENDING THE BOUNDARIES OF THE CITY OF MIDLAND, TEXAS, BY ADDING THERETO A CERTAIN AREA ADJOINING THE PRESENT CITY LIMITS, BEING A 0.448-ACRE TRACT OF LAND AND A 6.292-ACRE TRACT OF LAND, BOTH OUT OF SECTION 35, BLOCK 40, T-1-S, T&P RR. CO. SURVEY, MIDLAND COUNTY, TEXAS; THE 0.448-ACRE TRACT BEING GENERALLY LOCATED NORTH OF STATE HIGHWAY 191, APPROXIMATELY 490 FEET WEST OF STATE HIGHWAY 158; THE 6.292-ACRE TRACT BEING GENERALLY LOCATED WEST OF STATE HIGHWAY 158, APPROXIMATELY 540 FEET NORTH OF STATE HIGHWAY 191; ORDERING PUBLICATION; AND ORDERING RECORDATION BY THE CITY SECRETARY (DISTRICT: NONE) (DEVELOPMENT SERVICES)

Purpose:

The applicant, Midland 158, LLC, is requesting an annexation of a 0.448-acre tract of land and a 6.292-acre tract of land, out of Section 35, Block 40, T-1-S RR CO. Survey, Midland County, Texas.

Recommended City Council Action:

Approve

Fiscal Impact:

No City funds are required to process this request.

Discussion:

The applicant, Midland 158, LLC, is requesting to annex a 0.448-acre tract of land and a 6.292-acre tract of land, out of Section 35, Block 40, T-1-S RR CO. Survey, Midland County, Texas.

The proposed annexation will allow the provision of City services to the property. This is considered a voluntary annexation.

On July 6, 2023, the service agreement between the City and the property was executed. This is the next step in the annexation process.

This project has been circulated to all respective departments for internal review and received no objections.

Engineering: (Approved)

No objections. [For the Applicant's information only.]

Transportation: (Approved)

No objections. [For the Applicant's information only.]

Fire: (Approved)

No objections.

Building Code: (Approved)

No objections

Oil and Gas: (Approved)

No Oil and Gas Issues.

GIS: (Approved)

No comments.

Planning:

The Future Land Use Map in the Tall City Tomorrow Comprehensive Plan calls for Urban-High (U-H) lot utilization in this area which consists of a mix of complementary uses, including multi-family residential, large offices, medical buildings, regional commercial, limited industrial, institutional uses such as churches, schools, or hospitals, and other regional attractors. The Regional Retail zoning supports uses that are consistent with the Comprehensive Plan's U-H designation of this area. Staff recommends approval of this annexation as it will allow an underlying zoning of RR, Regional Retail District which will facilitate development consistent with these policies.

Letters of Objection:

Staff has received no letters of objection to this request as of August 31, 2023.

Attachments:

Petition (Exhibit A)
Application
Maps



City Manager's Office

ORDINANCE NO. _____

AN ORDINANCE EXTENDING THE BOUNDARIES OF
THE CITY OF MIDLAND, TEXAS, BY ADDING
THERETO A CERTAIN AREA ADJOINING THE
PRESENT CITY LIMITS, BEING A 0.448-ACRE TRACT
OF LAND AND A 6.292-ACRE TRACT OF LAND, BOTH
OUT OF SECTION 35, BLOCK 40, T-1-S, T&P RR. CO.

SURVEY, MIDLAND COUNTY, TEXAS; THE 0.448-

WHEREAS, a public hearing before the City Council of the City of Midland, Texas,
ACRE TRACT BEING GENERALLY LOCATED NORTH

OF STATE HIGHWAY 191, APPROXIMATELY 490

a home rule municipal corporation, was held in the City Council Chamber on
September 12,

6.292-ACRE TRACT BEING GENERALLY LOCATED
WHEREAS, notice of the public hearing was published on the City of
2023, Midland, Texas, and an interested person was afforded an opportunity to be heard
on the

540 FEET NORTH OF STATE HIGHWAY 191;
Texas' Internet website on August 24, 2023, and the notice remained posted until

WHEREAS, notice of the public hearing was published in a newspaper
proposed annexation of the hereinafter described territory, and
having

RECORDATION BY THE CITY SECRETARY
of the public hearing; and

general circulation in the City of Midland, Texas, and in the below described

territory, on
hearing
WHEREAS, all required notices of the proposed annexation and the public
were given in accordance with applicable laws;

And August 25, 2023; and

WHEREAS, the City of Midland has entered into a written agreement with
the

owner(s) of the hereinafter described territory for the provision of services in said
area;

SECTION ONE. That the following described property adjoining the
presently, THEREFORE, BE IT ORDAINED BY THE CITY COUNCIL OF THE
boundary lines of the City of Midland, Texas, be and the same is hereby annexed
to and
PACKET 25.4 September 12, 2023

CITY OF MIDLAND, TEXAS:

incorporated within the boundary of the City of Midland, Te

xas: Being a 0.448-acre tract of land and a 6.292-acre tract of land, both
out of

Section 35, Block 40, T-1-S, T&P RR. Co. Survey, Midland County, Texas,

SECTION TWO. That this ordinance shall be published in the official
and being more fully described by metes and bounds in the
newspaper for

annexation attached hereto as Exhibit "A" and incorporated herein
in the City of Midland, Texas, and the same shall not be effective until after the
publication by SECTION THREE. That the City Secretary is hereby authorized and directed to
file for reference for all legal purposes.

thereof.

a certified copy of this ordinance with the County Clerk of Midland County, Texas, for
the

purpose of recording in the Deed Records of Midland County, Texas.

The above and foregoing ordinance was duly proposed, read in full and
Council members voting "AYE":
adopted on

first reading, the _____ day of _____, A.D., 2023; and passed to second
Council members voting "NAY":
reading

The above and foregoing ordinance was read in full and finally adopted
on motion of Council member _____, seconded by Council
member

following vote upon motion of Council member _____, seconded by Co
uncil _____, by the following vote:

Council members voting "AYE":
member _____, on the _____ day of _____, A.D., 2023, at a regular

Council members voting "NAY":
meeting of the City Council:

PASSED AND APPROVED THIS _____ day of _____, A.D., 2023.

Lori Merritt Blong, Mayor

ATTEST:

Marcia Bentley-German, City Secretary

APPROVED AS TO CONTENT

AND COMPLETENESS:

Rolandrea Russell, Interim Director of Development
Services

APPROVED ONLY AS TO FORM:

John Ohnemiller, City Attorney

EXHIBIT "A"

PETITION FOR ANNEXATION

Dear City of Midland:

As current owner of the tract(s) of land described in Exhibit(s) A (the "Property"), said Exhibit(s) being attached hereto and incorporated herein, Midland 158 LLC ("Owner") submits this petition for annexation and hereby requests that the Property be added to and annexed to the City of Midland.

[Signature]
Signature of Owner or Owner's Authorized Representative

Coy Haynes
Printed Name

Owner
Title

THE STATE OF Texas §
COUNTY OF Midland §

This instrument was acknowledged before me on the 18th day of May, 2023 by Coy Haynes in the capacity herein stated.

MY COMMISSION EXPIRES
02/19/2026

[Signature]
Notary Public, State of Texas

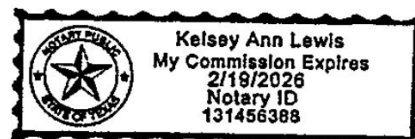


EXHIBIT "A"

MAVERICK
ENGINEERING - SURVEY - WATER RESOURCES
1909 West Wall Street, Suite K - Midland, TX 79701
Tel: 432.262.0999 - Fax: 432.262.0989 - maverick-eng.com
ENGINEER FIRM #: F-15089 | SURVEY FIRM #: I0194514



FIELD NOTE DESCRIPTION OF TWO TRACTS OF LAND, TOTALLING 6.74 ACRES, SITUATED IN SECTION 35, BLOCK 40, TOWNSHIP 1 SOUTH, TEXAS AND PACIFIC RAILWAY COMPANY SURVEY, MIDLAND COUNTY, TEXAS, BEING PORTIONS OF THAT SAME TRACT AS DESCRIBED AS TRACT SEVEN IN A WARRANTY DEED FILED AS DOCUMENT NUMBER 2008-26873 IN VOLUME 3131 ON PAGE 210 OF THE OFFICIAL PUBLIC RECORDS (OPR) OF SAID MIDLAND COUNTY, TEXAS, AND BEING MORE PARTICULARLY DESCRIBED AS FOLLOWS;

TRACT 1, 0.448 ACRE;

BEGINNING AT N.(Y):10693732.66, E.(X):1726261.95, A POINT WITHIN A TXDOT TYPE I CONCRETE MONUMENT (TYPE I) FOUND AND ACCEPTED AS BEING ON THE NORTH RIGHT-OF-WAY LINE OF STATE HIGHWAY 191, AS DESCRIBED IN VOLUME 715 ON PAGE 287 OF SAID "OPR" AT THE SOUTHEAST CORNER OF A TRACT DESCRIBED AS AN 80 FOOT WIDE DRAINAGE EASEMENT IN VOLUME 715 ON PAGE 280 OF SAID "OPR", BEING THE SOUTHWEST CORNER OF LOT 3, BLOCK 1, WEST FORK ADDITION AS RECORDED IN CABINET "M", PAGE 199, PLAT RECORDS OF MIDLAND COUNTY, TEXAS (PRMCT), AND FOR THE SOUTHEAST CORNER HEREOF;

THENCE S.75°15'20"W., ALONG SAID RIGHT-OF-WAY, 79.47 FEET TO A "TYPE I" FOUND FOR THE SOUTHWEST CORNER OF SAID DRAINAGE EASEMENT, AND FOR THE SOUTHWEST CORNER HEREOF;

THENCE N.14°42'47"W., SEVERING SAID "TRACT SEVEN," ALONG THE WEST LINE OF SAID DRAINAGE EASEMENT, 245.61 FEET, TO A ONE HALF INCH IRON ROD WITH RED PLASTIC CAP MARKED "MAVERICK FIRM #I0194514" (RPC) SET, INTERIOR TO SAID "TRACT SEVEN," AND FOR THE NORTHWEST CORNER HEREOF;

THENCE N.75°16'29"E., SEVERING SAID DRAINAGE EASEMENT, 79.52 FEET TO AN "RPC" SET IN THE WEST LINE OF SAID LOT 3, THE EAST LINE OF SAID DRAINAGE EASEMENT, AND FOR THE NORTHEAST CORNER HEREOF;

THENCE S.14°42'04"E., ALONG THE WEST LINE OF SAID LOT 3, 245.58 FEET TO THE **POINT OF BEGINNING**, CONTAINING 0.448 ACRE, OR 19,524 SQUARE FEET OF LAND.

TRACT 2, 6.292 ACRES;

COMMENCING AT N.(Y):10693732.66, E.(X):1726261.95, A POINT WITHIN A TXDOT TYPE I CONCRETE MONUMENT (TYPE I) FOUND AND ACCEPTED AS BEING ON THE NORTH RIGHT-OF-WAY LINE OF STATE HIGHWAY 191, AS DESCRIBED IN VOLUME 715 ON PAGE 287 OF SAID "OPR" AT THE SOUTHEAST CORNER OF A TRACT DESCRIBED AS AN 80 FOOT WIDE DRAINAGE EASEMENT IN VOLUME 715 ON PAGE 280 OF SAID "OPR", AND THE SOUTHWEST CORNER OF LOT 3, BLOCK 1, WEST FORK ADDITION AS RECORDED IN CABINET "M", PAGE 199, PLAT RECORDS OF MIDLAND COUNTY, TEXAS (PRMCT), **THENCE** ALONG THE WEST LINE OF SAID LOT 3, N.14°42'04"W., AT 285.58 FEET PASSING AN "RPC" SET FOR THE WEST COMMON CORNERS OF LOT 1 AND LOT 3 OF SAID SUBDIVISION, IN ALL 325.58 FEET TO AN "RPC" IN THE WEST LINE OF SAID LOT 4, FOR THE **POINT OF BEGINNING** AND THE SOUTHEAST CORNER HEREOF;

THENCE S.75°16'29"W., SEVERING SAID "TRACT SEVEN," 79.54 FEET TO AN "RPC" SET IN THE WEST LINE OF SAID DRAINAGE EASEMENT AND FOR THE SOUTHWEST CORNER HEREOF;

THENCE N.14°42'47"W., ALONG THE WEST LINE OF SAID DRAINAGE EASEMENT, 217.83 FEET TO AN "RPC" SET IN THE WEST LINE THEREOF, AND FOR AN INTERIOR POINT HEREOF;



THENCE N.59°05'27"W., AGAIN SEVERING SAID "TRACT SEVEN," 701.14 FEET TO AN "RPC" SET FOR THE WEST CORNER HEREOF;

THENCE N.30°54'15"E., AT 250.13 FEET PASSING A ONE HALF INCH IRON ROD FOUND, IN ALL 399.90 FEET TO A POINT IN THE SOUTH LINE OF THE CITY OF MIDLAND INCORPORATED LIMITS AS ADOPTED AND DESCRIBED IN ANNEXATION ORDINANCE #8214, FOR THE NORTHWEST CORNER HEREOF;

THENCE S.59°05'39"E., ALONG THE SOUTH LINE OF SAID ORDINANCE #8214, 587.92 FEET TO A POINT IN THE WEST LINE OF THE CITY OF MIDLAND INCORPORATED LIMITS AS ADOPTED AND DESCRIBED IN ANNEXATION ORDINANCE #10377, FOR THE MOST NORTHERLY NORTHEAST EXTERIOR CORNER HEREOF;

THENCE S.32°08'12"W., ALONG THE WEST LINE OF SAID ORDINANCE #10377, AT 100.40 FEET PASSING A "TYPE I" FOUND FOR THE MOST NORTHERLY NORTHWEST CORNER OF SAID LOT 1, IN ALL, 174.09 FEET TO A "TYPE I" FOUND FOR THE MOST WESTERLY NORTHWEST CORNER OF THE SAME, AND THE NORTHEAST INTERIOR CORNER HEREOF;

THENCE S.14°42'04"E., ALONG THE WEST LINE OF SAID LOT 1, 459.41 FEET TO THE **POINT OF BEGINNING** CONTAINING 6.292 ACRES, OR 274,101 SQUARE FEET OF LAND.


Gregory W. Shoults

www.maverick-eng.com

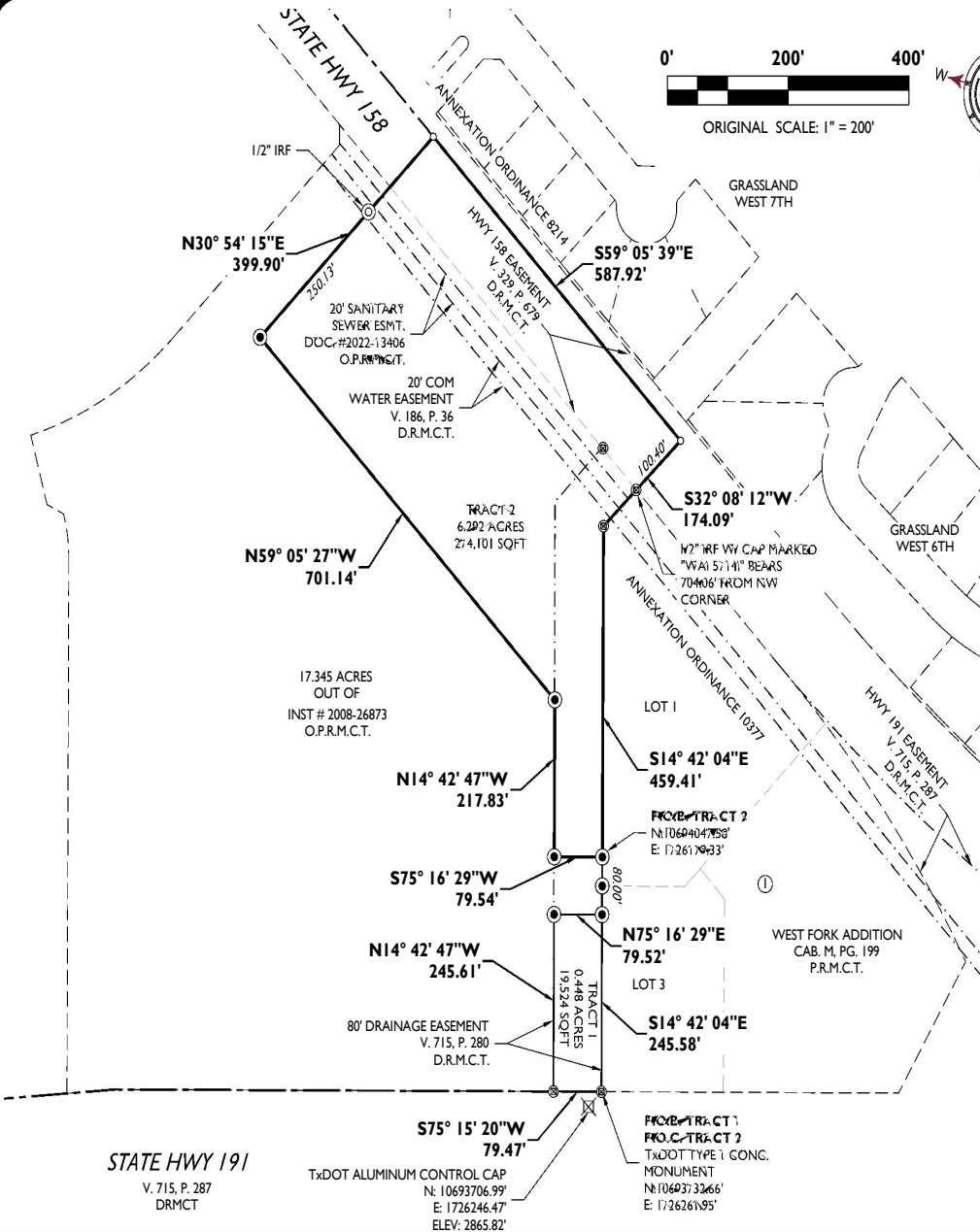
Texas RPLS - No. 5356

Maverick Engineering (FIRM - No. 10194514)

MAY 17, 2023



Drawing: F:\2023\230068-HAYNES DEVCO-158& 191 MIDLAND EXPANDED SITE 4 ACRES\DRAWINGS\ANNEXATION\230068 - 4-AC ANNEXATION SURVEY.DWG Last Saved By: Paladin on 5/17/23



FIELD NOTE DESCRIPTION OF TWO TRACTS OF LAND, TOTALLING 6.74 ACRES, SITUATED IN SECTION 35, BLOCK 40, TOWNSHIP 1 SOUTH, TEXAS AND PACIFIC RAILWAY COMPANY SURVEY, MIDLAND COUNTY, TEXAS, BEING PORTIONS OF THAT SAME TRACT AS DESCRIBED AS TRACT SEVEN IN A WARRANTY DEED FILED AS DOCUMENT NUMBER 2008-26873 IN VOLUME 3131 ON PAGE 210 OF THE OFFICIAL PUBLIC RECORDS (OPR) OF SAID MIDLAND COUNTY, TEXAS, AND BEING MORE PARTICULARLY DESCRIBED AS FOLLOWS;

TRACT 1, 0.448 ACRES;

BEGINNING AT N.17°10'69.3732.66, E.(X):1726261.95, A POINT WITHIN A TXDOT TYPE 1 CONCRETE MONUMENT (TYPE I) FOUND AND ACCEPTED AS BEING ON THE NORTH RIGHT-OF-WAY LINE OF STATE HIGHWAY 191, AS DESCRIBED IN VOLUME 715 ON PAGE 287 OF SAID "OPR" AT THE SOUTHEAST CORNER OF A TRACT DESCRIBED AS AN 80 FOOT WIDE DRAINAGE EASEMENT IN VOLUME 715 ON PAGE 280 OF SAID "OPR", BEING THE SOUTHWEST CORNER OF LOT 3, BLOCK 1, WEST FORK ADDITION AS RECORDED IN CABINET "M", PAGE 199, PLAT RECORDS OF MIDLAND COUNTY, TEXAS (PRMCT), AND FOR THE SOUTHEAST CORNER HEREOF;

THENCE S.75°15'20"W, ALONG SAID RIGHT-OF-WAY, 79.47 FEET TO A "TYPE I" FOUND FOR THE SOUTHWEST CORNER OF SAID DRAINAGE EASEMENT, AND FOR THE SOUTHWEST CORNER HEREOF;

THENCE N.14°42'47"W, SEVERING SAID "TRACT SEVEN," ALONG THE WEST LINE OF SAID DRAINAGE EASEMENT, 245.61 FEET, TO A ONE HALF INCH IRON ROD WITH RED PLASTIC CAP MARKED "MAVERICK FIRM #19094514" (RPC) SET, INTERIOR TO SAID "TRACT SEVEN," AND FOR THE NORTHWEST CORNER HEREOF;

THENCE N.75°16'29"E, SEVERING SAID DRAINAGE EASEMENT, 79.52 FEET TO AN "RPC" SET IN THE WEST LINE OF SAID LOT 3, THE EAST LINE OF SAID DRAINAGE EASEMENT, AND FOR THE NORTHEAST CORNER HEREOF;

THENCE S.14°42'04"E, ALONG THE WEST LINE OF SAID LOT 3, 245.58 FEET TO THE POINT OF BEGINNING, CONTAINING 0.448 ACRE, OR 19,524 SQUARE FEET OF LAND.

TRACT 2, 6.292 ACRES;

COMMENCING AT N.(Y):10693732.66, E.(X):1726261.95, A POINT WITHIN A TXDOT TYPE 1 CONCRETE MONUMENT (TYPE I) FOUND AND ACCEPTED AS BEING ON THE NORTH RIGHT-OF-WAY LINE OF STATE HIGHWAY 191, AS DESCRIBED IN VOLUME 715 ON PAGE 287 OF SAID "OPR" AT THE SOUTHEAST CORNER OF A TRACT DESCRIBED AS AN 80 FOOT WIDE DRAINAGE EASEMENT IN VOLUME 715 ON PAGE 280 OF SAID "OPR", AND THE SOUTHWEST CORNER OF LOT 3, BLOCK 1, WEST FORK ADDITION AS RECORDED IN CABINET "M", PAGE 199, PLAT RECORDS OF MIDLAND COUNTY, TEXAS (PRMCT), THENCE ALONG THE WEST LINE OF SAID LOT 3, N.14°42'04"W, AT 285.58 FEET PASSING AN "RPC" SET FOR THE WEST COMMON CORNERS OF LOT 1 AND LOT 3 OF SAID SUBDIVISION, IN ALL 325.58 FEET TO AN "RPC" IN THE WEST LINE OF SAID LOT 4, FOR THE POINT OF BEGINNING AND THE SOUTHEAST CORNER HEREOF;

THENCE S.75°16'29"W, SEVERING SAID "TRACT SEVEN," 79.54 FEET TO AN "RPC" SET IN THE WEST LINE OF SAID DRAINAGE EASEMENT AND FOR THE SOUTHWEST CORNER HEREOF;

THENCE N.14°42'47"W, ALONG THE WEST LINE OF SAID DRAINAGE EASEMENT, 217.83 FEET TO AN "RPC" SET IN THE WEST LINE THEREOF, AND FOR AN INTERIOR POINT HEREOF;

THENCE N.59°05'27"W, AGAIN SEVERING SAID "TRACT SEVEN," 701.14 FEET TO AN "RPC" SET FOR THE WEST CORNER HEREOF;

THENCE N.30°54'15"E, AT 250.13 FEET PASSING A ONE HALF INCH IRON ROD FOUND, IN ALL 399.90 FEET TO A POINT IN THE SOUTH LINE OF THE CITY OF MIDLAND INCORPORATED LIMITS AS ADOPTED AND DESCRIBED IN ANNEXATION ORDINANCE #8214, FOR THE NORTHWEST CORNER HEREOF;

THENCE S.59°05'39"E, ALONG THE SOUTH LINE OF SAID ORDINANCE #8214, 587.92 FEET TO A POINT IN THE WEST LINE OF THE CITY OF MIDLAND INCORPORATED LIMITS AS ADOPTED AND DESCRIBED IN ANNEXATION ORDINANCE #10377, FOR THE MOST NORTHERLY NORTHEAST EXTERIOR CORNER HEREOF;

THENCE S.32°08'12"W, ALONG THE WEST LINE OF SAID ORDINANCE #10377, AT 100.40 FEET PASSING A "TYPE I" FOUND FOR THE MOST NORTHERLY NORTHWEST CORNER OF SAID LOT 1, IN ALL, 174.09 FEET TO A "TYPE I" FOUND FOR THE MOST WESTERLY NORTHWEST CORNER OF THE SAME, AND THE NORTHEAST INTERIOR CORNER HEREOF;

THENCE S.14°42'04"E, ALONG THE WEST LINE OF SAID LOT 1, 459.41 FEET TO THE POINT OF BEGINNING CONTAINING 6.292 ACRES, OR 274,101 SQUARE FEET OF LAND.

SURVEY NOTES:

- BASIS OF BEARING, COORDINATES, DISTANCE AND ACREAGE ARE A LAMBERT CONICAL PROJECTION OF THE TEXAS COORDINATE SYSTEM, STATE PLANE GRID, NORTH AMERICAN DATUM OF 1983, TEXAS CENTRAL ZONE (4203), U.S. SURVEY FOOT, WITH A CONVERGENCE ANGLE (theta) OF -0°56'51.02" AND A COMBINED SCALE FACTOR OF 0.999898361, AT A TX DOT ALUMINUM CAP CONTROL MARK LOCATED AT N.10693706.99, E.1726246.47, EL2865.82
- SEE DOCUMENTS OR ELECTRONIC DATA FILED IN THE OFFICE OF MAVERICK ENGINEERING FOR COMPLETE RECONSTRUCTION OF THIS SURVEY.

LEGEND

TXDOT TYPE 1 CONCRETE MONUMENT	TRACT BOUNDARY	P.R.M.C.T.	PLAT RECORDS MIDLAND CO., TX
1/2 IRF W/ PLASTIC CAP "MAVERICK FIRM #19094514"	EXISTING LOTS	O.P.R.M.C.T.	OFFICIAL PUBLIC RECORDS MIDLAND CO., TX
FOUND MONUMENT AS NOTED	EXISTING EASEMENTS	D.R.M.C.T.	DEED RECORDS MIDLAND CO., TX
TRACT CORNER	EXISTING CITY LIMITS	123.4'	TIE OR PASSING CALL DIMENSION



MAVERICK
CIVIL ENGINEERING / LAND SURVEYING
1909 West Wall Street, Suite "K"
Midland, Texas 79701
ENGINEER FIRM #: F-15089
SURVEY FIRM #: 10194514
Tel: (432) 262-0999 Fax: (432) 262-0989
www.maverick-eng.com

PACKET

JOB NO.: 230068 FIELD WORK: 5.2.2023 DRAWN BY: PH REV 1: REV 2:

I, GREGORY W. SHOULTS, DO HEREBY CERTIFY THAT THE SURVEY INFORMATION FOUND ON THIS PLAT WAS DERIVED FROM FIELD NOTES AND/OR ELECTRONIC DATA OF AN ACTUAL ON-THE-GROUND SURVEY MADE BY ME OR UNDER MY SUPERVISION AND IS TRUE AND CORRECT TO THE BEST OF MY KNOWLEDGE AND BELIEF. THIS SURVEY WAS PERFORMED WITHOUT THE BENEFIT OF A TITLE COMMITMENT AND NO WARRANTY IS MADE OR INTENDED FOR THE LOCATION OF ANY OR ALL EASEMENTS THAT MAY EXIST WITHIN THE BOUNDS OF THIS SURVEY.

Gregory W. Shoults
GREGORY W. SHOULTS, RPLS #5356
FIRM NO. TX #10194514

25.10

MAY 17, 2023

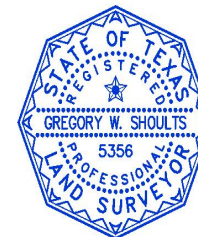


EXHIBIT A

ANNEXATION BOUNDARY

OF TWO TRACTS OF LAND, TOTALLING 6.74 ACRES, SITUATED IN SECTION 35, BLOCK 40, TOWNSHIP 1 SOUTH, TEXAS AND PACIFIC RAILWAY COMPANY SURVEY, MIDLAND COUNTY, TEXAS
September 12, 2023

PETITION FOR ANNEXATION

Dear City of Midland:

As current owner of the tract(s) of land described in Exhibit(s) A (the "Property"), said Exhibit(s) being attached hereto and incorporated herein, Midland 158 LLC ("Owner") submits this petition for annexation and hereby requests that the Property be added to and annexed to the City of Midland.

[Signature]
Signature of Owner or Owner's Authorized Representative

Coy Haynes
Printed Name

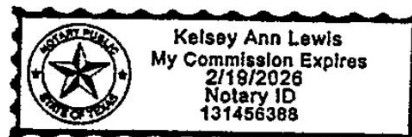
Owner
Title

THE STATE OF Texas §
COUNTY OF Midland §

This instrument was acknowledged before me on the 18th day of May, 2023 by Coy Haynes in the capacity herein stated.

MY COMMISSION EXPIRES
02/19/2026

[Signature]
Notary Public, State of Texas



MAVERICK
ENGINEERING - SURVEY - WATER RESOURCES
1909 West Wall Street, Suite K - Midland, TX 79701
Tel: 432.262.0999 - Fax: 432.262.0989 - maverick-eng.com
ENGINEER FIRM #: F-15089 | SURVEY FIRM #: 10194514



FIELD NOTE DESCRIPTION OF TWO TRACTS OF LAND, TOTALLING 6.74 ACRES, SITUATED IN SECTION 35, BLOCK 40, TOWNSHIP 1 SOUTH, TEXAS AND PACIFIC RAILWAY COMPANY SURVEY, MIDLAND COUNTY, TEXAS, BEING PORTIONS OF THAT SAME TRACT AS DESCRIBED AS TRACT SEVEN IN A WARRANTY DEED FILED AS DOCUMENT NUMBER 2008-26873 IN VOLUME 3131 ON PAGE 210 OF THE OFFICIAL PUBLIC RECORDS (OPR) OF SAID MIDLAND COUNTY, TEXAS, AND BEING MORE PARTICULARLY DESCRIBED AS FOLLOWS;

TRACT 1, 0.448 ACRE;

BEGINNING AT N.(Y):10693732.66, E.(X):1726261.95, A POINT WITHIN A TXDOT TYPE I CONCRETE MONUMENT (TYPE I) FOUND AND ACCEPTED AS BEING ON THE NORTH RIGHT-OF-WAY LINE OF STATE HIGHWAY 191, AS DESCRIBED IN VOLUME 715 ON PAGE 287 OF SAID "OPR" AT THE SOUTHEAST CORNER OF A TRACT DESCRIBED AS AN 80 FOOT WIDE DRAINAGE EASEMENT IN VOLUME 715 ON PAGE 280 OF SAID "OPR", BEING THE SOUTHWEST CORNER OF LOT 3, BLOCK 1, WEST FORK ADDITION AS RECORDED IN CABINET "M", PAGE 199, PLAT RECORDS OF MIDLAND COUNTY, TEXAS (PRMCT), AND FOR THE SOUTHEAST CORNER HEREOF;

THENCE S.75°15'20"W., ALONG SAID RIGHT-OF-WAY, 79.47 FEET TO A "TYPE I" FOUND FOR THE SOUTHWEST CORNER OF SAID DRAINAGE EASEMENT, AND FOR THE SOUTHWEST CORNER HEREOF;

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Gregory W. Shoults

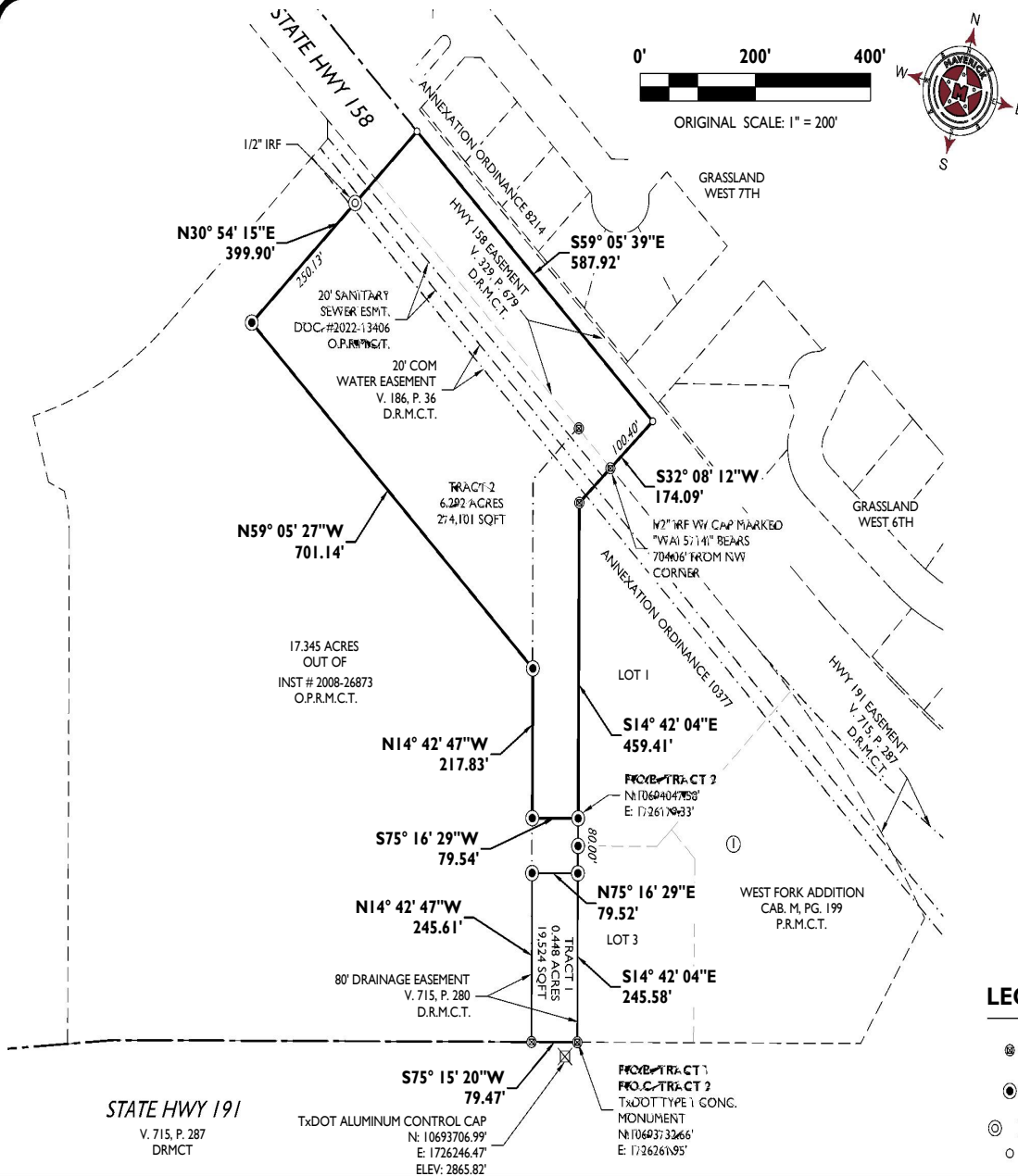
www.maverick-eng.com

Texas RPLS - No. 5356

Maverick Engineering (FIRM – No. 10194514)

MAY 17, 2023





FIELD NOTE DESCRIPTION OF TWO TRACTS OF LAND, TOTALLING 6.74 ACRES, SITUATED IN SECTION 35, BLOCK 40, TOWNSHIP 1 SOUTH, TEXAS AND PACIFIC RAILWAY COMPANY SURVEY, MIDLAND COUNTY, TEXAS, BEING PORTIONS OF THAT SAME TRACT AS DESCRIBED AS TRACT SEVEN IN A WARRANTY DEED FILED AS DOCUMENT NUMBER 2008-26873 IN VOLUME 3131 ON PAGE 210 OF THE OFFICIAL PUBLIC RECORDS (OPR) OF SAID MIDLAND COUNTY, TEXAS, AND BEING MORE PARTICULARLY DESCRIBED AS FOLLOWS;

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SURVEY NOTES:

1. BASIS OF BEARING, COORDINATES, DISTANCE AND ACREAGE ARE A LAMBERT CONICAL PROJECTION OF THE TEXAS COORDINATE SYSTEM, STATE PLANE GRID, NORTH AMERICAN DATUM OF 1983, TEXAS CENTRAL ZONE (4203), U.S. SURVEY FOOT, WITH A CONVERGENCE ANGLE (θ) OF -0°56'51.02" AND A COMBINED SCALE FACTOR OF 0.999898361, AT A TX DOT ALUMINUM CAP CONTROL MARK LOCATED AT N.10693706.99, E.1726246.47, EL2865.82
2. SEE DOCUMENTS OR ELECTRONIC DATA FILED IN THE OFFICE OF MAVERICK ENGINEERING FOR COMPLETE RECONSTRUCTION OF THIS SURVEY.

LEGEND

●	TxDOT TYPE 1 CONCRETE MONUMENT	—	TRACT BOUNDARY	P.R.M.C.T.	PLAT RECORDS MIDLAND CO., TX
○	1/2 IRF W/ PLASTIC CAP "MAVERICK FIRM #19094514"	- - - -	EXISTING LOTS	O.P.R.M.C.T.	OFFICIAL PUBLIC RECORDS MIDLAND CO., TX
⊗	FOUND MONUMENT AS NOTED	- · - · -	EXISTING EASEMENTS	D.R.M.C.T.	DEED RECORDS MIDLAND CO., TX
○	TRACT CORNER	— · — · —	EXISTING CITY LIMITS	123.4'	TIE OR PASSING CALL DIMENSION



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www.maverick-eng.com

PACKET

JOB NO.: 230068 FIELD WORK: 5.2.2023 DRAWN BY: PH REV 1: REV 2:

I, GREGORY W. SHOULTS, DO HEREBY CERTIFY THAT THE SURVEY INFORMATION FOUND ON THIS PLAT WAS DERIVED FROM FIELD NOTES AND/OR ELECTRONIC DATA OF AN ACTUAL ON-THE-GROUND SURVEY MADE BY ME OR UNDER MY SUPERVISION AND IS TRUE AND CORRECT TO THE BEST OF MY KNOWLEDGE AND BELIEF. THIS SURVEY WAS PERFORMED WITHOUT THE BENEFIT OF A TITLE COMMITMENT AND NO WARRANTY IS MADE OR INTENDED FOR THE LOCATION OF ANY OR ALL EASEMENTS THAT MAY EXIST WITHIN THE BOUNDS OF THIS SURVEY.

Gregory W. Shoults
GREGORY W. SHOULTS, RPLS #5356
FIRM NO. TX #10194514

25.14

MAY 17, 2023

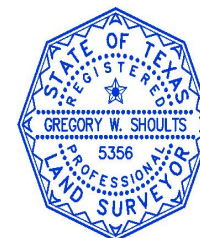


EXHIBIT A

ANNEXATION BOUNDARY

OF TWO TRACTS OF LAND, TOTALLING 6.74 ACRES, SITUATED IN SECTION 35, BLOCK 40, TOWNSHIP 1 SOUTH, TEXAS AND PACIFIC RAILWAY COMPANY SURVEY, MIDLAND COUNTY, TEXAS



Annexation/Zone Change Application

Project Number: A-23-0036
Case Number: 2-23-0334

Applicant (if acting as Agent, see affidavit on page 2)

Printed Name: Midland 158 LLC

Phone ()
Email

Address 1901 N Akard St

City Dallas

State TX

Zip 75201

Property Owner

Printed Name: See Applicant

Phone ()
Email

Address

City

State

Zip

Representative (if different from Applicant or Property Owner)

Firm: Maverick Engineering

Printed Name: Paladin Huckaba

Phone (432) 262-0999

Email
phuckaba@maverick-eng.com

Address 1909 W Wall St Ste K

City Midland

State TX

Zip 79701

Street Address: NA

Legal Description Two Tracts of Land, Totalling 6.74 Acres, Situated in Section 35, Block 40, Township 1 South, Texas and Pacific Railway Company Survey, Midland County Texas
Lot: Block: Subdivision:

Current Zoning:

Proposed Zone:

(List by tracts if more than one district is requested)

Reason for Annexation/Zone Change Request: Advance the incorporation of this tract into the City Limits of Midland

Present Use of Property: vacant

Proposed Use of Property: General retail

How would this annexation/zone change affect the public health, safety and welfare? no adverse affect. Addition of newly developed tracts to the City of Midland

Describe how this annexation/zone change will affect adjacent properties: Extend infrastructure and amenities west of existing City limits to make adjacent incorporation more feasible.

Submittal and Fees

Items to be submitted with this application form:

- Application Fee – Payable to the 'City of Midland'
- Dimensioned Site Plan
- Digital Copies of Site Plan (PDF/JPEG)

PACKET

25.15

September 12, 2023

Signature (by property owner only – authorized agent must sign affidavit below)

Applicant (signature):

Date:

Applicant (printed):

Property Owner (signature):

Date: 5/18/23

Property Owner (printed): Coy Haynes - Midland 158 LLC

The Zone Change/Planned District Amendment/Site Plan Approval shall be considered officially received in the Planning office only when it has been submitted in full compliance with the provisions of Section 212 of the Texas Local Government Code and the Zoning Code of Ordinances of the City of Midland and when such required items for the application are also received.

All materials, including exhibits, submitted in support of an application, or displayed during a public hearing, shall remain the property of the City of Midland.

If an agent is authorized by the property owner to file and execute the application on behalf of the property owner, the agent must complete the affidavit below.

STATE OF TEXAS
COUNTY OF MIDLAND

Before me, the undersigned authority, on this day personally appeared Andrew L Mellon who, being by me duly sworn, upon oath says: That (s)he is authorized by Midland 158 LLC, the owner of the above described property, to fully represent him/her in this application and that (s)he had the legal right, power and authority to sign said owner's name hereto as his/her attorney in fact.

Andrew L Mellon
Authorized Agent (signature)

Subscribed and sworn to before me, this 18th day of May, 2023, to certify which witness my hand and seal of office.



Kelsey Ann Lewis
NOTARY PUBLIC, MIDLAND COUNTY, TEXAS

FOR OFFICE USE ONLY

☒ Property Owner Authorization

☒ Dimensioned Site Plan

☒ Application Fee

☒ Plans in Digital Format (PDF/JPEG)

Check # 4122

BY:

Received By: James Rober

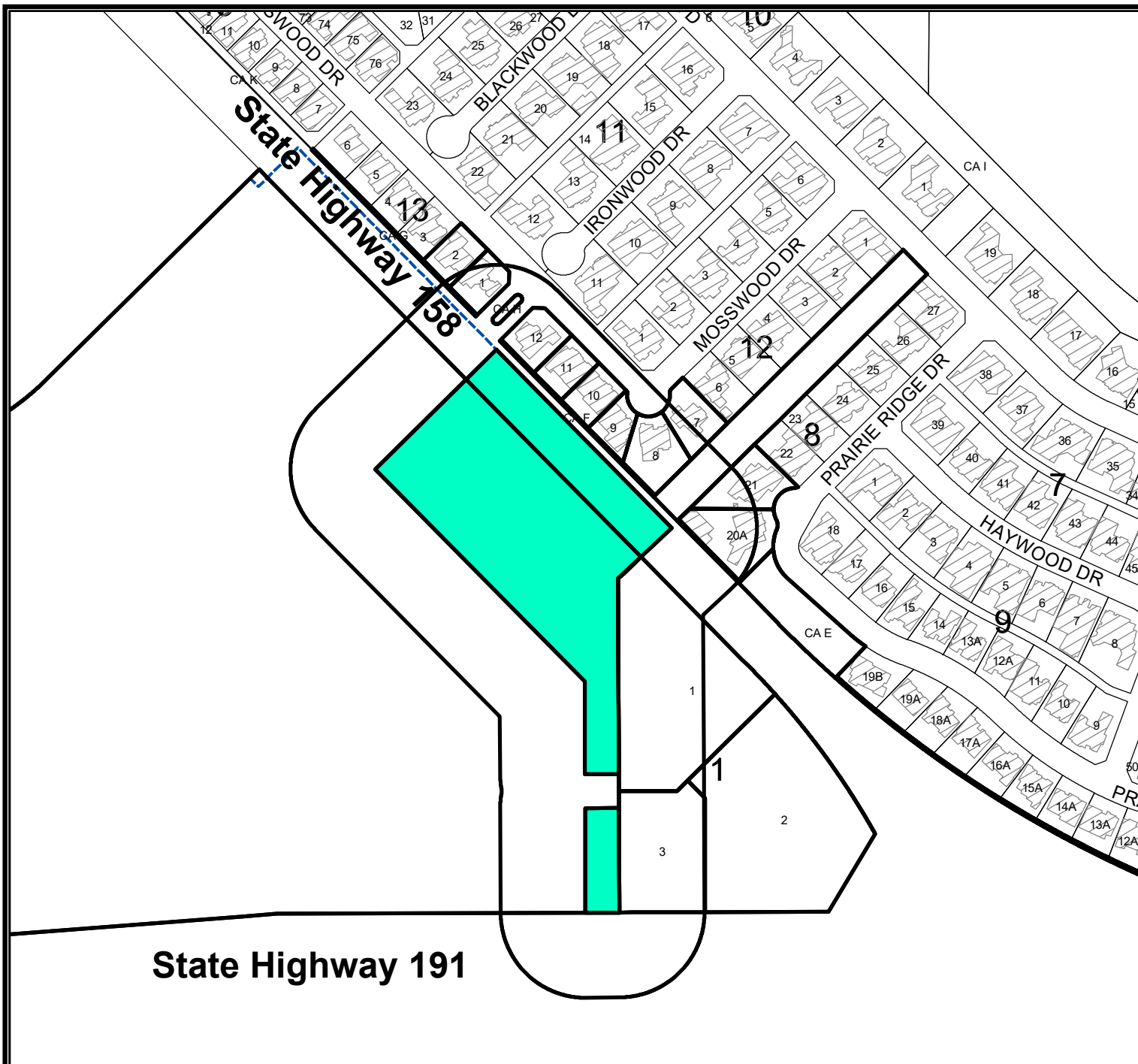
Date: 5/18/23

PACKET

25.16

September 12, 2023

****Application will not be considered for scheduling until reviewed by a planner.****



LOCATION MAP

A-23-0036

Scale: 1" = 4,071'

A request by Maverick Engineering for an Annexation of a 0.448-acre tract of land and a 6.292-acre tract of land, located in Section 35, Block 40, T-1-S RR CO. Survey, Midland County, Texas.

Generally located on the north side of West State Highway 158 approximately 500 feet west of State Highway 191. (Extraterritorial Jurisdiction)

LEGEND

- CITY LIMITS
- PARCEL
- PRIVATE BLDGS



©THE CITY OF MIDLAND - 2021

September 12, 2023

THIS DATA IS NOT A SUBSTITUTION FOR A SURVEY OR FOR INFORMATION. IT IS DESIGNED TO BE USED AS A TOOL IN PERMITTING OR OTHER DECISIONS BASED SOLELY ON THE INFORMATION CONTAINED HEREIN.
THE CITY OF MIDLAND SHALL NOT BE RESPONSIBLE FOR ANY DECISIONS BASED UPON THE USE OF THIS DATA.











City Council Meeting

Item Number: 26
Meeting Date: September 12, 2023
To: City Council / City Manager
From: Landon Ochoa, Senior Planner
Subject: AN ORDINANCE ESTABLISHING THE INITIAL ZONING CLASSIFICATION OF THE AREA INDICATED AS BEING A 0.448-ACRE TRACT OF LAND AND A 6.292-ACRE TRACT OF LAND, BOTH OUT OF SECTION 35, BLOCK 40, T-1-S, T&P RR. CO. SURVEY, MIDLAND COUNTY, TEXAS, AS AN RR, REGIONAL RETAIL DISTRICT; THE 0.448-ACRE TRACT BEING GENERALLY LOCATED NORTH OF STATE HIGHWAY 191, APPROXIMATELY 490 FEET WEST OF STATE HIGHWAY 158; THE 6.292-ACRE TRACT BEING GENERALLY LOCATED WEST OF STATE HIGHWAY 158, APPROXIMATELY 540 FEET NORTH OF STATE HIGHWAY 191; CONTAINING A CUMULATIVE CLAUSE; CONTAINING A SAVINGS AND SEVERABILITY CLAUSE; PROVIDING FOR A MAXIMUM PENALTY OR FINE OF TWO THOUSAND DOLLARS (\$2,000.00); AND ORDERING PUBLICATION (DISTRICT: NONE) (DEVELOPMENT SERVICES)

Purpose:

The applicant, Midland 158, LLC, is requesting the initial zoning of RR, Regional Retail District on a 0.448-acre tract of land and a 6.292-acre tract of land, out of Section 35, Block 40, T-1-S RR CO. Survey, Midland County, Texas, located near the intersection of State Highway 191 and State Highway 158.

Recommended City Council Action:

Approve

Fiscal Impact:

No City funds are required to process this request.

Discussion:

The applicant, Midland 158, LLC, is requesting the initial zoning of annexed land to RR, Regional Retail District for future commercial development.

This case has been circulated to and reviewed by all pertinent City departments for internal review and has received no objections. Their comments are as follows.

Engineering: (Approved)

No objection to zoning. [For the Applicant's information only.]

Site drainage, utilities, driveway access, and traffic circulation may be adjusted during construction drawing review as necessary to receive building permit approval from Engineering and Traffic Operations. [For the Applicant's information only.]

Transportation: (Approved)

Site drainage, utilities, driveway access, and traffic circulation may be adjusted during construction drawing review as necessary to receive building permit approval from Engineering and Traffic Operations. [For the Applicant's information only.]

No objection to zone change. [For the Applicant's information only.]

Fire: (Approved)

No objections.

Code Administration: (Approved)

No objections.

Oil and Gas: (Approved)

No Oil and Gas issues.

Planning:

The Future Land Use Map in the Tall City Tomorrow Comprehensive Plan calls for Urban-High (U-H) lot utilization in this area which consists of a mix of complementary uses, including multi-family residential, large offices, medical buildings, regional commercial, limited industrial, institutional uses such as churches, schools, or hospitals, and other regional attractors. The Regional Retail zoning supports uses that are consistent with the Comprehensive Plan's U-H designation of this area.

Staff recommends approval of this initial zoning of RR, Regional Retail District subject to condition A.

Condition:

- A. That the use and development of this property shall conform to the regulations of the RR, Regional Retail District.**

Letters of Objection:

Staff has received no letters of objection to this request as of August 31, 2023.

Attachments:

Petition (Exhibit A)
Application
Maps



City Manager's Office

ORDINANCE NO. _____

AN ORDINANCE ESTABLISHING THE INITIAL
ZONING CLASSIFICATION OF THE AREA INDICATED
AS BEING A 0.448-ACRE TRACT OF LAND AND A
6.292-ACRE TRACT OF LAND, BOTH OUT OF
SECTION 35, BLOCK 40, T-1-S, T&P RR. CO. SURVEY,
MIDLAND COUNTY, TEXAS, AS AN RR, REGIONAL
RETAIL DISTRICT; THE 0.448-ACRE TRACT BEING
GENERALLY LOCATED NORTH OF STATE

WHEREAS, notice has been given to all parties in interest and citizens by
publication
HIGHWAY 191, APPROXIMATELY 490 FEET WEST OF

STATE HIGHWAY 158; THE 6.292-ACRE TRACT
in the official newspaper and otherwise of a public hearing to be held before the City
Council
BEING GENERALLY LOCATED WEST OF STATE

HIGHWAY 158, APPROXIMATELY 540 FEET NORTH
WHEREAS, a public hearing, at which all parties in interest and citizens
were
on September 12, 2023 (the "Hearing Date"), to consider an amendment to the
Zoning
OF STATE HIGHWAY 191, CONTAINING A

WHEREAS, such a public hearing was held in the Council Chambers on the
given an opportunity to be heard, and after considering among other things, the
Hearing;
characterized; and
District Map AND SEVERABILITY CLAUSE, as to establish the initial zoning
classification

the property involved and the surrounding area and its peculiar suitability for particular
uses;
of the property described in Section One of the City Code of Midland, Texas, as
set out

and with a view to conserving the value of buildings and encouraging the most
appropriate
in Title XI, Chapter 1 of the City Code of Midland, Texas; and

use of land throughout such municipality, the Council finds it to be in the best interest
of the

NOW, THEREFORE, BE IT ORDAINED BY THE CITY COUNCIL OF THE
health, safety, morals, and general welfare of the City of Midland to amend the
CITY OF MIDLAND, TEXAS.

Zoning

26.4

September 12, 2023

District Map accordingly;

SECTION ONE. That the initial zoning classification of the area indicated on

Exhibit "A", attached hereto and incorporated herein by reference, is hereby established as SECTION THREE. If any section, subsection, sentence, clause or phrase of this

ordinance is, for any reason, held to be unconstitutional or invalid, such holding shall not

is hereby amended to reflect the establishment of this initial zoning classification affect the validity of the remaining portions of this ordinance. The Council of the City of

SECTION TWO. The provisions of this ordinance are to be cumulative of all Midland other hereby declares that it would have passed this ordinance and each section,

ordinances or parts of ordinances governing or regulating the same subject matter as that subsection, sentence, clause, or phrase hereof irrespective of the fact that any one or more

covered herein; provided, however, that all prior ordinances or parts of ordinances, subsections, sentences, clauses, or phrases be declared unconstitutional or invalid.

inconsistent with or in conflict with any of the provisions of this ordinance are hereby SECTION FOUR. The penalty for violation of this ordinance shall be in accordance

expressly repealed to the extent of any such inconsistency or conflict.

with the general penalty provisions contained in Section 1-3-1 of the City Code of Midland,

The above and foregoing ordinance was duly proposed, read in full and Texas, which provides for a fine not exceeding two thousand dollars (\$2,000.00).

first reading, the _____ day of _____, A.D., 2023, and passed to second reading on _____ publish

Council members voting "AYE":

the descriptive caption of this ordinance, in the manner and for the length of time _____, the date of Council member _____, seconded by Council member _____, presented **PACKET** 26.52 **September 12, 2023**

by the following vote:

by the law as an alternative method of publication.

Council members voting "NAY":

The above and foregoing ordinance was read in full and finally adopted
by the

following vote upon motion of Council member _____, seconded by
Council

Council members voting "AYE":
member _____, on the ____ day of _____, A.D., 2023, at a regular meeting

Council members voting "NAY":
of the City Council:

PASSED AND APPROVED THIS _____ day of _____, A.D., 2023.

Lori Merritt Blong, Mayor

ATTEST:

Marcia Bentley-German, City Secretary

APPROVED AS TO CONTENT

AND COMPLETENESS:

Rolandrea Russell, Interim Director of Development
Services

APPROVED ONLY AS TO FORM:

John Ohnemiller, City Attorney

EXHIBIT "A"

PETITION FOR ANNEXATION

Dear City of Midland:

As current owner of the tract(s) of land described in Exhibit(s) A (the "Property"), said Exhibit(s) being attached hereto and incorporated herein, Midland 158 LLC ("Owner") submits this petition for annexation and hereby requests that the Property be added to and annexed to the City of Midland.

[Signature]
Signature of Owner or Owner's Authorized Representative

Coy Haynes
Printed Name

Owner
Title

THE STATE OF Texas §
COUNTY OF Midland §

This instrument was acknowledged before me on the 18th day of May, 2023 by Coy Haynes in the capacity herein stated.

MY COMMISSION EXPIRES
02/19/2026

[Signature]
Notary Public, State of Texas

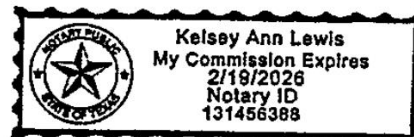


EXHIBIT "A"

MAVERICK
ENGINEERING - SURVEY - WATER RESOURCES
1909 West Wall Street, Suite K - Midland, TX 79701
Tel: 432.262.0999 - Fax: 432.262.0989 - maverick-eng.com
ENGINEER FIRM #: F-15089 | SURVEY FIRM #: I0194514



FIELD NOTE DESCRIPTION OF TWO TRACTS OF LAND, TOTALLING 6.74 ACRES, SITUATED IN SECTION 35, BLOCK 40, TOWNSHIP 1 SOUTH, TEXAS AND PACIFIC RAILWAY COMPANY SURVEY, MIDLAND COUNTY, TEXAS, BEING PORTIONS OF THAT SAME TRACT AS DESCRIBED AS TRACT SEVEN IN A WARRANTY DEED FILED AS DOCUMENT NUMBER 2008-26873 IN VOLUME 3131 ON PAGE 210 OF THE OFFICIAL PUBLIC RECORDS (OPR) OF SAID MIDLAND COUNTY, TEXAS, AND BEING MORE PARTICULARLY DESCRIBED AS FOLLOWS;

TRACT 1, 0.448 ACRE;

BEGINNING AT N.(Y):10693732.66, E.(X):1726261.95, A POINT WITHIN A TXDOT TYPE I CONCRETE MONUMENT (TYPE I) FOUND AND ACCEPTED AS BEING ON THE NORTH RIGHT-OF-WAY LINE OF STATE HIGHWAY 191, AS DESCRIBED IN VOLUME 715 ON PAGE 287 OF SAID "OPR" AT THE SOUTHEAST CORNER OF A TRACT DESCRIBED AS AN 80 FOOT WIDE DRAINAGE EASEMENT IN VOLUME 715 ON PAGE 280 OF SAID "OPR", BEING THE SOUTHWEST CORNER OF LOT 3, BLOCK 1, WEST FORK ADDITION AS RECORDED IN CABINET "M", PAGE 199, PLAT RECORDS OF MIDLAND COUNTY, TEXAS (PRMCT), AND FOR THE SOUTHEAST CORNER HEREOF;

THENCE S.75°15'20"W., ALONG SAID RIGHT-OF-WAY, 79.47 FEET TO A "TYPE I" FOUND FOR THE SOUTHWEST CORNER OF SAID DRAINAGE EASEMENT, AND FOR THE SOUTHWEST CORNER HEREOF;

THENCE N.14°42'47"W., SEVERING SAID "TRACT SEVEN," ALONG THE WEST LINE OF SAID DRAINAGE EASEMENT, 245.61 FEET, TO A ONE HALF INCH IRON ROD WITH RED PLASTIC CAP MARKED "MAVERICK FIRM #I0194514" (RPC) SET, INTERIOR TO SAID "TRACT SEVEN," AND FOR THE NORTHWEST CORNER HEREOF;

THENCE N.75°16'29"E., SEVERING SAID DRAINAGE EASEMENT, 79.52 FEET TO AN "RPC" SET IN THE WEST LINE OF SAID LOT 3, THE EAST LINE OF SAID DRAINAGE EASEMENT, AND FOR THE NORTHEAST CORNER HEREOF;

THENCE S.14°42'04"E., ALONG THE WEST LINE OF SAID LOT 3, 245.58 FEET TO THE **POINT OF BEGINNING**, CONTAINING 0.448 ACRE, OR 19,524 SQUARE FEET OF LAND.

TRACT 2, 6.292 ACRES;

COMMENCING AT N.(Y):10693732.66, E.(X):1726261.95, A POINT WITHIN A TXDOT TYPE I CONCRETE MONUMENT (TYPE I) FOUND AND ACCEPTED AS BEING ON THE NORTH RIGHT-OF-WAY LINE OF STATE HIGHWAY 191, AS DESCRIBED IN VOLUME 715 ON PAGE 287 OF SAID "OPR" AT THE SOUTHEAST CORNER OF A TRACT DESCRIBED AS AN 80 FOOT WIDE DRAINAGE EASEMENT IN VOLUME 715 ON PAGE 280 OF SAID "OPR", AND THE SOUTHWEST CORNER OF LOT 3, BLOCK 1, WEST FORK ADDITION AS RECORDED IN CABINET "M", PAGE 199, PLAT RECORDS OF MIDLAND COUNTY, TEXAS (PRMCT), **THENCE** ALONG THE WEST LINE OF SAID LOT 3, N.14°42'04"W., AT 285.58 FEET PASSING AN "RPC" SET FOR THE WEST COMMON CORNERS OF LOT 1 AND LOT 3 OF SAID SUBDIVISION, IN ALL 325.58 FEET TO AN "RPC" IN THE WEST LINE OF SAID LOT 4, FOR THE **POINT OF BEGINNING** AND THE SOUTHEAST CORNER HEREOF;

THENCE S.75°16'29"W., SEVERING SAID "TRACT SEVEN," 79.54 FEET TO AN "RPC" SET IN THE WEST LINE OF SAID DRAINAGE EASEMENT AND FOR THE SOUTHWEST CORNER HEREOF;

THENCE N.14°42'47"W., ALONG THE WEST LINE OF SAID DRAINAGE EASEMENT, 217.83 FEET TO AN "RPC" SET IN THE WEST LINE THEREOF, AND FOR AN INTERIOR POINT HEREOF;



THENCE N.59°05'27"W., AGAIN SEVERING SAID "TRACT SEVEN," 701.14 FEET TO AN "RPC" SET FOR THE WEST CORNER HEREOF;

THENCE N.30°54'15"E., AT 250.13 FEET PASSING A ONE HALF INCH IRON ROD FOUND, IN ALL 399.90 FEET TO A POINT IN THE SOUTH LINE OF THE CITY OF MIDLAND INCORPORATED LIMITS AS ADOPTED AND DESCRIBED IN ANNEXATION ORDINANCE #8214, FOR THE NORTHWEST CORNER HEREOF;

THENCE S.59°05'39"E., ALONG THE SOUTH LINE OF SAID ORDINANCE #8214, 587.92 FEET TO A POINT IN THE WEST LINE OF THE CITY OF MIDLAND INCORPORATED LIMITS AS ADOPTED AND DESCRIBED IN ANNEXATION ORDINANCE #10377, FOR THE MOST NORTHERLY NORTHEAST EXTERIOR CORNER HEREOF;

THENCE S.32°08'12"W., ALONG THE WEST LINE OF SAID ORDINANCE #10377, AT 100.40 FEET PASSING A "TYPE I" FOUND FOR THE MOST NORTHERLY NORTHWEST CORNER OF SAID LOT 1, IN ALL, 174.09 FEET TO A "TYPE I" FOUND FOR THE MOST WESTERLY NORTHWEST CORNER OF THE SAME, AND THE NORTHEAST INTERIOR CORNER HEREOF;

THENCE S.14°42'04"E., ALONG THE WEST LINE OF SAID LOT 1, 459.41 FEET TO THE **POINT OF BEGINNING** CONTAINING 6.292 ACRES, OR 274,101 SQUARE FEET OF LAND.


Gregory W. Shoults

www.maverick-eng.com

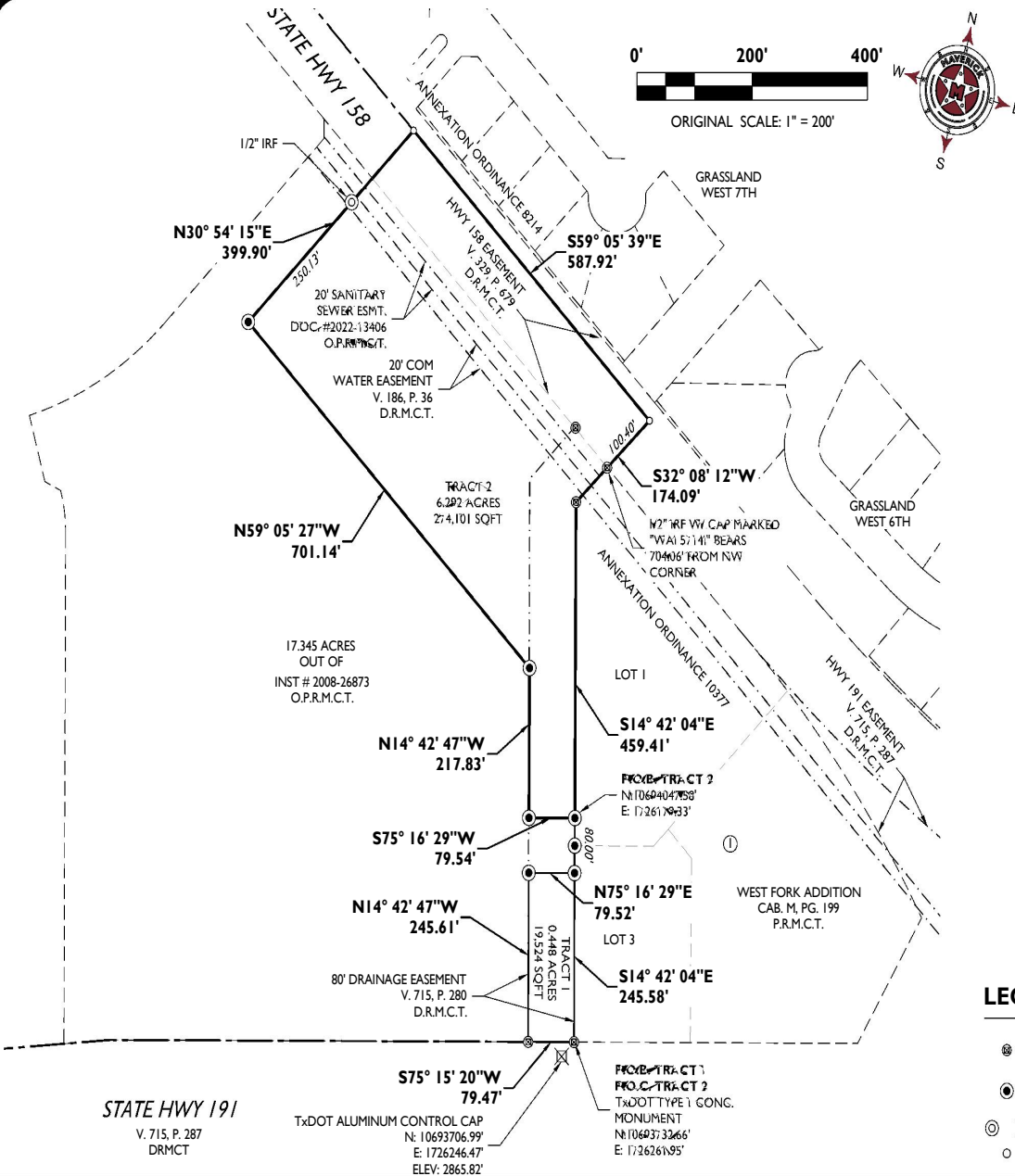
Texas RPLS - No. 5356

Maverick Engineering (FIRM - No. 10194514)

MAY 17, 2023



Drawing: F:\2023\230068-HAYNES DEVCO-158&191 MIDLAND EXPANDED SITE 4 ACRES\DRAWINGS\ANNEXATION\230068 - 4-AC ANNEXATION SURVEY.DWG Last Saved By: Paladin on 5/17/23



FIELD NOTE DESCRIPTION OF TWO TRACTS OF LAND, TOTALLING 6.74 ACRES, SITUATED IN SECTION 35, BLOCK 40, TOWNSHIP 1 SOUTH, TEXAS AND PACIFIC RAILWAY COMPANY SURVEY, MIDLAND COUNTY, TEXAS, BEING PORTIONS OF THAT SAME TRACT AS DESCRIBED AS TRACT SEVEN IN A WARRANTY DEED FILED AS DOCUMENT NUMBER 2008-26873 IN VOLUME 3131 ON PAGE 210 OF THE OFFICIAL PUBLIC RECORDS (OPR) OF SAID MIDLAND COUNTY, TEXAS, AND BEING MORE PARTICULARLY DESCRIBED AS FOLLOWS;

TRACT 1, 0.448 ACRES;

BEGINNING AT N.17°10'69"3732.66, E.(X):1726261.95, A POINT WITHIN A TXDOT TYPE I CONCRETE MONUMENT (TYPE I) FOUND AND ACCEPTED AS BEING ON THE NORTH RIGHT-OF-WAY LINE OF STATE HIGHWAY 191, AS DESCRIBED IN VOLUME 715 ON PAGE 287 OF SAID "OPR" AT THE SOUTHEAST CORNER OF A TRACT DESCRIBED AS AN 80 FOOT WIDE DRAINAGE EASEMENT IN VOLUME 715 ON PAGE 280 OF SAID "OPR", BEING THE SOUTHWEST CORNER OF LOT 3, BLOCK 1, WEST FORK ADDITION AS RECORDED IN CABINET "M", PAGE 199, PLAT RECORDS OF MIDLAND COUNTY, TEXAS (PRMCT), AND FOR THE SOUTHEAST CORNER HEREOF;

THENCE S.75°15'20"W, ALONG SAID RIGHT-OF-WAY, 79.47 FEET TO A "TYPE I" FOUND FOR THE SOUTHWEST CORNER OF SAID DRAINAGE EASEMENT, AND FOR THE SOUTHWEST CORNER HEREOF;

THENCE N.14°42'47"W, SEVERING SAID "TRACT SEVEN," ALONG THE WEST LINE OF SAID DRAINAGE EASEMENT, 245.61 FEET, TO A ONE HALF INCH IRON ROD WITH RED PLASTIC CAP MARKED "MAVERICK FIRM #19094514" (RPC) SET, INTERIOR TO SAID "TRACT SEVEN," AND FOR THE NORTHWEST CORNER HEREOF;

THENCE N.75°16'29"E, SEVERING SAID DRAINAGE EASEMENT, 79.52 FEET TO AN "RPC" SET IN THE WEST LINE OF SAID LOT 3, THE EAST LINE OF SAID DRAINAGE EASEMENT, AND FOR THE NORTHEAST CORNER HEREOF;

THENCE S.14°42'04"E, ALONG THE WEST LINE OF SAID LOT 3, 245.58 FEET TO THE **POINT OF BEGINNING**, CONTAINING 0.448 ACRE, OR 19,524 SQUARE FEET OF LAND.

TRACT 2, 6.292 ACRES;

COMMENCING AT N.(Y):10693732.66, E.(X):1726261.95, A POINT WITHIN A TXDOT TYPE I CONCRETE MONUMENT (TYPE I) FOUND AND ACCEPTED AS BEING ON THE NORTH RIGHT-OF-WAY LINE OF STATE HIGHWAY 191, AS DESCRIBED IN VOLUME 715 ON PAGE 287 OF SAID "OPR" AT THE SOUTHEAST CORNER OF A TRACT DESCRIBED AS AN 80 FOOT WIDE DRAINAGE EASEMENT IN VOLUME 715 ON PAGE 280 OF SAID "OPR", AND THE SOUTHWEST CORNER OF LOT 3, BLOCK 1, WEST FORK ADDITION AS RECORDED IN CABINET "M", PAGE 199, PLAT RECORDS OF MIDLAND COUNTY, TEXAS (PRMCT), **THENCE** ALONG THE WEST LINE OF SAID LOT 3, N.14°42'04"W, AT 285.58 FEET PASSING AN "RPC" SET FOR THE WEST COMMON CORNERS OF LOT 1 AND LOT 3 OF SAID SUBDIVISION, IN ALL 325.58 FEET TO AN "RPC" IN THE WEST LINE OF SAID LOT 4, FOR THE **POINT OF BEGINNING** AND THE SOUTHEAST CORNER HEREOF;

THENCE S.75°16'29"W, SEVERING SAID "TRACT SEVEN," 79.54 FEET TO AN "RPC" SET IN THE WEST LINE OF SAID DRAINAGE EASEMENT AND FOR THE SOUTHWEST CORNER HEREOF;

THENCE N.14°42'47"W, ALONG THE WEST LINE OF SAID DRAINAGE EASEMENT, 217.83 FEET TO AN "RPC" SET IN THE WEST LINE THEREOF, AND FOR AN INTERIOR POINT HEREOF;

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THENCE S.14°42'04"E, ALONG THE WEST LINE OF SAID LOT 1, 459.41 FEET TO THE **POINT OF BEGINNING** CONTAINING 6.292 ACRES, OR 274,101 SQUARE FEET OF LAND.

SURVEY NOTES:

1. BASIS OF BEARING, COORDINATES, DISTANCE AND ACREAGE ARE A LAMBERT CONICAL PROJECTION OF THE TEXAS COORDINATE SYSTEM, STATE PLANE GRID, NORTH AMERICAN DATUM OF 1983, TEXAS CENTRAL ZONE (4203), U.S. SURVEY FOOT, WITH A CONVERGENCE ANGLE (θ) OF -0°56'51.02" AND A COMBINED SCALE FACTOR OF 0.999898361, AT A TX DOT ALUMINUM CAP CONTROL MARK LOCATED AT N.10693706.99, E.1726246.47, EL2865.82
2. SEE DOCUMENTS OR ELECTRONIC DATA FILED IN THE OFFICE OF MAVERICK ENGINEERING FOR COMPLETE RECONSTRUCTION OF THIS SURVEY.

LEGEND

●	TXDOT TYPE I CONCRETE MONUMENT	—	TRACT BOUNDARY	P.R.M.C.T.	PLAT RECORDS MIDLAND CO., TX
○	1/2 IRF W/ PLASTIC CAP "MAVERICK FIRM #19094514"	- - - - -	EXISTING LOTS	O.P.R.M.C.T.	OFFICIAL PUBLIC RECORDS MIDLAND CO., TX
⊗	FOUND MONUMENT AS NOTED	- · - · -	EXISTING EASEMENTS	D.R.M.C.T.	DEED RECORDS MIDLAND CO., TX
○	TRACT CORNER	— · — · —	EXISTING CITY LIMITS	123.4'	TIE OR PASSING CALL DIMENSION



MAVERICK
CIVIL ENGINEERING / LAND SURVEYING
1909 West Wall Street, Suite "K"
Midland, Texas 79701
ENGINEER FIRM #: F-15089
SURVEY FIRM #: 10194514
Tel: (432) 262-0999 Fax: (432) 262-0989
www.maverick-eng.com

PACKET

I, GREGORY W. SHOULTS, DO HEREBY CERTIFY THAT THE SURVEY INFORMATION FOUND ON THIS PLAT WAS DERIVED FROM FIELD NOTES AND/OR ELECTRONIC DATA OF AN ACTUAL ON-THE-GROUND SURVEY MADE BY ME OR UNDER MY SUPERVISION AND IS TRUE AND CORRECT TO THE BEST OF MY KNOWLEDGE AND BELIEF. THIS SURVEY WAS PERFORMED WITHOUT THE BENEFIT OF A TITLE COMMITMENT AND NO WARRANTY IS MADE OR INTENDED FOR THE LOCATION OF ANY OR ALL EASEMENTS THAT MAY EXIST WITHIN THE BOUNDS OF THIS SURVEY.

Gregory W. Shoults
GREGORY W. SHOULTS, RPLS #5356
FIRM NO. TX #10194514

26.10

MAY 17, 2023

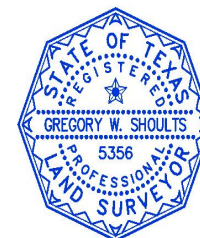


EXHIBIT A

ANNEXATION BOUNDARY

OF TWO TRACTS OF LAND, TOTALLING 6.74 ACRES, SITUATED IN SECTION 35, BLOCK 40, TOWNSHIP 1 SOUTH, TEXAS AND PACIFIC RAILWAY COMPANY SURVEY, MIDLAND COUNTY, TEXAS
September 12, 2023

PETITION FOR ANNEXATION

Dear City of Midland:

As current owner of the tract(s) of land described in Exhibit(s) A (the "Property"), said Exhibit(s) being attached hereto and incorporated herein, Midland 158 LLC ("Owner") submits this petition for annexation and hereby requests that the Property be added to and annexed to the City of Midland.

[Signature]
Signature of Owner or Owner's Authorized Representative

Coy Haynes
Printed Name

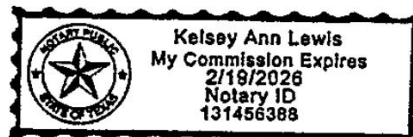
Owner
Title

THE STATE OF Texas §
COUNTY OF Midland §

This instrument was acknowledged before me on the 18th day of May, 2023 by Coy Haynes in the capacity herein stated.

MY COMMISSION EXPIRES
02/19/2026

[Signature]
Notary Public, State of Texas



MAVERICK
 ENGINEERING - SURVEY - WATER RESOURCES
 1909 West Wall Street, Suite K - Midland, TX 79701
 Tel: 432.262.0999 - Fax: 432.262.0989 - maverick-eng.com
 ENGINEER FIRM #: F-15089 | SURVEY FIRM #: 10194514



FIELD NOTE DESCRIPTION OF TWO TRACTS OF LAND, TOTALLING 6.74 ACRES, SITUATED IN SECTION 35, BLOCK 40, TOWNSHIP 1 SOUTH, TEXAS AND PACIFIC RAILWAY COMPANY SURVEY, MIDLAND COUNTY, TEXAS, BEING PORTIONS OF THAT SAME TRACT AS DESCRIBED AS TRACT SEVEN IN A WARRANTY DEED FILED AS DOCUMENT NUMBER 2008-26873 IN VOLUME 3131 ON PAGE 210 OF THE OFFICIAL PUBLIC RECORDS (OPR) OF SAID MIDLAND COUNTY, TEXAS, AND BEING MORE PARTICULARLY DESCRIBED AS FOLLOWS;

TRACT 1, 0.448 ACRE;

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THENCE N.14°42'47"W., SEVERING SAID "TRACT SEVEN," ALONG THE WEST LINE OF SAID DRAINAGE EASEMENT, 245.61 FEET, TO A ONE HALF INCH IRON ROD WITH RED PLASTIC CAP MARKED "MAVERICK FIRM #10194514" (RPC) SET, INTERIOR TO SAID "TRACT SEVEN," AND FOR THE NORTHWEST CORNER HEREOF;

THENCE N.75°16'29"E., SEVERING SAID DRAINAGE EASEMENT, 79.52 FEET TO AN "RPC" SET IN THE WEST LINE OF SAID LOT 3, THE EAST LINE OF SAID DRAINAGE EASEMENT, AND FOR THE NORTHEAST CORNER HEREOF;

THENCE S.14°42'04"E., ALONG THE WEST LINE OF SAID LOT 3, 245.58 FEET TO THE **POINT OF BEGINNING**, CONTAINING 0.448 ACRE, OR 19,524 SQUARE FEET OF LAND.

TRACT 2, 6.292 ACRES;

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Tel: 432.262.0999 • Fax: 432.262.0989 • maverick-eng.com
ENGINEER FIRM #: F-15089 | SURVEY FIRM #: 10194514



THENCE N.59°05'27"W., AGAIN SEVERING SAID "TRACT SEVEN," 701.14 FEET TO AN "RPC" SET FOR THE WEST CORNER HEREOF;

THENCE N.30°54'15"E., AT 250.13 FEET PASSING A ONE HALF INCH IRON ROD FOUND, IN ALL 399.90 FEET TO A POINT IN THE SOUTH LINE OF THE CITY OF MIDLAND INCORPORATED LIMITS AS ADOPTED AND DESCRIBED IN ANNEXATION ORDINANCE #8214, FOR THE NORTHWEST CORNER HEREOF;

THENCE S.59°05'39"E., ALONG THE SOUTH LINE OF SAID ORDINANCE #8214, 587.92 FEET TO A POINT IN THE WEST LINE OF THE CITY OF MIDLAND INCORPORATED LIMITS AS ADOPTED AND DESCRIBED IN ANNEXATION ORDINANCE #10377, FOR THE MOST NORTHERLY NORTHEAST EXTERIOR CORNER HEREOF;

THENCE S.32°08'12"W., ALONG THE WEST LINE OF SAID ORDINANCE #10377, AT 100.40 FEET PASSING A "TYPE I" FOUND FOR THE MOST NORTHERLY NORTHWEST CORNER OF SAID LOT 1, IN ALL, 174.09 FEET TO A "TYPE I" FOUND FOR THE MOST WESTERLY NORTHWEST CORNER OF THE SAME, AND THE NORTHEAST INTERIOR CORNER HEREOF;

THENCE S.14°42'04"E., ALONG THE WEST LINE OF SAID LOT 1, 459.41 FEET TO THE **POINT OF BEGINNING** CONTAINING 6.292 ACRES, OR 274,101 SQUARE FEET OF LAND.


Gregory W. Shoults

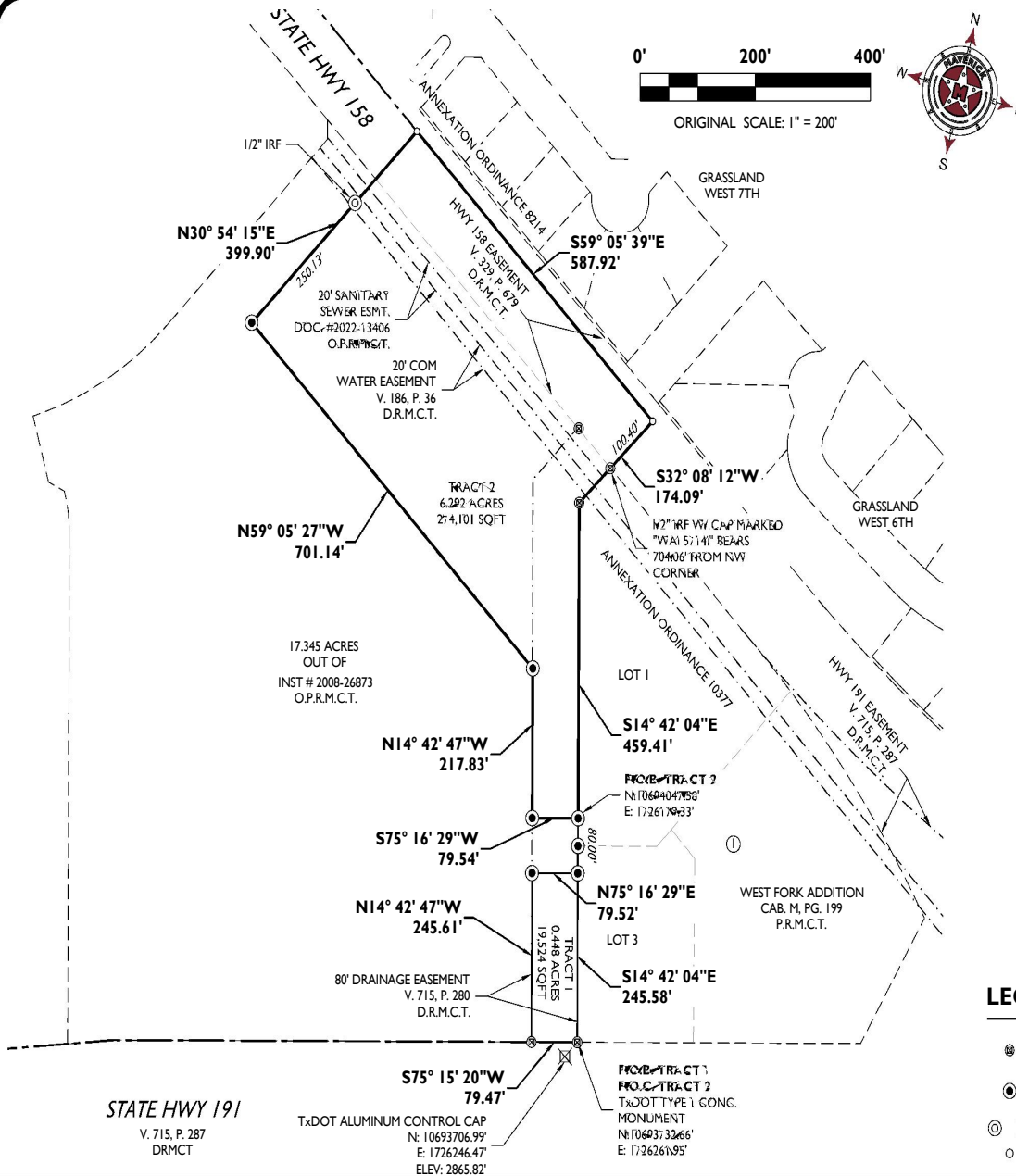
www.maverick-eng.com

Texas RPLS - No. 5356

Maverick Engineering (FIRM – No. 10194514)

MAY 17, 2023





FIELD NOTE DESCRIPTION OF TWO TRACTS OF LAND, TOTALLING 6.74 ACRES, SITUATED IN SECTION 35, BLOCK 40, TOWNSHIP 1 SOUTH, TEXAS AND PACIFIC RAILWAY COMPANY SURVEY, MIDLAND COUNTY, TEXAS, BEING PORTIONS OF THAT SAME TRACT AS DESCRIBED AS TRACT SEVEN IN A WARRANTY DEED FILED AS DOCUMENT NUMBER 2008-26873 IN VOLUME 3131 ON PAGE 210 OF THE OFFICIAL PUBLIC RECORDS (OPR) OF SAID MIDLAND COUNTY, TEXAS, AND BEING MORE PARTICULARLY DESCRIBED AS FOLLOWS;

TRACT 1, 0.448 ACRES;

BEGINNING AT N.1°10'69.3732.66, E.(X):1726261.95, A POINT WITHIN A TXDOT TYPE I CONCRETE MONUMENT (TYPE I) FOUND AND ACCEPTED AS BEING ON THE NORTH RIGHT-OF-WAY LINE OF STATE HIGHWAY 191, AS DESCRIBED IN VOLUME 715 ON PAGE 287 OF SAID "OPR" AT THE SOUTHEAST CORNER OF A TRACT DESCRIBED AS AN 80 FOOT WIDE DRAINAGE EASEMENT IN VOLUME 715 ON PAGE 280 OF SAID "OPR", BEING THE SOUTHWEST CORNER OF LOT 3, BLOCK 1, WEST FORK ADDITION AS RECORDED IN CABINET "M", PAGE 199, PLAT RECORDS OF MIDLAND COUNTY, TEXAS (PRMCT), AND FOR THE SOUTHEAST CORNER HEREOF;

THENCE S.75°15'20"W, ALONG SAID RIGHT-OF-WAY, 79.47 FEET TO A "TYPE I" FOUND FOR THE SOUTHWEST CORNER OF SAID DRAINAGE EASEMENT, AND FOR THE SOUTHWEST CORNER HEREOF;

THENCE N.14°42'47"W, SEVERING SAID "TRACT SEVEN," ALONG THE WEST LINE OF SAID DRAINAGE EASEMENT, 245.61 FEET, TO A ONE HALF INCH IRON ROD WITH RED PLASTIC CAP MARKED "MAVERICK FIRM #19094514" (RPC) SET, INTERIOR TO SAID "TRACT SEVEN," AND FOR THE NORTHWEST CORNER HEREOF;

THENCE N.75°16'29"E, SEVERING SAID DRAINAGE EASEMENT, 79.52 FEET TO AN "RPC" SET IN THE WEST LINE OF SAID LOT 3, THE EAST LINE OF SAID DRAINAGE EASEMENT, AND FOR THE NORTHEAST CORNER HEREOF;

THENCE S.14°42'04"E, ALONG THE WEST LINE OF SAID LOT 3, 245.58 FEET TO THE **POINT OF BEGINNING**, CONTAINING 0.448 ACRE, OR 19,524 SQUARE FEET OF LAND.

TRACT 2, 6.292 ACRES;

COMMENCING AT N.(Y):10693732.66, E.(X):1726261.95, A POINT WITHIN A TXDOT TYPE I CONCRETE MONUMENT (TYPE I) FOUND AND ACCEPTED AS BEING ON THE NORTH RIGHT-OF-WAY LINE OF STATE HIGHWAY 191, AS DESCRIBED IN VOLUME 715 ON PAGE 287 OF SAID "OPR" AT THE SOUTHEAST CORNER OF A TRACT DESCRIBED AS AN 80 FOOT WIDE DRAINAGE EASEMENT IN VOLUME 715 ON PAGE 280 OF SAID "OPR", AND THE SOUTHWEST CORNER OF LOT 3, BLOCK 1, WEST FORK ADDITION AS RECORDED IN CABINET "M", PAGE 199, PLAT RECORDS OF MIDLAND COUNTY, TEXAS (PRMCT), **THENCE** ALONG THE WEST LINE OF SAID LOT 3, N.14°42'04"W, AT 285.58 FEET PASSING AN "RPC" SET FOR THE WEST COMMON CORNERS OF LOT 1 AND LOT 3 OF SAID SUBDIVISION, IN ALL 325.58 FEET TO AN "RPC" IN THE WEST LINE OF SAID LOT 4, FOR THE **POINT OF BEGINNING** AND THE SOUTHEAST CORNER HEREOF;

THENCE S.75°16'29"W, SEVERING SAID "TRACT SEVEN," 79.54 FEET TO AN "RPC" SET IN THE WEST LINE OF SAID DRAINAGE EASEMENT AND FOR THE SOUTHWEST CORNER HEREOF;

THENCE N.14°42'47"W, ALONG THE WEST LINE OF SAID DRAINAGE EASEMENT, 217.83 FEET TO AN "RPC" SET IN THE WEST LINE THEREOF, AND FOR AN INTERIOR POINT HEREOF;

THENCE N.59°05'27"W, AGAIN SEVERING SAID "TRACT SEVEN," 701.14 FEET TO AN "RPC" SET FOR THE WEST CORNER HEREOF;

THENCE N.30°54'15"E, AT 250.13 FEET PASSING A ONE HALF INCH IRON ROD FOUND, IN ALL 399.90 FEET TO A POINT IN THE SOUTH LINE OF THE CITY OF MIDLAND INCORPORATED LIMITS AS ADOPTED AND DESCRIBED IN ANNEXATION ORDINANCE #8214, FOR THE NORTHWEST CORNER HEREOF;

THENCE S.59°05'39"E, ALONG THE SOUTH LINE OF SAID ORDINANCE #8214, 587.92 FEET TO A POINT IN THE WEST LINE OF THE CITY OF MIDLAND INCORPORATED LIMITS AS ADOPTED AND DESCRIBED IN ANNEXATION ORDINANCE #10377, FOR THE MOST NORTHERLY NORTHEAST EXTERIOR CORNER HEREOF;

THENCE S.32°08'12"W, ALONG THE WEST LINE OF SAID ORDINANCE #10377, AT 100.40 FEET PASSING A "TYPE I" FOUND FOR THE MOST NORTHERLY NORTHWEST CORNER OF SAID LOT 1, IN ALL, 174.09 FEET TO A "TYPE I" FOUND FOR THE MOST WESTERLY NORTHWEST CORNER OF THE SAME, AND THE NORTHEAST INTERIOR CORNER HEREOF;

THENCE S.14°42'04"E, ALONG THE WEST LINE OF SAID LOT 1, 459.41 FEET TO THE **POINT OF BEGINNING** CONTAINING 6.292 ACRES, OR 274,101 SQUARE FEET OF LAND.

SURVEY NOTES:

1. BASIS OF BEARING, COORDINATES, DISTANCE AND ACREAGE ARE A LAMBERT CONICAL PROJECTION OF THE TEXAS COORDINATE SYSTEM, STATE PLANE GRID, NORTH AMERICAN DATUM OF 1983, TEXAS CENTRAL ZONE (4203), U.S. SURVEY FOOT, WITH A CONVERGENCE ANGLE (θ) OF $-0^{\circ}56'51.02''$ AND A COMBINED SCALE FACTOR OF 0.999898361, AT A TX DOT ALUMINUM CAP CONTROL MARK LOCATED AT N.10693706.99, E.1726246.47, EL2865.82
2. SEE DOCUMENTS OR ELECTRONIC DATA FILED IN THE OFFICE OF MAVERICK ENGINEERING FOR COMPLETE RECONSTRUCTION OF THIS SURVEY.

LEGEND

●	TXDOT TYPE I CONCRETE MONUMENT	—	TRACT BOUNDARY	P.R.M.C.T.	PLAT RECORDS MIDLAND CO., TX
○	1/2 IRF W/ PLASTIC CAP "MAVERICK FIRM #19094514"	- - - - -	EXISTING LOTS	O.P.R.M.C.T.	OFFICIAL PUBLIC RECORDS MIDLAND CO., TX
⊗	FOUND MONUMENT AS NOTED	- · - · -	EXISTING EASEMENTS	D.R.M.C.T.	DEED RECORDS MIDLAND CO., TX
○	TRACT CORNER	— · — · —	EXISTING CITY LIMITS	1/23.4'	TIE OR PASSING CALL DIMENSION



MAVERICK

CIVIL ENGINEERING / LAND SURVEYING

1909 West Wall Street, Suite "K"
Midland, Texas 79701
ENGINEER FIRM #: F-15089
SURVEY FIRM #: 10194514
Tel: (432) 262-0999 Fax: (432) 262-0989
www.maverick-eng.com

PACKET

JOB NO.: 230068 FIELD WORK: 5.2.2023 DRAWN BY: PH REV 1: REV 2:

I, GREGORY W. SHOULTS, DO HEREBY CERTIFY THAT THE SURVEY INFORMATION FOUND ON THIS PLAT WAS DERIVED FROM FIELD NOTES AND/OR ELECTRONIC DATA OF AN ACTUAL ON-THE-GROUND SURVEY MADE BY ME OR UNDER MY SUPERVISION AND IS TRUE AND CORRECT TO THE BEST OF MY KNOWLEDGE AND BELIEF. THIS SURVEY WAS PERFORMED WITHOUT THE BENEFIT OF A TITLE COMMITMENT AND NO WARRANTY IS MADE OR INTENDED FOR THE LOCATION OF ANY OR ALL EASEMENTS THAT MAY EXIST WITHIN THE BOUNDS OF THIS SURVEY.

Gregory W. Shoults
GREGORY W. SHOULTS, RPLS #5356
FIRM NO. TX #10194514

26.14

MAY 17, 2023

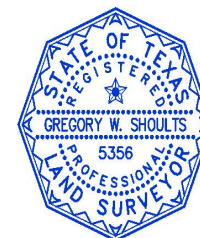


EXHIBIT A

ANNEXATION BOUNDARY

OF TWO TRACTS OF LAND, TOTALLING 6.74 ACRES, SITUATED IN SECTION 35, BLOCK 40, TOWNSHIP 1 SOUTH, TEXAS AND PACIFIC RAILWAY COMPANY SURVEY, MIDLAND COUNTY, TEXAS
September 12, 2023



Annexation/Zone Change Application

Project Number: A-23-0036
Case Number: 2-23-0334

Applicant (if acting as Agent, see affidavit on page 2)

Printed Name: Midland 158 LLC

Phone ()
Email

Address 1901 N Akard St

City Dallas

State TX

Zip 75201

Property Owner

Printed Name: See Applicant

Phone ()
Email

Address

City

State

Zip

Representative (if different from Applicant or Property Owner)

Firm: Maverick Engineering

Printed Name: Paladin Huckaba

Phone (432) 262-0999

Email
phuckaba@maverick-eng.com

Address 1909 W Wall St Ste K

City Midland

State TX

Zip 79701

Street Address: NA

Legal Description Two Tracts of Land, Totalling 6.74 Acres, Situated in Section 35, Block 40, Township 1 South, Texas and Pacific Railway Company Survey, Midland County Texas
Lot: Block: Subdivision:

Current Zoning:

Proposed Zone:

(List by tracts if more than one district is requested)

Reason for Annexation/Zone Change Request: Advance the incorporation of this tract into the City Limits of Midland

Present Use of Property: vacant

Proposed Use of Property: General retail

How would this annexation/zone change affect the public health, safety and welfare? no adverse affect. Addition of newly developed tracts to the City of Midland

Describe how this annexation/zone change will affect adjacent properties: Extend infrastructure and amenities west of existing City limits to make adjacent incorporation more feasible.

Submittal and Fees

Items to be submitted with this application form:

- Application Fee – Payable to the 'City of Midland'
- Dimensioned Site Plan
- Digital Copies of Site Plan (PDF/JPEG)

PACKET

26.15

September 12, 2023

Signature (by property owner only – authorized agent must sign affidavit below)

Applicant (signature):

Date:

Applicant (printed):

Property Owner (signature):

Date: 5/18/23

Property Owner (printed): Coy Haynes - Midland 158 LLC

The Zone Change/Planned District Amendment/Site Plan Approval shall be considered officially received in the Planning office only when it has been submitted in full compliance with the provisions of Section 212 of the Texas Local Government Code and the Zoning Code of Ordinances of the City of Midland and when such required items for the application are also received.

All materials, including exhibits, submitted in support of an application, or displayed during a public hearing, shall remain the property of the City of Midland.

If an agent is authorized by the property owner to file and execute the application on behalf of the property owner, the agent must complete the affidavit below.

STATE OF TEXAS
COUNTY OF MIDLAND

Before me, the undersigned authority, on this day personally appeared Andrew L Mellon who, being by me duly sworn, upon oath says: That (s)he is authorized by Midland 158 LLC, the owner of the above described property, to fully represent him/her in this application and that (s)he had the legal right, power and authority to sign said owner's name hereto as his/her attorney in fact.

Andrew L Mellon
Authorized Agent (signature)

Subscribed and sworn to before me, this 18th day of May, 2023, to certify which witness my hand and seal of office.



Kelsey Ann Lewis
NOTARY PUBLIC, MIDLAND COUNTY, TEXAS

FOR OFFICE USE ONLY

☒ Property Owner Authorization

☒ Dimensioned Site Plan

☒ Application Fee

☒ Plans in Digital Format (PDF/JPEG)

Check # 4122

BY:

Received By: James Rober

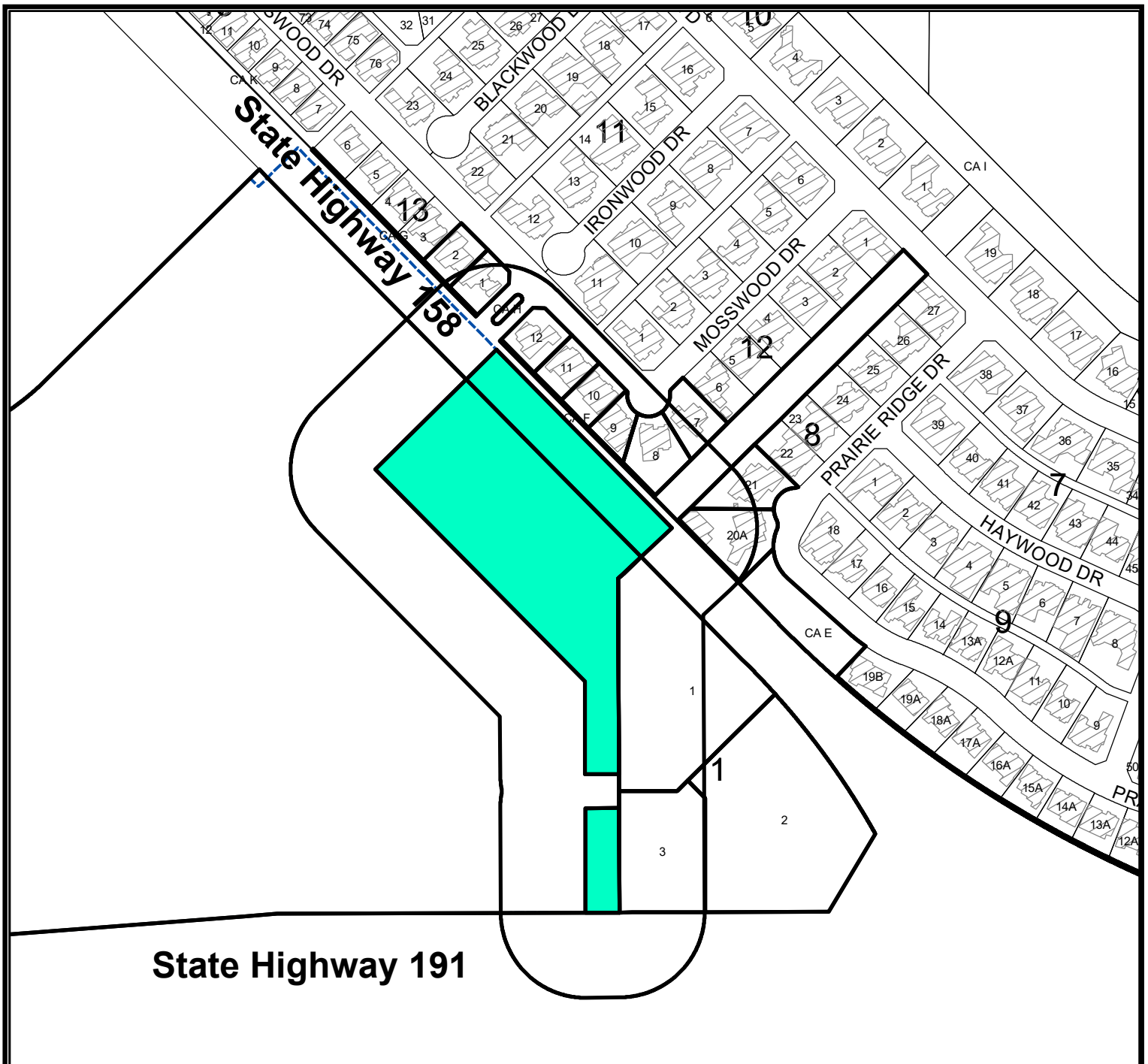
Date: 5/18/23

PACKET

26.16

September 12, 2023

****Application will not be considered for scheduling until reviewed by a planner.****



LOCATION MAP

A-23-0036

Scale: 1" = 4,071'

A request by Maverick Engineering for an Annexation of a 0.448-acre tract of land and a 6.292-acre tract of land, located in Section 35, Block 40, T-1-S RR CO. Survey, Midland County, Texas.

Generally located on the north side of West State Highway 158 approximately 500 feet west of State Highway 191. (Extraterritorial Jurisdiction)

LEGEND

- CITY LIMITS
- PARCEL
- PRIVATE BLDGS

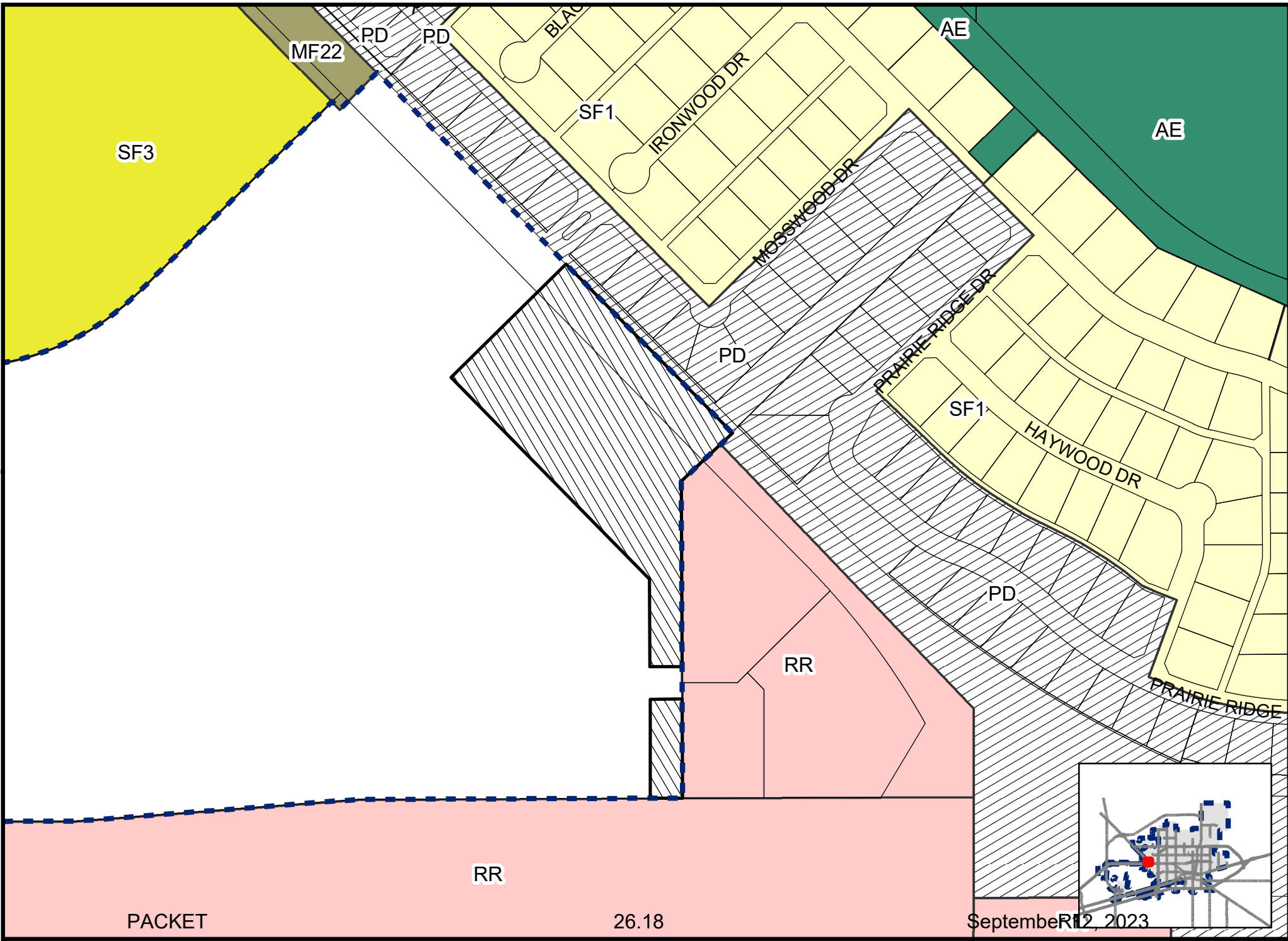


©THE CITY OF MIDLAND - 2021

September 12, 2023

THIS DATA IS NOT A SUBSTITUTION FOR A SURVEY. IT IS DESIGNED TO BE USED AS A TOOL IN PERMITTING OR OTHER DECISIONS BASED SOLELY ON THE INFORMATION CONTAINED HEREIN.

THE CITY OF MIDLAND SHALL NOT BE RESPONSIBLE FOR ANY DECISIONS BASED UPON THE USE OF THIS DATA.













City Council Meeting

Item Number: 27
Meeting Date: September 12, 2023
To: City Council / City Manager
From: Daniel Humbert, Planner
Subject: RESOLUTION AUTHORIZING THE TEMPORARY USE OF LAND FOR A PUBLICATION LAUNCH PARTY ON LOT 2, BLOCK 2, CORPORATE PLAZA ADDITION, SECTION 21, CITY AND COUNTY OF MIDLAND, TEXAS (GENERALLY LOCATED AT THE NORTHWEST CORNER OF THE INTERSECTION OF NORTH EDWARDS STREET AND FIESTA AVENUE) SUBJECT TO CERTAIN SPECIAL CONDITIONS AND RESTRICTIONS (DISTRICT 2) (DEVELOPMENT SERVICES)

Purpose:

Consider a request by Ally Village and Brandon Elliot for approval of a Temporary Land Use Permit for the Scout Guide Launch Party.

Recommended City Council Action:

Approve

Fiscal Impact:

No City funds are required to process this request.

Discussion:

Ally Village and Brandon Elliot are requesting a Temporary Land Use permit to have a Scout Guide Launch Party located on the above-described property as seen on the attached site plan (Exhibit A). There will be pop-up vendor areas, live music, and alcohol at this event. Three peace officers will be provided, as well as three men's, three women's, and six unisex toilets on site.

The event will last from:

September 14, 2023, from 10 a.m. to 5 p.m. (setup)

September 14, 2023, from 7 p.m. to 10 p.m. (event)
September 14, 2023, from 10:30 p.m. to 12 a.m. (tear-down)
September 15, 2023, from 7 a.m. to 9 a.m. (clean-up)

This request has been circulated to all pertinent City departments for review. Below are the departments' comments:

Engineering: (Approved)

No objection.

Transportation: (Approved)

No objections. [For the Applicant's information only.]

Fire: (Approved)

Food concessions are required to meet IFC 2015 ed. and local ordinances
Arts and crafts vendors may not use open flame devices without special inspection for each site.
Fire extinguishers must be available at each vendor (2A-10BC min size)
Immediate access to fire department connections shall be maintained at all times and without obstructions by fixed or moveable objects.

Building Code: (Approved)

No objections. All canopies, tents, and stages must be erected according to the manufacturer's instruction and anchored down or tied down in a manner that prevents damage to other properties and helps to prevent a safety risk to other people in the event of adverse weather. All sanitary facilities must be maintained in a reasonable manner and be easily located by the public.

Oil and gas: (Approved)

No Oil and Gas issues.

Animal Services: (Approved)

No comments.

Planning: (Approved)

This temporary land use permit for a Scout Guide Launch Party supports opportunities for social interaction.

Staff recommends approval of this request for a Temporary Land Use permit subject to conditions A through K:

Conditions:

- A. That the days and hours of operation of the Event shall be limited to the following:
September 14, 2023, from 7 p.m. to 10 p.m. (event)**
- B. That the days and hours of set-up and tear-down of the Event shall be limited to the following:**
 - i. September 14, 2023, from 10 a.m. to 5 p.m. (setup); and**
 - ii. September 14, 2023, from 10:30 p.m. to 12 a.m. (tear-down)**
- C. That the operation of the Event shall conform to the site plan, which is attached hereto as “Exhibit A” and incorporated herein for all purposes.**
- D. That the Applicant shall provide a minimum of twelve (12) restrooms that shall be made available for use during all operating hours of the Event.**
- E. That the Applicant shall provide a minimum of three (3) peace officers during all operating hours of the Event.**
- F. That the following uses are specifically permitted:**
 - Live music shall be allowed during all operating hours of the Event.**
 - The sale and on-premises consumption of alcoholic beverages shall be allowed during all operating hours of the Event in compliance with state and local laws.**
- G. That each tent, canopy, and booth shall be erected according to its manufacturer’s instructions, including the use of tie-downs that will resist the local estimated wind load.**
- H. That the event shall comply with all requirements of the Fire Code; the applicant shall call for an inspection by the Fire Marshal prior to commencing the event.**
- I. That the Code Administration Division and the Planning Division shall be notified no later than 48 hours preceding the event.**
- J. That the applicant shall obtain approval from the Solid Waste Department for a refuse collection and clean-up plan prior to the Event.**
- K. That Ally Village and Brandon Elliott shall be responsible for ensuring that the**

conditions of this permit are observed.

Letters of Objection:

As of August 31, 2023, staff has not received any letters of objection.

Attachments:

Site Plan (Exhibit A)
Application
Maps



City Manager's Office

RESOLUTION NO. _____

RESOLUTION AUTHORIZING THE TEMPORARY USE
OF LAND FOR A PUBLICATION LAUNCH PARTY ON
LOT 2, BLOCK 2, CORPORATE PLAZA ADDITION,
SECTION 21, CITY AND COUNTY OF MIDLAND,

TEXAS (GENERALLY LOCATED AT THE
WHEREAS, pursuant to Section 11-1-4.05 of the City Code of Midland, Texas, Ally
NORTHWEST CORNER OF THE INTERSECTION OF

Village and Brandon Elliott (collectively, the "Applicant") applied for authorization
to NORTH EDWARDS STREET AND FIESTA AVENUE)

SUBJECT TO CERTAIN SPECIAL CONDITIONS AND
temporarily use Lot 2, Block 2, Corporate Plaza Addition, Section 21, City and County
of RESTRICTIONS

NOW, THEREFORE, BE IT RESOLVED BY THE CITY COUNCIL OF THE
Midland, Texas (the "Property") for a publication launch party (the "Event"); and
CITY OF MIDLAND, TEXAS:

SECTION ONE. That the Applicant is hereby authorized by the City Council
WHEREAS, the Council finds and determines that such temporary use shall
be

temporarily use the Property for the Event subject to the following conditions
allowed, and A. That the day and hours of operation of the Event shall be limited

restrictions: September 14, 2023, from 7:00 p.m. to 10:00
following:

B. That the day and hours of set-up, tear-down, and clean-up of the Event
shall

September 14, 2023, from 10:00 a.m. to 5:00 p.m.; and
be limited to the following:

September 14, 2023, from 10:30 p.m. to 12:00 a.m. (midnight);

C. and that the operation of the Event shall conform to the site plan, which
is

September 15, 2023, from 7:00 a.m. to 9:00 a.m.
That the Applicant shall provide a minimum of twelve (12) restrooms
D. attached hereto as Exhibit "A" and incorporated herein for all purposes.
that

PACKET That the Applicant shall provide a minimum of three (3) peace officers
shall be made available for use during all operations of the Event.
during 27.5 September 12, 2023

E.

ATTEST:

Marcia Bentley-German, City Secretary

RECOMMENDED AND APPROVED:

Tommy Gonzalez, City Manager

APPROVED AS TO CONTENT

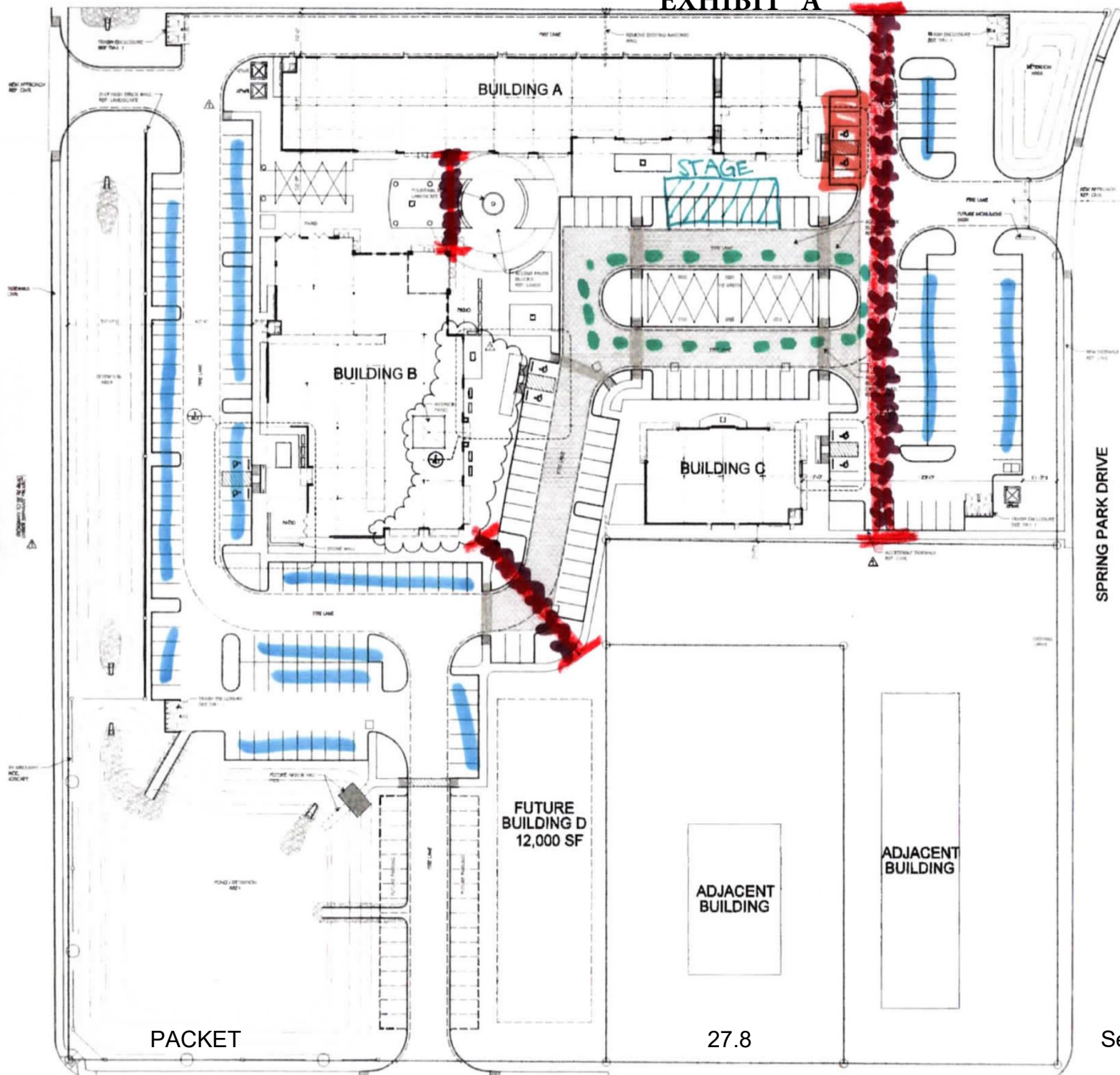
AND COMPLETENESS:

Rolandrea Russell, Interim Director of Development
Services

APPROVED ONLY AS TO FORM:

John Ohnemiller, City Attorney

EXHIBIT "A"



Ally village
200 Spring Park
Dr.

event: 09/14/23
September

4' temporary
Fencing

PARKING

ALLY OUTDOORS

40'x100"
Rain tent (if needed)

Stage

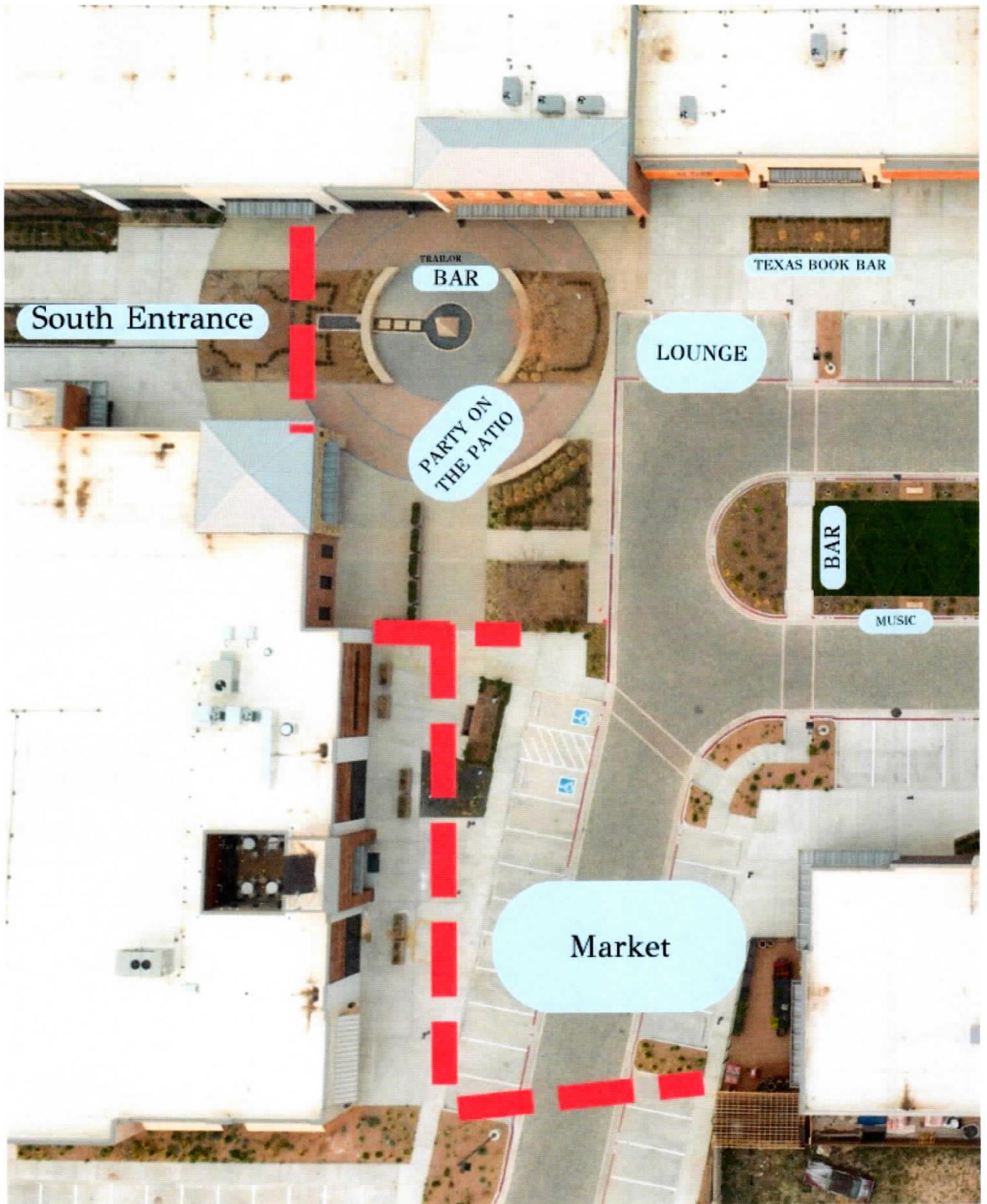
Bathroom

*Alcohol will be
consumed within fenced
area

*We also have
addtl. parking at
Ally outdoors →
across the street

September 12, 2023

1 SITE PLAN



Ally Village
200 Spring Park
Dr.

Event: 09/14/23
September

4' temporary
Fencing

Parking

ALLY OUTDOORS

40'x100"
Rain tent (if needed)

- stage

- bathroom

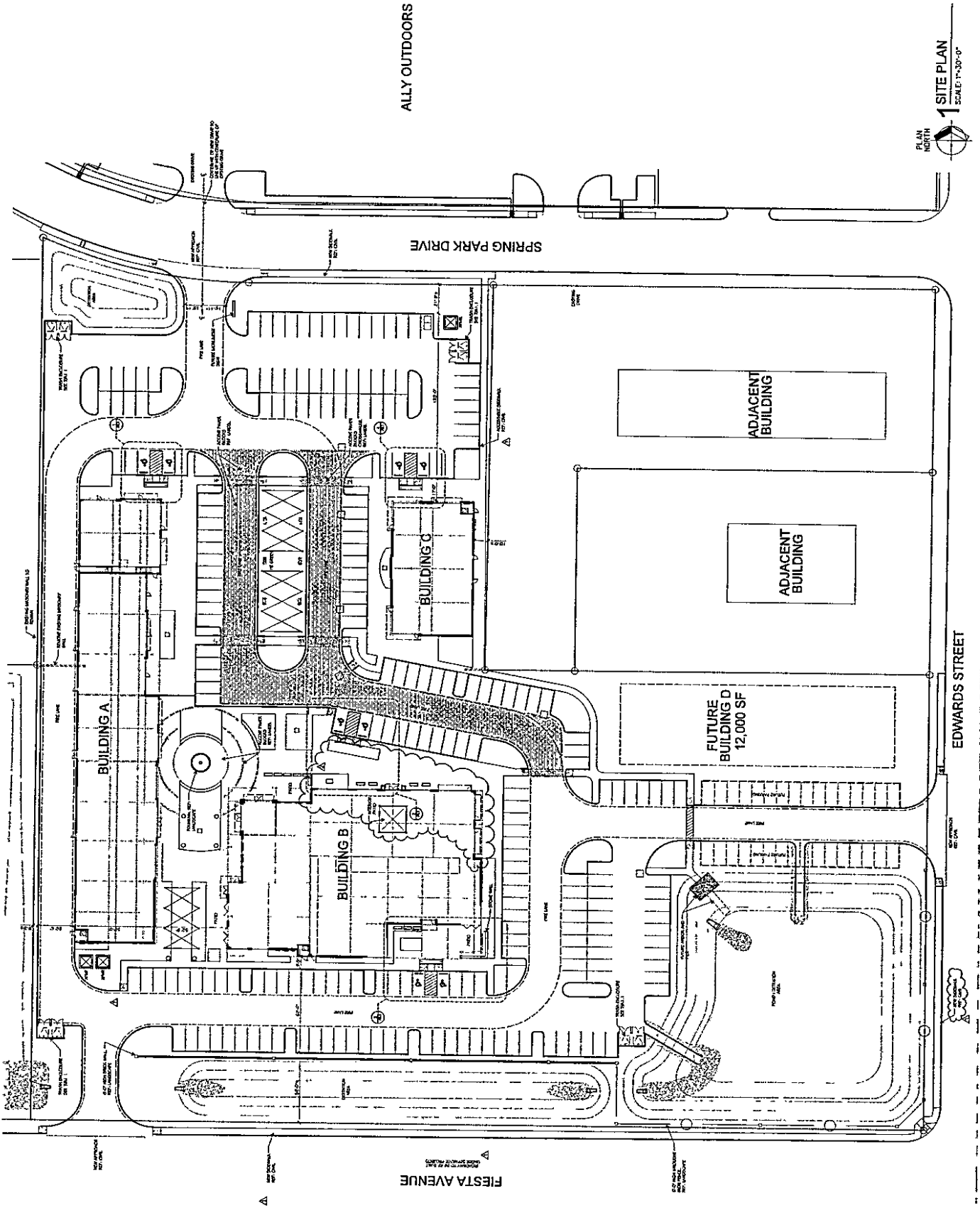
* Alcohol will be
consumed within fenced
area

* We also have
addtl. parking at
ALLY OUTDOORS -
across the street

PLAN
1 SITE PLAN



ALLY OUTDOORS





Temporary Land Use Application

Project Number: _____

Case Number: _____

Event Name: The scout Guide Launch Party

Applicant (if acting as Agent, see affidavit on page 2)

Printed Name: Ally Village / Brandon Elliott

Phone (432) 203-3661

Email claire@thescoutguide.comAddress 200 Spring Park Dr.City MidlandState TXZip 79705

Property Owner

Printed Name: John James Gripp / Brandon Elliott

Phone (432) 203-3661

Email gripp@allyoutdoors.comAddress 200 Spring Park Dr.City MidlandState TXZip 79705

Representative (if different from Applicant or Property Owner)

Firm: _____

Printed Name: _____

Phone ()

Email

Address

City

State

Zip

Street Address: 200 Spring Park Dr.

Legal Description

Lot: 2Block: 1Subdivision: Corporate Plaza Addition, section 21

Current Zoning:

Type of Temporary Use Requested:

Description of Event: This event is for the launch of a local publication, and there will be pop-up vendors, live music, alcohol served, 7-10pm, with setup starting at 10am.Duration of Temporary Use: Thursday, September 14th, 1 day

If event lasts for more than (1) day and is located within any residential district or is located within 1,000 feet of any residential district, then a public hearing is required.

Proposed Days and Hours: Thursday, September 14, from 7-10pmWill alcoholic beverages be sold? ☒ Yes ☐ No

If yes, you must comply with all Texas Alcoholic Beverage Commission (TABC) regulations for the event.

Are you requesting the temporary closure of any streets? ☐ Yes ☒ No

If yes, you must:

- Complete the "Special Event and Street Closure Application", available from the City's Secretary Office (3rd Floor, City Hall), as well as submit a "Traffic Control Plan" to the Transportation Division (5th Floor, City Hall).
- Provide the City with a **general liability insurance certificate**, naming the City as an **Additional Insured**, in the amount of one million dollars (\$1,000,000) for the term of the closure.

Number of Peace Offices Provided: 3

Contact the Midland Police Department to schedule off-duty police officers.

Type of Music (carnival, live, etc.): <u>live - small \$ 00</u>		
Snowmobile (portable stage) Requested: ☐ Yes ☒ No	Days & Hours:	
Number of Restroom Fixtures Provided: Men Toilets/Urinals: <u>3 /</u>	Bathroom Sinks:	
Women Toilets: <u>3</u>	Bathroom Sinks:	
Unisex Toilets: <u>6</u>	Bathroom Sinks:	

Submittal and Fees

Items to be submitted with this application form:

- Application Fee – Payable to the 'City of Midland'
- Damage Deposit
- Clean-Up Deposit
- 1 FOLDED Copy of Site Plan*
- Digital Copies of Site Plan (PDF/JPEG)

*Should show existing buildings, parking, access arrangements, surrounding streets, activity areas, areas of alcoholic beverage sales, proposed street closures, etc.

~~11/11/23~~ Total = 12

Signatures

Applicant (signature): <u>[Signature]</u>	Date: <u>8/1/2023</u>
Applicant (printed): <u>Brandon Elliott</u>	
Property Owner (signature): <u>[Signature]</u>	Date: <u>8/1/2023</u>
Property Owner (printed): <u>Brandon Elliott</u>	
Representative (signature):	Date:
Representative (printed):	

The Temporary Land Use Permit shall be considered officially received in the Planning office only when it has been submitted in full compliance with the provisions of Section 212 of the Texas Local Government Code and the Zoning Code of Ordinances of the City of Midland and when such required items for the application are also received.

All materials, including exhibits, submitted in support of an application, or displayed during a public hearing, shall remain the property of the City of Midland.

RECEIVED
AUG 08 2023

BY:

Application will not be considered for scheduling until reviewed by a planner.

PACKET

27.14

September 12, 2023

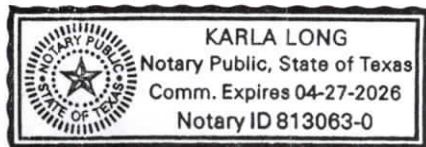
If an agent is authorized by the property owner to file and execute the application on behalf of the property owner, the agent must complete the affidavit below.

STATE OF TEXAS
COUNTY OF MIDLAND

Before me, the undersigned authority, on this day personally appear Claire Ramirez who, being by me duly sworn, upon oath says: That (s)he is owner of _____ or authorized by Brandon Elliot, the owner of the above described property, to fully represent him/her in this application and that (s)he had the legal right, power and authority to sign said owner's name hereto as his/her attorney in fact.

Claire Ramirez
Authorized Agent (signature)

Subscribed and sworn to before me, this 8th day of August, 2023, to certify which witness my hand and seal of office.



Karla Long
NOTARY PUBLIC, MIDLAND COUNTY, TEXAS

FOR OFFICE USE ONLY

☒ Property Owner Authorization

☐ Liability Insurance (Street Closure)

☒ Dimensioned Site Plan

☐ Traffic Control Plan (Street Closure) (None)

☐ Plans in Digital Format (PDF/JPEG)

☒ Clean-Up Deposit

Check # 10/4

☒ Application Fee

☒ Damage Deposit

Check # 10/4

Check # 10/4

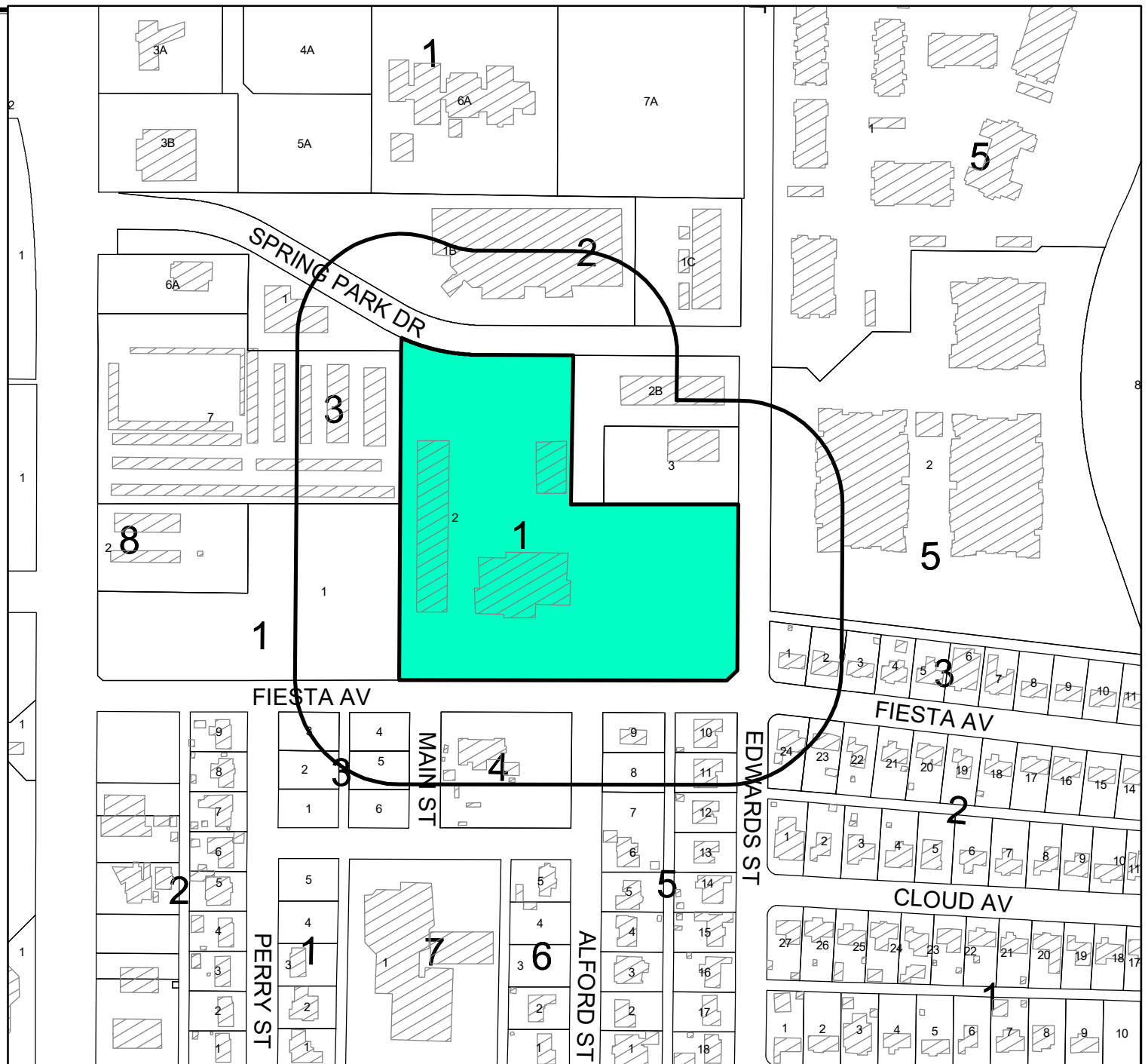
Received By: DA

Date:

RECEIVED
AUG 08 2023

BY:

*Application will not be considered for scheduling until review September 12, 2023



LOCATION MAP

TLU-23-0144

Scale: 1" = 3,338

A resolution on a request by Ally Village and Brandon Elliott for a Temporary Land Use Permit for The Scout Guide Launch Party on Lot 2, Block 1, Corporate Plaza Addition, Section 21, City and County of Midland, Texas.

Generally located at the northwest corner of the intersection of North Edward Street and Fiesta Avenue. (Council District 2)

LEGEND

- CITY LIMITS
- PARCEL
- PRIVATE BLDGS

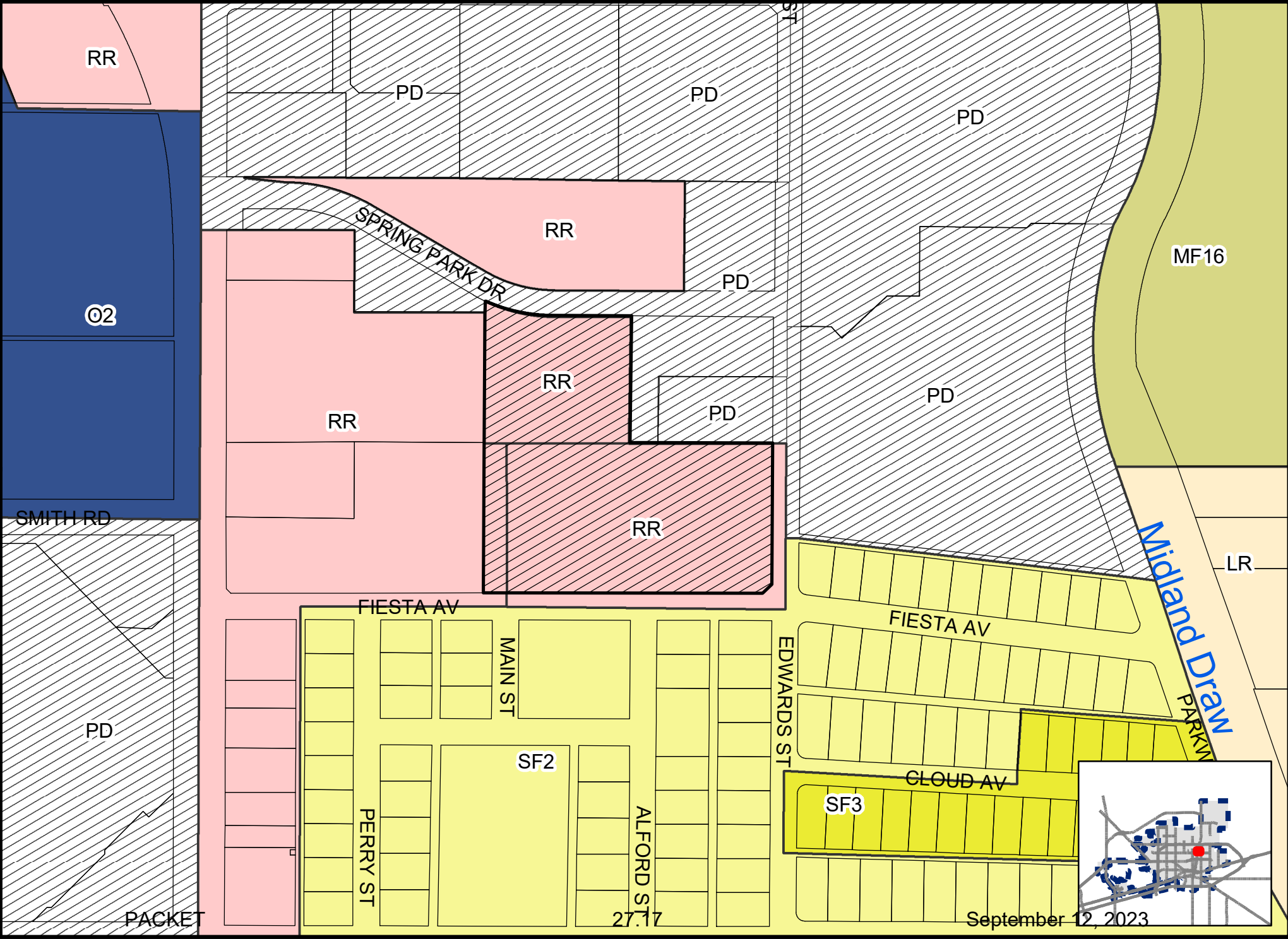


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THIS DATA IS NOT A SUBSTITUTION FOR A SURVEY OR FOR THE CITY'S PLANNING DIVISION. IT IS DESIGNED TO BE USED AS A TOOL IN PERMITTING OR OTHER DECISIONS BASED SOLELY ON THE INFORMATION CONTAINED HEREIN.

THE CITY OF MIDLAND SHALL NOT BE RESPONSIBLE FOR ANY DECISIONS BASED UPON THE USE OF THIS DATA.

September 12, 2023









PACKET

27.20

September 12, 2023





City Council Meeting

Item Number: 28
Meeting Date: September 12, 2023
To: City Council / City Manager
From: Rolandrea Russell, Interim Director
Subject: AN ORDINANCE CALLING A PUBLIC HEARING TO BE HELD JOINTLY BY THE CITY COUNCIL AND THE PLANNING AND ZONING COMMISSION TO CONSIDER THE ADOPTION OF AN ORDINANCE AMENDING TITLE XI, "PLANNING AND DEVELOPMENT" BY ADDING CHAPTER 1A, "CENTENNIAL ENTERTAINMENT OVERLAY DISTRICT" SO AS TO ESTABLISH AN OVERLAY ZONING DISTRICT AND PROVISIONS RELATED TO LAND USE AND DEVELOPMENT WITHIN SAID OVERLAY ZONING DISTRICT AND TO AMEND THE ZONING MAP ACCORDINGLY; PRESCRIBING THE TYPE OF NOTICE TO BE GIVEN OF THE TIME AND PLACE OF THE JOINT PUBLIC HEARING; AND CONTAINING A SAVINGS AND SEVERABILITY CLAUSE (DISTRICT: ALL) (DEVELOPMENT SERVICES)

Purpose:

The establishment of the Centennial Entertainment Overlay District and related regulations require a joint public hearing with the City Council and the Planning and Zoning Commission prior to the establishment of the Overlay District.

This public hearing is being called to prescribe the type of notice to be given of the time and place of the joint public hearing prior to the addition of the Centennial Entertainment Overlay District to the zoning ordinance.

Recommended City Council Action:

Approve

Fiscal Impact:

No City funds would be required for this project.

Discussion:

The joint public hearing will be scheduled for October 17, 2023, at 10:00 AM at the Barbara and George H. W. Bush Convention Center, 105 N. Main Street, Ballroom A, Midland, Texas 79701.

The public will be notified of the joint public hearing by publication in a newspaper of general circulation in the City of Midland and by publication on the City of Midland's website 15 days before the date of the public hearing.



City Manager's Office

ORDINANCE NO. _____

AN ORDINANCE CALLING A PUBLIC HEARING TO BE HELD JOINTLY BY THE CITY COUNCIL AND THE PLANNING AND ZONING COMMISSION TO CONSIDER THE ADOPTION OF AN ORDINANCE AMENDING TITLE XI, “PLANNING AND DEVELOPMENT” BY ADDING CHAPTER 1A, “CENTENNIAL ENTERTAINMENT OVERLAY DISTRICT” SO AS TO ESTABLISH AN OVERLAY ZONING DISTRICT AND PROVISIONS RELATED TO LAND USE AND DEVELOPMENT WITHIN SAID OVERLAY ZONING DISTRICT AND TO AMEND THE ZONING MAP ACCORDINGLY; PRESCRIBING THE TYPE OF NOTICE TO BE GIVEN OF THE TIME AND PLACE OF THE JOINT PUBLIC HEARING; AND CONTAINING A SAVINGS AND SEVERABILITY CLAUSE

WHEREAS, an overlay zoning district ordinance (the “Centennial Entertainment Overlay District Ordinance”) has been prepared for the purpose of amending Title XI, “Planning and Development” of the City Code of the City of Midland, Texas, to add Chapter 1a, “Centennial Entertainment Overlay District”; and

WHEREAS, the proposed Centennial Entertainment Overlay District Ordinance establishes provisions related to land use and development within the boundaries of the proposed Centennial Entertainment Overlay District, including related Zoning Map amendments; and

WHEREAS, Section 211.007 of the Texas Local Government Code provides that the City Council and the Planning and Zoning Commission may hold a joint public hearing and that the City Council may, for such joint public hearing, prescribe the type of notice to be given of the time and place of the public hearing; and

WHEREAS, the City Council finds it to be in the best interest of the public to hold a joint public hearing with the Planning and Zoning Commission to consider the adoption of the Centennial Entertainment Overlay District Ordinance and to prescribe the type of notice to be given of the time and place of the public hearing in accordance with Section 211.007(d) of the Texas Local Government Code; and

WHEREAS, the City Council finds that the type of notice prescribed herein satisfies the statutory requirements applicable to public hearings on the matters addressed in the Centennial Entertainment Overlay District Ordinance; and

WHEREAS, the City Council finds that a public hearing to consider the proposed adoption of the Centennial Entertainment Overlay District Ordinance should be held jointly by the City Council and the Planning and Zoning Commission at the City Council meeting and Planning and Zoning Commission meeting both scheduled for 10:00 a.m. on October 17, 2023, at the Barbara and George H. W. Bush Convention Center, 105 N. Main Street, Ballroom A, Midland, Texas 79701;

NOW, THEREFORE, BE IT ORDAINED BY THE CITY COUNCIL OF THE CITY OF MIDLAND, TEXAS:

SECTION ONE. That the City Council of the City of Midland, Texas, hereby calls a public hearing to be held jointly with the Planning and Zoning Commission, to be conducted at the City Council meeting and Planning and Zoning Commission meeting both scheduled for 10:00 a.m. on October 17, 2023, at the Barbara and George H. W. Bush Convention Center, 105 N. Main Street, Ballroom A, Midland, Texas 79701. The purpose of said public hearing will be to hear comments regarding the proposed adoption of the Centennial Entertainment Overlay District Ordinance, including provisions related to land use and development within the boundaries of the proposed Centennial Entertainment Overlay District, and including related Zoning Map amendments.

SECTION TWO. That in accordance with Texas Local Government Code Section 211.007(d), the City Council hereby prescribes that notice of the time and place of the joint public hearing shall be:

- A. By publication in a newspaper of general circulation in the City of Midland before the 15th day before the date of the public hearing;
- B. By publication on City of Midland's Internet website before the 15th day before the date of the public hearing; and

- C. By posting notice in accordance with Texas Government Code Chapter 551 of the City Council meeting and the Planning and Zoning Commission meeting during which the public hearing will be held.

SECTION THREE. That nothing herein shall prevent the Planning and Zoning Commission or the City Council from holding additional public hearings, including additional joint public hearings, to hear comments regarding the proposed adoption of the Centennial Entertainment Overlay District Ordinance. To the extent that additional public hearings are not held jointly by the City Council and the Planning and Zoning Commission, the notice and publication requirements of Chapter 211 of the Texas Local Government Code shall be followed. To the extent that additional public hearings are held jointly by the City Council and the Planning and Zoning Commission, the notice and publication requirements set forth in Section Two of this ordinance shall be followed.

SECTION FOUR. That this ordinance shall be effective only for a joint public hearing to consider the proposed adoption of the Centennial Entertainment Overlay District Ordinance, and all ordinances or parts thereof in conflict with this ordinance are superseded to the extent of this limited conflict only, and all other provisions of the ordinances of the City of Midland remain in full force and effect.

SECTION FIVE. That if any section, subsection, sentence, clause or phrase of this ordinance is, for any reason, held to be unconstitutional or invalid, such holding shall not affect the validity of the remaining portions of this ordinance. The Council of the City of Midland hereby declares that it would have passed this ordinance and each section, subsection, sentence, clause, or phrase hereof irrespective of the fact that any one or more sections, subsections, sentences, clauses, or phrases be declared unconstitutional or invalid.

SECTION SIX. That this ordinance is not adopted or effective unless the Council, by a two-thirds vote, has finally approved its adoption.

The above and foregoing ordinance was duly proposed, read in full and adopted on first reading, the _____ day of _____, A.D., 2023; and passed to second reading

on motion of Council member _____, seconded by Council member _____, by the following vote:

Council members voting "AYE":

Council members voting "NAY":

The above and foregoing ordinance was read in full and finally adopted by the following vote upon motion of Council member _____, seconded by Council member _____, on the _____ day of _____, A.D., 2023, at a regular meeting of the City Council:

Council members voting "AYE":

Council members voting "NAY":

PASSED AND APPROVED THIS _____ day of _____, A.D., 2023.

Lori Merritt Blong, Mayor

ATTEST:

Marcia Bentley-German, City Secretary

APPROVED AS TO CONTENT
AND COMPLETENESS:

Rolandrea Russell, Interim Director of Development Services

APPROVED ONLY AS TO FORM:

John Ohnemiller, City Attorney

BOARDS AND COMMISSIONS OF THE CITY OF MIDLAND

September 12, 2023

AIRPORT PLANNING AND DEVELOPMENT BOARD

(Advisory)

(Membership-10; Terms - 3 Years expiring 3-3-4.)

	<u>Appt Date</u>	<u>Term Expires</u>	<u>Eligibility Expires</u>
Wes Reeves	08/15*	Sept 30 2023	Sept 30 2023
Gena Linebarger	09/20	Sept 30 2023	Sept 30 2026
Benjamin Fietz	09/20	Sept 30 2023	Sept 30 2026
VACANT (Dillow)	10/21	Sept 30 2024	Sept 30 2027
Dave Joyner	10/21	Sept 30 2024	Sept 30 2027
James Linderman	04/22	Sept 30 2025	Sept 30 2028
Justin Kuethe	09/19	Sept 30 2025	Sept 30 2025
Nick McClure	09/19	Sept 30 2025	Sept 30 2025
Frank Kisner	09/22	Sept 30 2025	Sept 30 2028
Brandon Patterson	09/22	Sept 30 2025	Sept 30 2028

Justine Ruff (Liaison)

Lori Blong (Council Liaison)

Ex-Officio members are Earl Erdman and Harry Spannaus, the City Manager and the City Attorney. The Secretary is the Director of Aviation.

Eligibility Requirements: Resident of Midland County

ANIMAL CONTROL ADVISORY COMMISSION

(Advisory)

(Membership - 7; Terms - 4 Years)

	<u>Appt Date</u>	<u>Term Expires</u>	<u>Eligibility Expires</u>
Tommy Johnson (daily operations)	09/17	Sept 30 2025	Does Not Expire
Dr. J. Annette Jensen (Veterinarian)	04/20	Sept 30 2024	Does Not Expire
Tasha Sport	04/20	Sept 30 2024	Sept 30 2028
Sharla Hotchkiss	04/20	Sept 30 2024	Sept 30 2028
Judge Terry Johnson (County)	05/23	Sept 30 2027	Does Not Expire
Alyson Dial	09/18	Sept 30 2026	Sept 30 2026
Beth Meeks	09/22	Sept 30 2026	Sept 30 2030

Melissa Griffin-Hobson (Liasion)

Dan Corrales (Council Liaison)

Eligibility Requirements: 1 License Veterinarian, 1 Animal Shelter Employee, 1 Animal Welfare Organization Representative, 1 County or Municipal Official, 3 Citizens

**BUILDING AND FIRE CODE REVIEW COMMITTEE/CONSTRUCTION BOARD OF
ADJUSTMENTS & APPEALS**

(Decision Making)

(Membership – 9; Terms – 6 Years)

Shall consist of two architects, a fire protection contractor or specialist, a general contractor, an electrical contractor, a homebuilder, a plumbing and mechanical contractor, a structural engineer, a City Council Liaison

	<u>Appt Date</u>	<u>Term Expires</u>	<u>Eligibility Expires</u>
Ryan Almand (Electrical Contractor)	12/18	Sept 30 2024	Sept 30 2030
Jay Bradford (Architect)	12/18	Sept 30 2024	Sept 30 2030
T.J. McClure (Architect)	12/18	Sept 30 2024	Sept 30 2030
Laurence Oeth (Structural Engineer)	12/18	Sept 30 2024	Sept 30 2030
Gary Glasscock (General Contractor)	12/18	Sept 30 2024	Sept 30 2030
Robert Anderson (Homebuilder)	12/18	Sept 30 2024	Sept 30 2030
Dean Kelly (Plumbing & Mechanical Contractor)	04/22	Sept 30 2028	Sept 30 2034
Kenneth Whiting (Fire Protection)	04/22	Sept 30 2028	Sept 30 2034
Keith Dietderich (Liaison)	12/18	Sept 30 2024	Sept 30 2030
Dan Corrales (Council Liaison)			

Eligibility Requirements: Members shall reside within the City.

CAPITAL IMPROVEMENT ADVISORY COMMITTEE

(Advisory)

(Membership – 7)

A minimum of 40% must be representative of real estate, development, or building industries who are not employees or officials of a political subdivision or governmental entity.)

	<u>Appt Date</u>
Carl Craigo	10/19
Walter Pate	06/18
Mark Payne	06/18
Brian Sales	06/18
VACANT (Chuck Harrington)	06/18
Jose Ortiz (Liaison)	06/18
Bill Scott	09/22
Robin Poole (Council Liaison)	

CITIZENS DEVELOPMENT AND HOTEL/MOTEL ADVISORY BOARD

(Advisory)

(Membership - 7; Terms - 2 Years Staggered)

	<u>Appt Date</u>	<u>Term Expires</u>	<u>Eligibility Expires</u>
Clint Williamson	04/21*	Sept 30 2023	Sept 30 2025
VACANT (Ramsey)	10/18	Sept 30 2023	Sept 30 2023
Vicky Hailey	09/21	Sept 30 2023	Sept 30 2025
Brandon Ofield	09/20	Sept 30 2024	Sept 30 2024
Ankur Bhakta	09/22	Sept 30 2024	Sept 30 2026
Cole Harrison	09/22	Sept 30 2024	Sept 30 2026
Reggie Lawrence	09/22	Sept 30 2024	Sept 30 2026

Marcia Bentley-German (Liaison)

Robin Poole (Council Liaison)

John Norman (Council Liaison)

Eligibility Requirements: Members shall be thoroughly familiar with Chapter 351, "Municipal Hotel Occupancy Taxes", 1 Member Representative of Hotel/Motel Association.

MIDLAND CENTRAL APPRAISAL DISTRICT BOARD OF DIRECTORS

(Separate Legal Entity)

Five Directors, Elected by Local Taxing Entities.

City Nominates/Cast Vote for one Director

(Terms - 2 Years)

	<u>Appt Date</u>	<u>Term Expires</u>
Robert McNaughton	11/15	Dec 31 2024

MIDLAND DEVELOPMENT CORPORATION

(Decision Making/Separate Legal Entity)

(Membership - 7; Terms -3 Years - Staggered)

	<u>Appt Date</u>	<u>Term Expires</u>	<u>Eligibility Expires</u>
Chase Gardaphe	01/19	Jan 14 2025	Jan 14 2025
Barry Simpson	01/19	Jan 14 2025	Jan 14 2025
Brad Bullock	04/21*	Jan 14 2026	Jan 14 2029
Lucy Sisniega	02/22	Jan 14 2025	Jan 14 2028
P Lourcey Sams	04/20*	Jan 14 2026	Jan 14 2026
Jill Pennington	04/20*	Jan 14 2026	Jan 14 2026
Zachary Deck	01/23	Jan 14 2026	Jan 14 2029

Vanessa Magallanes (Liaison)

Amy Stretcher-Burkes (Council Liaison)

Lori Blong – Mayor (Council Liaison)

Eligibility Requirements: No director or employee shall be related to a current City Council member.

* Indicates appointment to an unexpired term.

MIDLAND DOWNTOWN PARK CONSERVANCY BOARD

(Separate Legal Entity)

(Membership - 7; City Appoints 3 Seats; Terms -3 Years - Staggered)

(Resolution of appointment is made each February and each appointment must be ratified by the Conservancy Board in March at their annual meeting)

	<u>Appt Date</u>	<u>Term Expires</u>	<u>Eligibility Expires</u>
Barry Beal Jr.	08/18	Sep 30 2024	Sep 30 2024
David Byrd (Elvie Brown)	08/18 (02/23)	Sep 30 2023	Sep 30 2023
Sharla Hotchkiss	07/20*	Sep 30 2025	Sep 30 2028

MIDLAND HIGHER EDUCATION FACILITIES CORPORATION

(Membership - 7; Terms - 2 Years Staggered)

	<u>Appt Date</u>	<u>Term Expires</u>	<u>Eligibility Expires</u>
Steve Jones	09/08*	Jan 1 2010	Jan 1 2012
Cathy Oestmann	11/05*	Jan 1 2010	Jan 1 2010
Vacancy		Jan 1 2007	
Vacancy		Jan 1 2007	
Vacancy		Jan 1 2007	
Vacancy		Jan 1 2009	
Curt Kamradt	11/05*	Jan 1 2014	Jan 1 2014

Sharla Hotchkiss (Liaison)

MIDLAND HOUSING AUTHORITY COMMISSION

(Separate Legal Entity)

(Membership - 5; Terms - 2 Years expiring 3 even & 2 odd.)

Appointments Made by Mayor (LGC 392.031)

	<u>Appt Date</u>	<u>Term Expires</u>
Latoya Mayberry	06/21	Oct 2023
Sylvester Cantu	09/18*	Oct 2023
Cheryl Wadley (Resident Commissioner)	11/19	Oct 2023
Wes Gotcher	09/20	Oct 2024
Robert Lehrer	09/20	Oct 2024

Isaac Garnett (Staff Liaison)

Eligibility Requirements: No member may be an officer or employee of the City of Midland.

MIDLAND-ODESSA URBAN TRANSIT DISTRICT BOARD

(Decision Making/Separate Legal Entity)

(Membership – 12 with 6 appointed by Midland; Terms - 2 Years Staggered; Can serve 3 terms)

	<u>Appt Date</u>	<u>Term Expires</u>	<u>Eligibility Expires</u>
Joseph Sanchez	12/19*	Sept 30 2023	Sept 30 2027
Daniel Norwood	04/21*	Sept 30 2023	Sept 30 2029
Brian Stubbs	06/22*	Sept 30 2023	Sept 30 2029
Don "Woody" Woodward	09/22	Sept 30 2024	Sept 30 2028
Dan Corrales	09/22	Sept 30 2024	Sept 30 2028
Robert Crites	10/22	Sept 30 2024	Sept 30 2028

Charles Harrington (Liaison)

MIDLAND SPACEPORT DEVELOPMENT CORPORATION

(Decision Making)

(Membership – 7 with 4 appointed by City of Midland & 3 by Midland County; 2 Year-Terms)

	<u>Appt Date</u>	<u>Term Expires</u>
Lori Blong (City)	04/23	Sept 30 2025
Robin Poole (City)	04/23	Sept 30 2025
Amy Stretcher Burkes (City)	04/23	Sept 30 2025
Frank Kisner (City)	04/23	Sept 30 2025
Judge Terry Johnson (County)	04/23	Sept 30 2025
Luis Sanchez (County)	04/23	Sept 30 2025
Ed Anderson	04/23	Sept 30 2025

Justine Ruff (Liaison)

OIL AND GAS ADVISORY COMMITTEE

(Advisory)

(Membership – 5; Terms – 3 Years expiring 2-2-1)

2 real property developer, real estate sales, or developer; 3 Lic. petroleum engineer, engineer w/ bachelor, or geologist

	<u>Appt Date</u>	<u>Term Expires</u>	<u>Eligibility Expires</u>
Court Adkins (Petroleum Eng.)	09/17	Sept 30 2023	Sept 30 2023
Rhett Bullock (Petroleum Eng.)	09/21	Sept 30 2024	Sept 30 2027
Cameron Willmann (Real Estate)	10/21*	Sept 30 2024	Sept 30 2027
Scott Bowden (Real Estate)	10/19	Sept 30 2025	Sept 30 2025
Ross Klabon (Petroleum Eng.)	10/19	Sept 30 2025	Sept 30 2025

Ron Jenkins (Liaison)

Eligibility Requirements: 3 Petroleum Engineers or Geologists and 2 with Property Development or Real Estate Experience.

PACKET

29.5

September 12, 2023

* Indicates appointment to an unexpired term.

PARKS AND RECREATION COMMISSION

(Advisory)

(Membership - 9; Terms - 3 Years expiring 3-3-3.)

	<u>Appt Date</u>	<u>Term Expires</u>	<u>Eligibility Expires</u>
Susannah Prucka	04/20*	Sept 30 2023	Sept 30 2026
Dal Watson	09/20	Sept 30 2023	Sept 30 2026
VACANT(Stroman)	09/20	Sept 30 2023	Sept 30 2026
Shirley Howard	02/16*	Sept 30 2024	Sept 30 2024
Laura Smith	10/19	Sept 30 2025	Sept 30 2025
Amber Voithorer	09/22	Sept 30 2025	Sept 30 2028
Rachel Overman	09/22	Sept 30 2025	Sept 30 2028
Sarah Judge	09/22	Sept 30 2025	Sept 30 2028
Lynn Rogers	09/22	Sept 30 2025	Sept 30 2028

Cristina Odenburg-Burns (Liaison)

John Norman (Council Liaison)

Eligibility Requirements: Resident Citizen, Taxpayer and Qualified Voter.**PERMIAN BASIN COMMUNITY CENTER FOR MH/MR (PermiaCare)**

(Separate Legal Entity)

(Membership 9 - 2 (City); Terms - 2 Years)

	<u>Appt Date</u>	<u>Term Expires</u>
Derek Cook (City)	06/21	June 2025
VACANT (Peckham) (City)	08/20	June 2024

PERSONNEL BOARD OF APPEALS

(Decision Making)

(Membership - 3; No designated terms. Mayor appoints.)

	<u>Appt. Date</u>
Scott Dufford	01/14
Hugh A. "Andy" Shaffer	09/05
Patrick Payton	01/20

Mark Widman (Liaison)

Eligibility Requirements: Board consists of two City Council members and one other member who is not a City employee.

PLANNING AND ZONING COMMISSION

(Decision Making)

(Membership - 7; Terms - 3 Years)

	<u>Appt Date</u>	<u>Term Expires</u>	<u>Eligibility Expires</u>
Diane Williams	09/17	Sept 30 2023	Sept 30 2023
Lucy Sisniega	09/20	Sept 30 2023	Sept 30 2026
Zachary Deck	09/20	Sept 30 2023	Sept 30 2026
Adrian Carrasco	09/21	Sept 30 2024	Sept 30 2027
Emily Holeva	09/22	Sept 30 2025	Sept 30 2028
Abraham Bejil	09/22	Sept 30 2025	Sept 30 2028
Steven Villela	05/23*	Sept 30 2026	Sept 30 2029

ALTERNATES:

VACANT (Dillow)	09/21	Sept 30 2024	Sept 30 2027
Sallie Vega	09/22	Sept 30 2025	Sept 30 2028

Jeff Fisher (Liaison)

Eligibility Requirements: Resident citizen of City of Midland, owner of real property within the City Limits and qualified Voter.

ZONING BOARD OF ADJUSTMENT**AND****AIRPORT ZONING BOARD OF ADJUSTMENT**

(Decision Making)

(Membership - 5; Terms - 2 Years expiring 3 odd & 2 even.)

	<u>Appt Date</u>	<u>Term Expires</u>	<u>Eligibility Expires</u>
Derek Whiting	01/18*	Sept 30 2023	Sept 30 2023
E.J. Baldridge	02/18*	Sept 30 2023	Sept 30 2023
Robert Gray	01/21*	Sept 30 2023	Sept 30 2027
Reed Claybrook	03/19*	Sept 30 2024	Sept 30 2024
James Gerety	10/22	Sept 30 2024	Sept 30 2026

ALTERNATES: (not applicable to Airport Zoning)

Ross Schumann	Sept 30 2025
VACANCY	Sept 30 2020
VACANCY	Sept 30 2020
VACANCY	Sept 30 2020

Keith Dietderich (Staff Liaison)

****Updated: September 5, 2023****

PACKET

29.7

September 12, 2023

* Indicates appointment to an unexpired term.

Page 7 of 7

City of Midland
City Secretary's Office

Interoffice Memorandum

Date: September 12, 2023

To: The Honorable Mayor Blong and Council

From: Marcia Bentley-German, City Governance Officer/City Secretary

Subject: Open Enrollment Applications - Boards and Commissions

Dear Council, included within this packet are the applications received during the 2023-2024 Boards and Commissions open enrollment recruitment, attendance records and those who are interested or not interested in serving on a Board or Commission.

The following individuals who are currently serving are interested in continuing their service on a Board or Commission:

Airport Planning & Development

Benjamin Fietz
Gina Linebarger

Citizens Development & Hotel/Motel Advisory

Vickey Hailey

Midland housing authority Commission

Cheryl Wadley

Midland-Odessa Urban Transit District (MOUTD)

Daniel Norwood
Joseph Sanchez

Parks & Recreation

Dal Watson

Permian Basin Community Center for MH/MR (PermiaCare)

Derek Cook

Planning & Zoning Commission

Susannah "Suzy" Prucka

The following individuals who are currently serving are **NOT** interested in continuing their service:

Parks & Recreation

Ron Stroman

Zoning Board of Adjustment & Airport Zoning Board of Adjustment

Robert Cox

Yearly attendance Records were turned in for the following Boards & Commissions:

Animal Control Advisory Commission

Midland Development Corporation

Midland Housing authority Commission

Midland-Odessa Urban Transit District (MOUSD)

Permian Basin Community Center for MH/MR (PermianCare)

Planning and Zoning Commission

Zoning Board of Adjustment & Airport Zoning Board of Adjustment

Boards & Commissions Vacancies & Re-Appointments

Airport Planning & Development Board

- 2 – Vacancies
- 2 – Re-Appointments

Capital Improvement Advisory Committee

- 1 – Vacancy

Citizens Development & Hotel/Motel Advisory Board

- 1 – Vacancy
- 2 – Re-Appointments

Midland Housing Authority Commission

- 3 – Re-Appointments

Midland-Odessa Urban Transit District Board

- 3 – Re-Appointments

Oil & Gas Advisory Committee

- 1 - Vacancy

Parks & Recreation

- 1 – Vacancy
- 2 – Re-Appointments

Permian Basin Community Centers for MH/MR (PermiaCare)

- 1 – Vacancy

Planning & Zoning Commission

- 3 – Vacancies

Zoning Board of Adjustment & Airport Zoning Board of Adjustment

- 3 – Vacancies
- 3 – Alternate Vacancies

Name & DistrictBoard/ Commission (s) applied for:

Eduardo Aleman (2)	P&Z
Savannah Alvarado (3)	P&R
Manny Aranda (3)	P&R
Raymond Doss (4)	P&Z
Mason Sparacino (1)	P&Z, P&R
Billy Gibbs (3)	P&Z
Henry Strickland (4)	P&Z
Shonna Garcia (3)	P&Z
Gustavo Gonzalez (4)	O&G
J. Brian Martin (1)	P&Z
Brennan Berry (3)	APDB, P&Z
Christina Tumbusch (1)	P&R, ACAC
Jeanne Morales (4)	P&R
Daniel Norwood (3)	ACAC, P&R
Lidia Rodriguez (1)	P&R
Melissa Mosier (2)	APDB, MHAC, ACAC, PPCC, P&Z
Jackie MacFarlane (4)	P&R
Kevon Rogers (4)	P&R
Lori VanHoozer (1)	ACAC
Wade McClendon (3)	APDB, CDHMAB, O&G
Camille Killian (1)	P&Z, O&G
Dante Perez (1)	O&G
Laura Watkins (3)	P&Z
Melanie Robertson (1)	P&Z, O&G, APDB
Adam Cunyus (3)	P&Z
Ryan Buck (4)	O&G, APDB
Ryan Clink (4)	CDHMAB
Joshua Sparks (1)	P&Z
Heather Bredimus (1)	CDHMAB

Name & DistrictBoard/ Commission (s) applied for:

Christopher M. Butler (4)	ARDB,P&Z
Claudius Sanchez Czyzewska (3)	APDB
Robert R “Robin” Donnelly (1)	APDB
Jordan Dyer (3)	APDB, CDHMAB
R Gary Gray (1)	APDB
Linda Griffin (3)	MHAC
Layton Hargesheimer (3)	O&G, APDB
Dustin Joe Johnson (3)	P&R
Samuel Jolliffe V (2)	APDB
Lilliana Lopez (4)	MHAC
Chris Nolan (3)	MDC, APDB
Neville Peyton (2)	MHAC
Melissa Ruckman (4)	P&Z
Erin Bailey (3)	P&R
Parker Landis (3)	P&R
Mickey Cargile (4)	PBCC
Ryan Elizabeth Coulehan (4)	ASAC
Anthony Colton (1)	P&R, P&Z
Andra Lancaster Jones (3)	P&R
Vicky Bakhos Webb (3)	PBCC, P&Z
Archia Jones Word (2)	MHAC, PBCC
Elizah Don Arp (1)	P&Z
Aaron Urquieta (3)	P&Z
Ciara McDaniel (3)	O&G, P&R, P&Z
Joseph Schwab (1)	O&G, P&R, CDHMAB
Kari Hennagin (3)	CDHMAB
Pete Ruiz (3)	MHAC
J. Andrew DeWoody (4)	O&G
Martin Silva (1)	P&Z, MHAC
Dillon Custer (3)	BGHWBCC, CDHMAB
Michelle Evans (1)	MHAC
Kyle Jamerson (4)	MHAC, P&Z
Diana Trejo-Mesa (1)	P&Z, P&R, CDHMAB
John T. Echols (4)	APDB
Jeff Hansard (1)	CDHMAB, MHAC
Tucker Shneemann (4)	BGHWBCC, CIAC

Name & DistrictBoard/ Commission (s) applied for:

Thomas F. Prehn(3)	O&G
Randall Milloy (4)	BGHWBCC, Any Board
Kevin L. Nelson (1)	BGHWBCC
Lauren Garrett (3)	P&R
Lindsay Childress (3)	P&Z
David C. Grigsby (LATE) (3)	APDB, P&Z
Brian Stubbs (LATE) (1)	APDB, P&Z
John Burkholder (Late) (4)	P&Z
Steve Metzger (late) (1)	BGHWBCC

Airport Planning & Development Board	Animal Control Advisory Commission	Building & Fire Code Review Committee	Capital Improvement Advisory Committee	Citizens Development & Hotel/Motel Advisory Board	Midland Central Appraisal District Board of Directors	Midland Development Corporation	Midland Downtown Park Conservancy Board
Brennan Berry	Melissa Mosier	Randall Milloy	Tucker Schneemann	Wade McClendon	Randall Milloy	Randall Milloy	Randall Milloy
Melissa Mosier	Christina Tumbusch		Randall Milloy	Jordan Dyer			
Wade McClendon	Daniel Norwood			Ryan Clink			
Melanie Robertson	Lori VanHoozer			Heather Bredimus			
Ryan Buck	Ryan E. Coulehan			Joseph Schwab			
Christopher Butler	Randall Milloy			Kari Hennagin			
Claudius Sanchez				Dillon Custer			
Robin Donnelly				Diana Trejo-Mesa			
Jordan Dyer				Jeff Hansard			
Samuel Jolliffe V				Randall Milloy			
Chris Nolan							
Gary Gray							
Layton Hargesheimer							
John T. Echols							
Randall Milloy							
David C. Grigsby							
Brian Stubbs							

Midland Housing Authority Commission	Midland-Odessa Urban Transit District Board	Oil & Gas Advisory Committee	Parks & Recreation Commission	Permian Basin Community Center for MH/MR PermianCare	Personnel Board of Appeals	Planning & Zoning Commission	Zoning Board of Adjustment & Airport Zoning Board of Adjustment
Melissa Mosier	Randall Milloy	Wade McClendon	Savannah Alvarado	Melissa Mosier	Randall Milloy	Brennan Berry	Randall Milloy
Linda Griffin		Melanie Robertson	Manny Aranda	Mickey Cargile		Melissa Mosier	
Liliana Lopez		Ryan Buck	Mason Sparacino	Vicky Bakhos Webb		Melanie Robertson	
Neville Peyton		Layton Hargesheimer	Christina Tumbusch	Archia Jones Word		Christopher Butler	
Archia Jones Word		Gustavo Gonzalez	Jeanne Morales	Randall Milloy		Eduardo Aleman	
Pete Ruiz		Camille Killian	Daniel Norwood			Raymond Doss	
Martin Silva		Dante Perez	Lidia Rodriguez			Billy Gibbs	
Michelle M. Evans		Ciara McDaniel	Jackie MacFarlane				
Kyle Jamerson		Joseph Schwab	Kevon Rogers			Shonna Garcia	
Jeff Hansard		J. Andrew DeWoody	Dustin Joe Johnson			Mason Sparacino	
Randall Milloy		Thomas F. Prehn	Henry Strickland			J. Brian Martin	
		Randall Milloy	Erin Bailey			Camille Killian	
			Parker Landis			Laura Watkins	
			Andra Lancaster Jones			Adam Cunyus	
			Anthony Colton			Joshua Sparks	
			Ciara McDaniel			Melissa Ruckman	
			Joseph Schwab			Elizah Don Arp	
			Diana Trejo-Mesa			Aaron Urquieta	
			Randall Milloy			Ciara McDaniel	

			Lauren Garrett			Martin Silva	
						Kyle Jamerson	
						Diana Trejo-Mesa	
						Randall Milloy	
						Lindsay Childress	
						David C. Grigsby	
						Brian Stubbs	
						John Burkholder	

1



APPLICATION FOR CITY OF MIDLAND
BOARDS/COMMISSIONS/COMMITTEES

As an applicant for a City board, commission, or committee, please be advised that all information on this application is subject to the Texas Open Records Act and will be available to the public.

PLEASE TYPE OR PRINT CLEARLY:

Name: Steve Melzer
Address: 4529 Corsair Ct
Midland TX 79707
(City) (State) (Zip)

Date: 9/31/2023
Phone: 432-694-5910 (Home)
432-682-7664 (Business)
Email: melzeris@aol.com

I am ☒ I am not ☐ a U.S. Citizen

Please tell us about yourself:

Are you a graduate of Midland 101? ☒ yes ☐ no

I have lived in Midland 50 years.

Occupation: CONSULTANT

Professional and/or Community Activities:

MEMBER OF BOARD OF DIRECTORS, MIDLAND AREA CHAMBER OF COMMERCE (P&T)
MEMBER OF BOARD OF DIRECTORS, MIDLAND AREA CHAMBER OF COMMERCE (P&T)
MEMBER OF BOARD OF DIRECTORS, MIDLAND AREA CHAMBER OF COMMERCE (P&T)

What is your personal vision for the City?

WISHS CONTINUED DEVELOPMENT & CONTINUATION OF MIDLAND AS THE
REGIONAL CENTER OF THE PERMIAN BASIN; CONTINUED DEVELOPMENT OF
DOWNTOWN MIDLAND AS SOCIAL & TECHNICAL HUB OF ACTIVITY

Please specify any time constraints you may have.

OCCASIONAL TRAVEL

Please list below the Board(s) or Commission(s) on which you are interested in serving:

(You can find a complete and current list on the City's website at)

(1) Name of Board/Commission:

Barbara & George H.W. Bush Convention Center Advisory Board (Advisory)

Please tell us why you are interested in serving on this board or commission.

VERY FAMILIAR WITH STAFF & BCC FACILITY, DESIRE TO TRAVEL
COMMUNITY IN FUTURE UTILIZATION OF FACILITY

What contribution would you most like to make?

FACILITATION OF CONTINUED ACTIVITY & USE OF FACILITY

Additional pertinent information or references:

BUSH STAFF; BOBBY BURNS

(2) Name of Board/Commission:

Barbara & George H.W. Bush Convention Center Advisory Board (Advisory)

What contribution would you most like to make?

SEE ABOVE

Additional pertinent information or references:

SEE ABOVE

Applications are maintained on file in the City Secretary's office for a period of one year. Should you need additional information, please call us at 432-685-7430.

Signature of Applicant

L. Gonzalez

Applications may be submitted online via email or print in order to send by mail or fax:

City of Midland

City Secretary's Office

PO Box 1152

Midland, TX 79702

FAX: (432) 685-7433



APPLICATION FOR CITY OF MIDLAND BOARDS/COMMISSIONS/COMMITTEES

As an applicant for a City board, commission, or committee, please be advised that all information on this application is subject to the Texas Open Records Act and will be available to the public.

PLEASE TYPE OR PRINT CLEARLY:

Name: John Burkholder

Address: 6406 Mockingbird Lane

Midland TX 79707

(City)

(State)

(Zip)

I am ☒ I am not ☐ a U.S. Citizen

Please tell us about yourself:

I have lived in Midland ²¹ years.

Professional and/or Community Activities:

I am a member of the Permian Basin Pipeliners Association, I am an instructor at Midland Martial Arts and teach Tae Kwon Do to kids 2-3 days a week, I serve in the childrens ministry at Stonegate Fellowship Church, I am on the KTR committee for Midland Classical Academy.

What is your personal vision for the City?

As a long term citizen, I want to be a part in developing the city in a way that respects the residents, encourages responsible growth of industry, and creates an environment where people look forward to moving to Midland and becoming long time residents.

Please specify any time constraints you may have.

I have a very flexible schedule.

Please list below the Board(s) or Commission(s) on which you are interested in serving:

(You can find a complete and current list on the City's website at www.midlandtexas.gov)

(1) Name of Board/Commission:

Planning and Zoning

Please tell us why you are interested in serving on this board or commission.

I want to help Midland develop in a way the promotes positive growth so our residents and industries can thrive, all while respecting the environment and the needs of our community.

Date: 8/21/2023

Phone: 432-556-6784 (Home)

(Business)

Email: Johnrb77@gmail.com

Are you a graduate of Midland 101? ☐ yes ☒ no

Occupation: Executive Management/Director

What contribution would you most like to make?

I want to serve my community by listening to their needs, concerns, complaints, and acting on those issues accordingly.

Midland will grow. If I can help make decisions to steer that growth in a positive direction that benefits all of Midlands residents, I will be happy with my contributions.

Additional pertinent information or references:

Amy Stretcher Burkes- 432-528-2009

Callie Stevens- 432-967-1059

Dee Moorhouse- 432-559-1155

(2) Name of Board/Commission:

What contribution would you most like to make?

Additional pertinent information or references:

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Signature of Applicant



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City of Midland
City Secretary's Office
PO Box 1152
Midland, TX 79702

Submit Via Email

Print Application



APPLICATION FOR CITY OF MIDLAND BOARDS/COMMISSIONS/COMMITTEES

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PLEASE TYPE OR PRINT CLEARLY:

Name: David Cade Grigsby

Address: 1311 Lawson Avenue

Midland TX 79701

(City)

(State)

(Zip)

I am ☒ I am not ☐ a U.S. Citizen

Please tell us about yourself:

I have lived in Midland 22 years.

Professional and/or Community Activities:

Lynch, Chappell & Alsup - Associate Attorney

Community Children's Clinic Foundation - Board Member

Date: 8/11/2023

Phone: 432-212-7878 (Home)

432-688-1380 (Business)

Email: cgrigsby@lcalawfirm.com

Are you a graduate of Midland 101? ☐ yes ☒ no

Occupation: Attorney

What is your personal vision for the City?

For Midland to reach its full potential and work for all its citizens.

Please specify any time constraints you may have.

None. Meetings times are known in advance so I can plan around them.

Please list below the Board(s) or Commission(s) on which you are interested in serving:

(You can find a complete and current list on the City's website at www.midlandtexas.gov)

(1) Name of Board/Commission:

Airport Planning and Development Board

Please tell us why you are interested in serving on this board or commission.

Midland International is one of Midland's greatest assets. It sets Midland apart from other similarly sized towns. I want to be a part of maintaining and improving this key asset continues to play its crucial role in our community. Second, Aviation has always been

one of my top interests. I would thoroughly enjoy being in a position where I can use this for the benefit of my community.

What contribution would you most like to make?

To keep Midland's airports up to date and expand their crucial role in our community.

Additional pertinent information or references:

I have assisted clients with hangar leases at Odessa Schlemeyer, so I am familiar with dealing with city/county government when it comes to airports.

(2) Name of Board/Commission:

Planning and Zoning Commission

What contribution would you most like to make?

I would like to be involved in the continued development of Midland and Planning and Zoning is the best place to be involved.

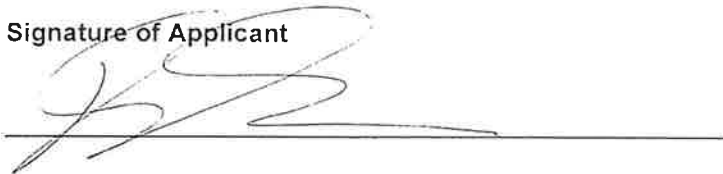
Midland continues to grow and more and more opportunities come every day. I want to use my background and experience to help the city make well informed and responsible decisions about its development.

Additional pertinent information or references:

As a transactional attorney, I have worked on many real estate transactions. My experience and knowledge in this area would make me a valuable asset to the Planning and Zoning Committee.

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Signature of Applicant



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Print Application



APPLICATION FOR CITY OF MIDLAND BOARDS/COMMISSIONS/COMMITTEES

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PLEASE TYPE OR PRINT CLEARLY:

Name: Brian Stubbs

Address: 4901 Kingsboro Ct

Midland Texas 79705

(City)

(State)

(Zip)

I am ☒ I am not ☐ a U.S. Citizen

Please tell us about yourself:

I have lived in Midland 9 **years.**

Professional and/or Community Activities:

REACH school board founding member and secretary/treasure, Communities in Schools board member and secretary, Leadership

Midland graduate (2018), Midland Chamber of Commerce board member, Educational Partnership of the Permian Basin board

member, Association of Ingersoll Rand Distributor board member, Education Midland board member and past president.

What is your personal vision for the City?

For Midland to be a great place to live while leading the world in energy production. To allow the great people of Midland, who are
very philanthropic, to show how communities should take care of themselves, provide for others, and continue to grow for all of the
world to see. Midland should be a leader in both the energy industry, but also in what truly great cities look like.

Please specify any time constraints you may have.

I am fairly flexible as long as I have some advance notice due to owning my own business.

Date: 8/13/2023

Phone: 432-413-3455 (Home)

432-335-5900 (Business)

Email: brianstubbs2002@yahoo.com

Are you a graduate of Midland 101? ☐ yes ☒ no

Occupation: Engineer and Business Owner

Please list below the Board(s) or Commission(s) on which you are interested in serving:

(You can find a complete and current list on the City's website at www.midlandtexas.gov)

(1) Name of Board/Commission:

Airport Planning and Development Board

Please tell us why you are interested in serving on this board or commission.

With Midland's location, our airport is the first place many visitors see when visiting. It is critical for our growth the airport be
impressive to visitors, but also we need to insure it is meeting the needs of both local and visiting consumers that use the facility.

What contribution would you most like to make?

Ensure the facilities are keep up to date, in good working condition, and appealing to all that use it. I will bring focus to this board to organize critical work and ensure we are using all of our resources to the maximum capability. I will bring stratigic thinking to ensure we are looking at both long-term and short-term needs with solutions to best fit this great facility.

Additional pertinent information or references:

As a business owner in this community, the airport is a lifeline to our business with visitors coming in and us visiting other locations. This makes this board critical to almost every bussiness in the area and it needs strong leaders with great decision making skills to ensure it is meeting the needs of our community. I believe I can bring these traits to this board.

(2) Name of Board/Commission:

Planning and Zoning Commission

What contribution would you most like to make?

I believe this is truely and simply the future of Midland. As I grow our business in our region, it has become clear this work is critical to all of our success. Growth is critical to cities the size of Midland, and how we grow is just as critical. I believe I could bring problem solving skills, decisions making, strategic planning, and a passion to do what is right for Midland.

Additional pertinent information or references:

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Signature of Applicant



Applications may be submitted online via email or print in order to send by mail:

City of Midland

City Secretary's Office

PO Box 1152

Midland, TX 79702

Submit Via Email

Print Application

BRIAN STUBBS

4901 Kingsboro Court
Midland, Texas 79705

Cell Phone: 432-413-3455
Email: brianstubbs2002@yahoo.com

PROFESSIONAL EXPERIENCE

- Proven leadership in multiple situations, organizations, and industries.
- Experience leading and building dynamic groups toward a common goal by implementing common processes, setting expectations, and building high performing cultures.
- Quick learner and ability to lead projects and direct teams while learning new technology.
- Ability to prioritize and delegate when needed to focus on what is important.
- Software: Matlab, Minitab, AutoCad, Pro E, Solid Works, Microsoft Excel, Microsoft Word, Microsoft Visio, Microsoft PowerPoint, Microsoft Schedule, Lotus Notes, Calterm, and PFW management software.
- Six Sigma Tools: Failure Mode Effects Analysis, Fault Tree Analysis, Measurement System Analysis, KJ's, Design of Experiments, Multi-Vari Analysis, ANOVA, Pugh Matrix and GD&T.
- Six Sigma Certifications: Cummins DMAIC Black Belt Certification, Cummins DFSS Green Belt Certified, and Cummins Sponsor Certified.
- Fabrication Tools: Mig Welding, Lathe, Mill, Basic Metal Working, and Advanced Wood Working.

WORK EXPERIENCE

Air Compressor Solutions, Odessa, Texas

President/Owner

11/2017 to Present

- Grow company from \$14MM in revenue (2017) to \$38MM in revenue (2022).
- Opened 3 branch locations (Amarillo Tx, El Paso TX, and Albuquerque NM).
- Add new brands and equipment to our product line.
- Implemented multiple training and organizational programs to grow our business from 18 employees to over 80 employees.
- Won the Distributor of the year award from Ingersoll Rand in 2020.
- Continuing all responsibility of the General Manager position.

General Manager

04/2016 to 11/2017

- Managed all aspects of the company including rentals, parts sales, service, whole good sales, accounting, administration, HR and safety.
- Lead company from a minor loss in 2016 during an oil and gas downturn to being profitably in 2017 with a 60% increase in revenue. 2017 was a company record in revenue and net profit in the company's 16-year history.
- Working to preserve our market share and health of the company through the Oil and Gas market downturn from July 2015 to the end of 2016.
- Worked to prepare and focus on training of our team to better grow our employees to be more capable in their current roles.
- Lead effort to increase our efficiency and communication between our departments to increase overall business efficiency by implementing a new management structure and changing the management team's focus on our customers and employees.

BRIAN STUBBS

- Manage the financial health and reporting of the company through both a down-turn and up-turn in our business.
- Have renewed our focus on customer service by setting expectations for employees and working to improve our processes.
- Evaluated our current work force and worked to decrease the number of skill gaps and worked to balance work load across departments and individual teams.
- Worked with our major vendors on new product development and setting up new products in our business to be able to react to changes in customer needs more quickly.

Product Line Manager

07/2015 to 4/2016

- Leading integration of new natural gas generator line into business. Working with supplier and existing team to understand and develop new product line.
- Working to find ways to grow business during economic downturn by adding new product lines, building relationships with current customers, finding new customers, and improving company processes.
- Leading effort to add technical knowledge to existing company to grow our presence in the generator industry for the Permian Basin. I led the change to build a new department for generator support including sales, service, parts, support and possible engineering.
- Led work to become an engine distributor for three new engine lines (Cummins, PSI, and Doosan) that will increase our service and parts business.
- Working with the service department to understand our customer's needs and how we can exceed their expectations.
- Completed a project to manage our accounts receivable process to identify, track and contact possible customers that might not be able to pay outstanding invoices.

CSI Compressco, Inc., Midland, Texas

Senior Project Manager

06/2014 to 07/2015

- Lead highly specified domestic and international projects from initial customer meetings through the end of fabrication and documentation.
- Developing Compressor, Pump and aftermarket packages for multiple customers.
- Main contact for customers, vendors, engineering, drafting and fabrication to coordinate information, changes, design decisions, schedules and technical information.
- Coordinated and completed project schedules with vendor information, customer expectations and company resources to keep project on schedule, on budget, and ensure customers are well informed.
- Lead team to solve problems with the packages involving vendors, customers, engineering, drafting and the production team. Problems range from specification questions, design best practices, interference issues, change orders, and scheduling.
- Leading and implanting improvement processes for the company including overall engineering approval and design, drafting work load, drawing approval, change order approval, change order impact studies, manufacturing recovery plan development, and improved communication between departments.

BRIAN STUBBS

Advanced Green Innovations, Chandler, Arizona

Director of Validation and Integration

08/2011 to 06/2014

- Built new validation and integration team from zero to 42 team members of a new startup company to develop green technology.
- Championed and implemented numerous new processes to organize the team, increase efficiencies, complete on-boarding of new employees, and make substantial progress on projects.
- Started, led, and directed new Validation, Test operations, Service, Controls, Performance, Reliability, and Vehicle Testing teams.
- Managed a \$20 million dollar budget for all aspects of the engineering process.
- Developed strategies to maximize resources to complete needed tasks during a new product development cycle.
- Led the development of a new control, testing, combustion, and validation system.
- Found innovative solutions to problems to reduce the time, cost, and needed resources with limited resources, existing infrastructure and existing processes.
- Led team to determine the best first product launch of new technology taking in consideration all aspects of the launch process including customer base, market trends, regulatory restrictions, product capability and others.
- Worked to determine regulatory requirements (CARB and EPA) of new products.

Cummins Inc., Columbus, Indiana

Heavy Duty Six Sigma Black Belt

02/2010 to 08/2011

- Worked as Heavy Duty OBD Lead for 2013 to help Heavy Duty new product program remain on schedule.
- Led Six Sigma Black Belt projects to completion.
 - Improved idle fuel economy while maintaining after treatment temperatures for Heavy Duty ISX Family X1 2010 products.
 - Improve accuracy and decrease time to evaluate changes to products with OBD systems.
 - Determine a process for measuring high frequency surface features on all Cummins pin and main journal surface by implementing a new Harmonic tolerance.
 - Improve process of acquiring Fuel Economy data in the Cyber Cells while comparing fuel economy data between the 2007 and 2010 ISX products.
 - Nominated for Six Sigma Chairman Award.
 - Determination of End of Useful Life (EUL) components to meet 2013 On Board Diagnostic requirements.
 - Development of a plan and process to reduce the number of OBD deficiencies for the 2013 product.

Heavy Duty After-Treatment Diagnostic Leader

09/2009 to 02/2010

- Led the development, testing and validation of the after-treatment diagnostics (OBD) for the 2010 Heavy Duty products (ISX 15L and ISX 11.9L).
- Conducted cold weather testing to validate diagnostics in Yellowknife, Canada and Prudhoe Bay, Alaska.

BRIAN STUBBS

Heavy Duty Direct EGR Cooler Integrator

12/2008 to 09/2009

- Leader of the development team of the new Air-to-Air EGR cooler to be used in series with the existing EGR cooler for 2010 Heavy Duty products and sourced by OEM.
- Managed all aspect of integrating new technology in OEM's trucks and other applications to ensure sufficient cooling and sizing in multiple applications.
- Worked with multiple suppliers that were selected by our customers to ensure they met the requirements of the engine platform and application.

Heavy Duty 13 Liter Air Handling Leader

06/2007 to 09/2009

- Led the Air Handling team for a new engine platform manufactured in China.
- Worked to develop the OEM engineering team based in Wuhan, China.
- Led project to build first North America version based on China platform.
- Managed both the Air Handling team and DEGR team from December 2007 to September 2008.

Heavy Duty Air Handling Designer

01/2007 to 06/2007

- Led design of new engine platform manufactured in China for the Air Handling systems including intake air system, exhaust manifold, turbocharger, and crank case breather.
- Helped lead the OEM team to learn the Cummins processes in design and development based in China.

Industrial Natural Gas Mechanical Development Engineer

06/2003 to 01/2007

- Worked to implement new designs on a 19-liter natural gas engine in small plant environment.
- Worked with manufacturing, design, test support, and marketing to implement new 19 liter stationary engine platform.
- Led numerous mechanical develop projects on new projects including pistons, ignition systems, air handling components, and fuel systems.

Cummins Natural Gas Engines, Clovis, New Mexico

Natural Gas Mechanical Engineer

02/2002 to 06/2003

- Completed numerous designs on 8 different sized industrial gas, stationary engines including air handling, packaging, ignition, fuel system, and base engine.
- Conducted tests in dynamometer test cells to validate and test new components.
- Worked with production to solve installation issues and improve manufacturability.
- Supported Service and Marketing to solve issues for customers and new installations.

EDUCATION

New Mexico State University, Las Cruces, New Mexico

08/1996 to 12/2001

- Bachelor's Degree in Mechanical Engineering.

ACCOMPLISHMENTS

- Appointed to the Association of Ingersoll Rand Distributors Board of Governors, 9/2021 to

BRIAN STUBBS

Present.

- Midland Chamber of Commerce Board Member, 8/2021 to Present.
 - Vice President of promotions, 8.2021 to present
- REACH Network School Board Member, 5/2019 to Present.
 - Founding member of board and negotiated contract for school system with local school district.
 - Treasure, 1/2022 to Present.
 - Secretary, 5/2019 to Present.
- Educational Partnership of the Permian Basin Executive Board Member.
 - Join organization after helping lead the joining with Educate Midland in 2021.
 - Secretary, 10/2021 to present
- Completed Leadership Midland training through the Midland Chamber of Commerce.
 - Member of Leadership Midland Development Committee leading government coarse, 2018 to 2021.
- Completed the Generations course through the Non-Profit Management Center to be trained to be a non-profit board member, 5/2017.
- Member of the Chamber of Commerce Education Committee, 11/2016 to 11/2021.
 - Nominated to be ambassador for Burnett Elementary school, 8/2017 to 7/2018.
 - Nominated to be ambassador for Carver Elementary school, 8/2018 to present.
- Appointed to board for Committees in School of the Permian Basin, 9/2017 to present.
 - Secretary 1/2020 to 8/2022
 - Vice President 8/2022 to Present.
- Appointed to board of Educate Midland, 9/2017 to 10/2021.
 - Appointed Treasure, 1/2018 to 12/2018
 - Appointed President, 1/2019 to 12/2019
- Petroleum Museum Building Bots mentor, 03/2016 to present.
- St. Luke's UMC Board of Trustee board member, 01/2015 to 1/2017.
- Midland Soccer Association, assistant coach for U-9 boys, 08/2014 to 11/2015.
- FIRST Robotics (<http://www.usfirst.org/>) team mentor at Mountain Point High School, 09/2011- 05/2014.
- Clark-Pleasant School Corporation Board Member, 07/2009 to 07/2011.
 - Vice President, 07/2010 to 07/2011.
 - Member of Budget Advisory Board to reduce school budget, 07/2009 to 07/2011.
 - Member of High School Principal selection committee, 03/2011.
- Society of Automotive Engineers Mini Baja Team, 8/2000 to 12/2001.
 - President and team leader, 8/2001 to 12/2001.
- ASNMSU Senator, fall 1999, fall 2000, spring 2001, and fall 2001.
 - Senate Pro-Tempore, Fall of 2001.
 - Member of the ASNMSU lobby committee, spring of 2001 and spring 2002.
- Professional Societies
 - American Society of Mechanical Engineers (ASME)
 - Society of Automotive Engineers (SAE)
 - Electrical Generating Systems Association (EGSA)
 - American Rental Association (ARA)

BRIAN STUBBS

- American Equipment Dealers (AED)
- Association of Ingersoll Rand Distributors (AIRD)
- Electrical Generating System Association (EGSA)



APPLICATION FOR CITY OF MIDLAND BOARDS/COMMISSIONS/COMMITTEES

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PLEASE TYPE OR PRINT CLEARLY:

Name: Lauren Garrett
Address: 3501 Humble Ave.
Midland TX 79707
(City) (State) (Zip)

Date: 8/11/2023
Phone: 432-813-4901 (Home)
(Business)
Email: Lgarrett@henrymidland.org

I am ☒ I am not ☐ a U.S. Citizen

Please tell us about yourself:

I have lived in Midland 26 years.

Are you a graduate of Midland 101? ☐ yes ☒ no

Occupation: Senior Grant Officer

Professional and/or Community Activities:

I am the Senior Grant Officer for the Henry Foundation. This role has allowed me to serve as an active partner in creating viable projects and initiatives that will impact our community for the better. I participate in the Association of Fundraising Professionals and serve on the Local Missions team of Mid-Cities Neely.

What is your personal vision for the City?

I envision a city that has the infrastructure, parks, and resources to not only attract young professionals, but to become a place where generations invest themselves for years to come. I believe we have the financial resources to create an attractive destination for families. We are simply lacking in the coordination of these resources and the personal desire to serve.

Please specify any time constraints you may have.

Aside from a quarterly board meeting, I do not have any time constraints that would interfere with my service to this board.

Please list below the Board(s) or Commission(s) on which you are interested in serving:

(You can find a complete and current list on the City's website at www.midlandtexas.gov)

(1) Name of Board/Commission:

Parks and Recreation Commission

Please tell us why you are interested in serving on this board or commission.

As a young mom and working professional, I feel this is an area I am not only knowledgeable about, but deeply passionate. I would love to play a role in improving the parks and recreational activities for Midland families.

What contribution would you most like to make?

I would love to offer my connections to harness the resources of the philanthropic community in the effort of making Midland a more enjoyable place to live.

Additional pertinent information or references:

References:

Dr. Terry Gilmour, Midland College tgilmour@midland.edu

Walter Pate, Pate and Associates Architects WFP.AIA@patearchitects.com

(2) Name of Board/Commission:

What contribution would you most like to make?

Additional pertinent information or references:

Applications are maintained on file in the City Secretary's office for a period of one year. Should you need additional information, please call us at 432-685-7430.

Signature of Applicant

Raun E. Garrett

Applications may be submitted online via email or print in order to send by mail:

**City of Midland
City Secretary's Office
PO Box 1152
Midland, TX 79702**

Submit Via Email

Print Application



APPLICATION FOR CITY OF MIDLAND BOARDS/COMMISSIONS/COMMITTEES

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PLEASE TYPE OR PRINT CLEARLY:

Name: Lindsay Childress
Address: 2810 Cimmaron Ave
Midland TX 79705
(City) (State) (Zip)

Date: 8/11/2023
Phone: 432-212-2272 (Home)
432-688-8200 (Business)
Email: l.childress432@gmail.com

I am ☒ I am not ☐ a U.S. Citizen

Please tell us about yourself:

I have lived in Midland 19 years.

Professional and/or Community Activities:

Meals on Wheels, San Jacinto Athletic Booster Club

Are you a graduate of Midland 101? ☐ yes ☒ no

Occupation: Realtor

What is your personal vision for the City?

I'd like to see Midland continue to grow and thrive while providing diverse economic opportunities, safe and healthy communities, and top-notch educational opportunities for the children of our city.

Please specify any time constraints you may have.

My schedule is typically very flexible

Please list below the Board(s) or Commission(s) on which you are interested in serving:

(You can find a complete and current list on the City's website at www.midlandtexas.gov)

(1) Name of Board/Commission:

Planning and Zoning

Please tell us why you are interested in serving on this board or commission.

As a realtor, the Planning and Zoning Committee appeals to me because it affects myself and clients on a daily basis. I believe it will be helpful and interesting to learn more about our city in this area of government.

What contribution would you most like to make?

Since I work closely with the citizens of Midland moving within and to and from our city, I beleieve I will be al;e to provide a unique and helpul point-of-view.

Additional pertinent information or references:

Thomas Johnston, Broker / The Real Estate Ranch LLC / 432-934-3333 / realestateranch@aol.com

(2) Name of Board/Commission:

What contribution would you most like to make?

Additional pertinent information or references:

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Signature of Applicant

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APPLICATION FOR CITY OF MIDLAND BOARDS/COMMISSIONS/COMMITTEES

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PLEASE TYPE OR PRINT CLEARLY:

Name: Randall Milloy

Address: 6409 Mosswood Drive

Midland Texas 79707

(City) (State) (Zip)

I am ☒ I am not ☐ a U.S. Citizen

Please tell us about yourself:

I have lived in Midland 18 years.

Professional and/or Community Activities:

United Way committee volunteer for the past 6 years. Very active in school system and athletics as my son is a senior at Legacy

High and both my daughters graduated from Lee.

Date: 8/10/2023

Phone: 432-552-9848 (Home)

432-552-5000 (Business)

Email: rvmilloy@att.net

Are you a graduate of Midland 101? ☐ yes ☒ no

Occupation: Banking

What is your personal vision for the City?

My vision for Midland has always been for it to be the safest most enjoyable place to raise a family and work. The people of Midland are wonderful hard working individuals that care for their fellow neighbor.

Please specify any time constraints you may have.

My employer encourages employees to serve on boards and commissions. With that being said, there would be no time constraints.

Please list below the Board(s) or Commission(s) on which you are interested in serving:

(You can find a complete and current list on the City's website at www.midlandtexas.gov)

(1) Name of Board/Commission:

I am interested in serving on any needed available Board/Commission.

Please tell us why you are interested in serving on this board or commission.

My interest in serving comes from my personal vision as stated above. Only by being involved in the process can I try to make a difference in the safety and attraction to families to live in Midland

What contribution would you most like to make?

As a resident of Midland for 18 years I have seen the ups and downs, along with the potential for this great city. By having children involved in community and school activities I have insight as to what families expect and need from this city. My financial background of serving in the banking community also allows me the knowlege of the industries that operate within our region.

Additional pertinent information or references:

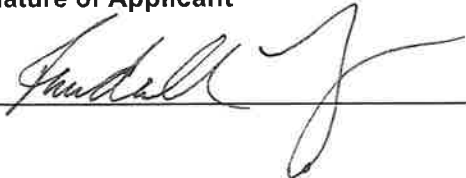
(2) Name of Board/Commission:

What contribution would you most like to make?

Additional pertinent information or references:

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Signature of Applicant



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APPLICATION FOR CITY OF MIDLAND BOARDS/COMMISSIONS/COMMITTEES

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PLEASE TYPE OR PRINT CLEARLY:

Name: Kevin L. Nelson
Address: 2817 Caldera Blvd.
Midland TX 79705
(City) (State) (Zip)

Date: 8/10/2023
Phone: 432-349-8225 (Home)
432-240-1517 (Business)
Email: kevin.nelson@midlandisd.net

I am ☒ I am not ☐ a U.S. Citizen

Please tell us about yourself:

I have lived in Midland 44 years.

Are you a graduate of Midland 101? ☐ yes ☒ no

Occupation: Educator/Administrator

Professional and/or Community Activities:

Skilled based training, improving job performance, continuing education, improving existing skills.

My community activities-I am a member of Kappa Alpha Psi and we hold can food drives in the community and donate to the Midland Soup Kitchen.

What is your personal vision for the City?

I believe for a safe community, a better quality of life for everyone in Midland and to conduct business with great integrity.

Please specify any time constraints you may have.

I can adjust schedule when given proper time.

Please list below the Board(s) or Commission(s) on which you are interested in serving:

(You can find a complete and current list on the City's website at www.midlandtexas.gov)

(1) Name of Board/Commission:

Barbara & George H.W. Bush Convention Center Advisory Board

Please tell us why you are interested in serving on this board or commission.

I want to network and interact with colleagues and leaders across industries and government.

What contribution would you most like to make?

I will bring my unique vision to the board along with strategies to help move forward the vision that has been set.

Additional pertinent information or references:

I believe in the City of Midland's core values-Professionalism, Integrity, Respect, Accountability, and Vigilance.

(2) Name of Board/Commission:

N/A

What contribution would you most like to make?

N/A

Additional pertinent information or references:

N/A

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Signature of Applicant



Applications may be submitted online via email or print in order to send by mail or fax:

**City of Midland
City Secretary's Office
PO Box 1152
Midland, TX 79702
FAX: (432) 685-7433**

[Submit Via Email](#)

[Print Application](#)



APPLICATION FOR CITY OF MIDLAND BOARDS/COMMISSIONS/COMMITTEES

As an applicant for a City board, commission, or committee, please be advised that all information on this application is subject to the Texas Open Records Act and will be available to the public.

PLEASE TYPE OR PRINT CLEARLY:

Name: Thomas F. Prehn
Address: 2602 Lockheed Dr
Midland TX 79701
(City) (State) (Zip)

Date: 8/1/2023
Phone: (210) 373-9062 (Home)
(Same) (Business)
Email: thomas@oxbowpetroleum.com

I am ☒ I am not ☐ a U.S. Citizen

Please tell us about yourself:

I have lived in Midland ¹¹ years.

Are you a graduate of Midland 101? ☐ yes ☒ no

Occupation: Petroleum Land Manager

Professional and/or Community Activities:

See Attached for clarity

What is your personal vision for the City?

Also, please see attached.

Please specify any time constraints you may have.

My first child is due in September. I would like as much time with her as I can.

I also run the Land department for a production company and that has significant time commitments.

Please list below the Board(s) or Commission(s) on which you are interested in serving:

(You can find a complete and current list on the City's website at www.midlandtexas.gov)

(1) Name of Board/Commission:

Oil and Gas Advisory Commission

Please tell us why you are interested in serving on this board or commission.

I have very intimately been involved in drilling wells in Martin, Andrews, Midland, Upton, Ward and Reeves Counties as a Landman

I am a professional oil and gas developer with unique skills to assist the City of Midland as we move into more drilling in the city limits

Professional and/or Community Activities

Manage day-to-day Land, Legal, and Business Development related tasks for Oxbow and its partners. Negotiate various development complex contracts/agreements with industry competitors, vendors, 3rd parties, non-operating interest owners, state, county and municipal regulatory bodies, mineral owners and surface owners to most cost effectively drill and produce oil and gas.

In the community, I am a supporter of the Rolling Plains Quail Research Foundation and Permian Basin Quail Coalition. The mission of each is to raise money for, and awareness of, the importance of both Bobwhite Quail and Scaled Quail as a harbinger species for the health of the environment of our Permian community. As go the quail, so too does Midland and Odessa. Proper and efficient water use, land use, permitting, oversight, growth (urban), sprawl (suburban) are all topics that are top of mind when concerning quail habitat preservation/conservations.

Personal Vision for the City

Midland is the fastest growing mid-size city in America by GDP growth¹. The community is also the third most wealthy in the United States per capita, at over \$125,455 per. This is also good for the highest growth in that category which has been measured across the COVID-19 pandemic².

We do not necessarily want Midland to become like others on the list – *namely San Jose, California or Bridgeport, Connecticut* – but we do want to make Midland seem like the 3rd wealthiest city in the United States. Great schools, clean neighborhoods, excellent streets, excellent parks, attractive higher education, excellent lodging so friends and family *want to come* and visit us in Midland. Our goal should be to turn “have to go to Midland” into “get to go to Midland”. Marfa developed an arts scene – why not Midland? Lubbock developed some shopping scene – why not Midland?

My vision of Midland in 30 years is a city like Scottsdale, Arizona: arguably, not a pretty place to live; Scottsdale is water restricted but *made to be beautiful and made to be a flourishing tourist destination* because the citizens, businesses and non-profits, and city governance put their resources together to choose to make it that way. Midland can go one step further and continue to be the hub of US energy activity so families from all over the world can come here and join our community – rather than be *priced out* like they are in Scottsdale, Bridgeport, CT and San Jose California.

It's very ambitious – but Midland (by being the 3rd wealthiest city in the United States) is very likely a top ten wealthiest cities in the World – per capita. Ambitious is what we need to be doing.

¹ News Release: Gross Domestic Product by County, 2019." U.S. Bureau of Economic Analysis, 2020, www.bea.gov/news/2020/gross-domestic-product-county-2019

² "Local Area Personal Income, 2022." U.S. Bureau of Economic Analysis, 22 Nov. 2022, www.bea.gov/sites/default/files/2022-11/lapi1122.pdf

Thomas Fordham Jones Prehn

2602 Lockheed Dr., Midland, TX 79701 – (210) 373-9062 – t.prehn22@gmail.com

PROFESSIONAL EXPERIENCE

Oxbow Petroleum, LLC & Oxbow Natural Resources, LLC

Midland, TX

Land Manager & Business Development

March 2022-Present

- Fast growing, closely held, E&P firm with expertise in the unconventional shales of the Permian basin;
- Handle full suite of land management and business development responsibilities incl negotiation and management of oil and gas leases, joint operating agreements, pooling/production sharing agreements, development agreements, areas of mutual interest, exploration and/or prospecting agreements, purchase and sale agreements, assignments of leasehold and mineral interests as well as all surface contracts/agreements;
- Develop and nurture relationships with peers, competitors and other third parties to enhance the position of Oxbow Petroleum in the Permian Basin;
- Develop prospective drilling units both in-house or with third party geologists and engineering individuals/firms;
- Conduct initial economic evaluation of prospective drilling projects;
- Work with fellow Oxbow executives in fundraising for drilling and development capital;
- Spend significant time with C.F.O. formulating the mission, vision, and values of the firm.

ExL Petroleum Operating II, Inc. ('19-'22) & ExL Petroleum Operating, Inc. ('16-'19)

Midland, TX

Senior Landman

January 2016-February 2022

- Jointly responsible for acquisition, development, and divestiture of \$1.5 billion of oil and gas properties in the Midland and Delaware Basins.
- Assisted Operations and Engineering teams as part of a 5-rig drilling program.
- Managed multiple teams of field Landmen ahead of the drilling rigs.
- Created ExL's Drilling schedule, Lease Schedule and Drilling Spacing Units for Board of Directors and Executive Team.
- Coordinated with Title Attorneys and managed Land brokers in title curative efforts on the above program.
- Negotiated oil and gas leases, pooling agreements, acreage trades and mineral acquisitions to enhance ExL's position.
- (ExL OpCo II) Served as a Land component on Asset Team to prepare and execute a greenfield horizontal drilling and development program.
- Independently sourced, negotiated and closed two large bolt-on acquisitions for a 7x return.

Veritas 321 Energy Partners, LP

Midland, TX

Landman

November 2012-December 2015

- Field Landman performing title, leasing, curative actions, due diligence, and mineral purchases for clients across the Permian Basin and Colorado.

Hampy-Brookshire Land Services

Ft. Worth, TX

Contract Landman

October 2015 – December 2015

- Sole Field Landman conducting due diligence ahead of a 3,200 gross acre mineral and royalty acquisition in the Midland Basin

EDUCATION

Texas Tech University – Rawls College of Business

Lubbock, TX

Master of Business Administration

Aug. 2023

Baylor University

Waco, TX

Bachelor of Arts (History)

Aug. 2012

- Focus on: US History/Geopolitical Aftershocks of Global Energy Resource Development & Trade.

ADVISORS & MENTORS

- Monte Fryt – Former Vice President of Geosciences at ExL Petroleum. Formerly of EOG Resources, Inc., 432-254-9533
Monte.fryt@gmail.com
- Chris Aycock – Former Vice President of Land, ExL Petroleum. Board Certified in Oil, Gas, & Mineral Law, TX Board of Legal Specialization. 432-638-0501

EXTRACURRICULAR

- Member – American Association of Professional Landmen
- Member – ADAM - Permian
- Member – Permian Basin Landmen's Association
- Member – West Texas Geologic Society
- Member – Baylor Bear Foundation
- Supporter of the Rolling Plains Quail Research Foundation
- I am an avid bird dog handler and quail hunter.
- Enjoy bird hunting, road trips, golf, college football, cooking, sporting clays, reading, geology.



APPLICATION FOR CITY OF MIDLAND BOARDS/COMMISSIONS/COMMITTEES

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PLEASE TYPE OR PRINT CLEARLY:

Name: John T. Echols
Address: 6003 Meadowview Ln
Midland TX 79707-1660
(City) (State) (Zip)

Date: 8/10/2023
Phone: 432-559-3119 (Home)
432-559-3119 (Business)
Email: echolsjt@gmail.com

I am ☒ I am not ☐ a U.S. Citizen

Please tell us about yourself:

I have lived in Midland 41 years.

Are you a graduate of Midland 101? ☐ yes ☒ no

Occupation: Petroleum Landman/Pilot (Semi-Retired)

Professional and/or Community Activities:

Permian Basin Landmen's Association, Stonegate Fellowship Usher and Stewardship Committee, High Sky Wing of The

Commemorative Airforce - Development and Procurement Officer, Aircraft Owners and Pilots Association

I was previously on the Airport Board for 6 years and know many people in the Aviation Community from both airports

What is your personal vision for the City?

To make Midland, Texas a better place to live and work. To improve both of our airports to be the best for our businesses, our
citizens and our visitors.

Please specify any time constraints you may have.

I am self employed and can make most of the meetings, unless I am out of town.

Please list below the Board(s) or Commission(s) on which you are interested in serving:

(You can find a complete and current list on the City's website at www.midlandtexas.gov)

(1) Name of Board/Commission:

Airport Board

Please tell us why you are interested in serving on this board or commission.

Flying and Aircraft are my passion. I have been flying since 1980 and have flown around 900 hours.

I want to know what is going on at the airports and how I might be of help.

What contribution would you most like to make?

My time and My Professional Efforts

Additional pertinent information or references:

Robin Donnelly, Bill Coombes, Greg Bairo, Daniel Rathbun, Joe Gamertsfelder

(2) Name of Board/Commission:

Airport Board

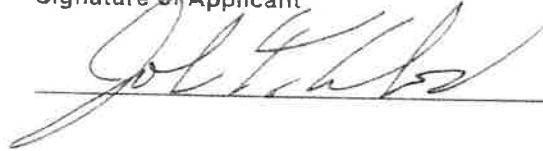
What contribution would you most like to make?

My expertise in both Aviation and Land

Additional pertinent information or references:

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Signature of Applicant



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City of Midland

City Secretary's Office

PO Box 1152

Midland, TX 79702

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Print Application



**APPLICATION FOR CITY OF MIDLAND
BOARDS/COMMISSIONS/COMMITTEES**

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PLEASE TYPE OR PRINT CLEARLY:

Name: Diana Trejo-Mesa

Address: 5001 Castleford Rd

Midland TX 79705

(City)

(State)

(Zip)

I am ☒ I am not ☐ a U.S. Citizen

Please tell us about yourself:

I have lived in Midland 39 years.

Professional and/or Community Activities:

Work at ConocoPhillips as a Financial Analyst

Volunteer at Stonegate Fellowship

PASPB member

What is your personal vision for the City?

My personal vision for the city is to see it grow and make it one of the best cities to live in.

Please specify any time constraints you may have.

I work Monday - Friday but can make time if given enough notice.

Please list below the Board(s) or Commission(s) on which you are interested in serving:

(You can find a complete and current list on the City's website at www.midlandtexas.gov)

(1) Name of Board/Commission:

Planning and Zoning Commission

Parks and Recreation Commission

Please tell us why you are interested in serving on this board or commission.

See ways in improving the city and being more involved with the community

Date: 8/10/2023

Phone: 432.296.8680 (Home)

(Business)

Email: dianatrejo7@aol.com

Are you a graduate of Midland 101? ☒ yes ☐ no

Occupation: F&PA Analyst

What contribution would you most like to make?
make the parks cleaner and safe for children

Additional pertinent information or references:

(2) Name of Board/Commission:

Citizen Development and Hotel/Motel Advisory Board

What contribution would you most like to make?
Would like to see Midland grow and bring hopefully new ideas

Additional pertinent information or references:
Happy to serve were needed.

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Signature of Applicant



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BOARDS/COMMISSIONS/COMMITTEES**

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PLEASE TYPE OR PRINT CLEARLY:

Name: Jeff Hansard
Address: 809 Trinidad Place
Midland TX 79705
(City) (State) (Zip)

Date: 8/10/2023
Phone: (432) 553-2944 (Home)
(432) 552-5000 (Business)
Email: Jeff.Hansard@southwest.bank

I am ☒ I am not ☐ a U.S. Citizen

Please tell us about yourself:

Are you a graduate of Midland 101? ☐ yes ☒ no

I have lived in Midland ³⁵ years.

Occupation: Banker

Professional and/or Community Activities:

Current Midland Market President SouthWest Bank. Former Board Trustee Greenwood Independent School District.

Former Deacon Greenwood Baptist Church. Former Board member Midland Development Corp.

What is your personal vision for the City?

My personal vision for the City is for Midland to continue to expand its role as the leader of the domestic oil & gas industry.

Strive to be a City that attracts young talent and families with good schools and social attractions.

Please specify any time constraints you may have.

none

Please list below the Board(s) or Commission(s) on which you are interested in serving:

(You can find a complete and current list on the City's website at www.midlandtexas.gov)

(1) Name of Board/Commission:

Citizens Development and Hotel/Motel advisory Board

Please tell us why you are interested in serving on this board or commission.

Give back to the City of Midland and be apart of the planning and development of the Hotel/Motel sector.

What contribution would you most like to make?

Use my 35 years of experience in banking to be apart of a board that looks to Midland's future needs.

Additional pertinent information or references:

(2) Name of Board/Commission:

Midland Housing Authority Commission

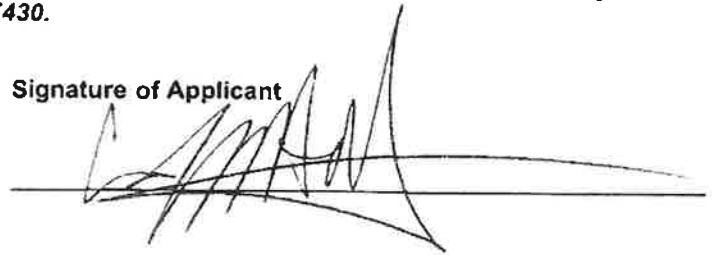
What contribution would you most like to make?

Help to continue to see planned developments low income housing.

Additional pertinent information or references:

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Signature of Applicant



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PLEASE TYPE OR PRINT CLEARLY:

Name: Tucker Schneemann

Address: 6019 San Bernard Dr.

Midland TX 79707

(City) (State) (Zip)

I am ☒ I am not ☐ a U.S. Citizen

Please tell us about yourself:

I have lived in Midland ²⁰ years.

Professional and/or Community Activities:

Current Member of Leadership Midland - Year 2

American Cancer Society Permian Basin Committee Member

Date: 8/10/2023

Phone: 432-661-4880 (Home)

214-432-7930 (Business)

Email: tschneemann625@gmail.com

Are you a graduate of Midland 101? ☐ yes ☒ no

Occupation: Commercial Real Estate Broker

What is your personal vision for the City?

As a young professional and raising a family in Midland, I look forward to continuing the positive growth of the city as a great place to live and work.

Please specify any time constraints you may have.

Leadership Midland Y2 will meet for half a day, once a month, typically on the 2nd Wednesday of the month.

Business hours are flexible as I am able to navigate my own schedule/working hours.

Please list below the Board(s) or Commission(s) on which you are interested in serving:

(You can find a complete and current list on the City's website at www.midlandtexas.gov)

(1) Name of Board/Commission:

Barbara & George H.W. Bush Convention Center Advisory Board

Please tell us why you are interested in serving on this board or commission.

I firmly believe that the Convention Center is one of the most impressive public assets that the city has to offer. Each event I have attended there has been first class, and is always a boost to the Downtown Midland atmosphere and development.

What contribution would you most like to make?

The Convention Center deserves to be operated, maintained, and marketed in the most professional manner possible and I am confident that I would positively impact the decision-making around each of those departments.

Additional pertinent information or references:

References: Bobby Burns and/or Emily Waldrop - Midland Chamber of Commerce

Mark Bales - AggieTech Capital; AggieTech Energy Services

Jack Herndon - Frost Bank

(2) Name of Board/Commission:

Capital Improvement Advisory Committee

What contribution would you most like to make?

As a real estate professional, focusing in commercial and industrial development, I am actively engaged in developments both inside the city limits and in Midland County. Each of these areas have their strengths and weaknesses, but both are crucial to the success of economic development in Midland.

Additional pertinent information or references:

References: Justin Dodd - Managing broker, NRG Realty Group, LLC

Ian Denholm - Dahlia Development, LLC

Randy Pittman - West Texas Abstract & Title Co

Applications are maintained on file in the City Secretary's office for a period of one year. Should you need additional information, please call us at 432-685-7430.

Signature of Applicant

T. Schneemann

T. Schneemann (Aug 10, 2023 15:59 CDT)

Applications may be submitted online via email or print in order to send by mail:

City of Midland

City Secretary's Office

PO Box 1152

Midland, TX 79702



APPLICATION FOR CITY OF MIDLAND BOARDS/COMMISSIONS/COMMITTEES

As an applicant for a City board, commission, or committee, please be advised that all information on this application is subject to the Texas Open Records Act and will be available to the public.

PLEASE TYPE OR PRINT CLEARLY:

Name: Kyle Jamerson
Address: 4708 Mimosa Ct
Midland TX 79707
(City) (State) (Zip)

Date: 8/9/2023
Phone: (432) 664-8173 (Home)
(432) 552-5000 (Business)
Email: kyle.jamerson@southwest.bank

I am ☒ I am not ☐ a U.S. Citizen

Please tell us about yourself:

I have lived in Midland 11 years.

Are you a graduate of Midland 101? ☐ yes ☒ no

Occupation: SVP - Commercial Lender

Professional and/or Community Activities:

I've been in banking for 11 years and majority of the time has been spent helping local businesses grow and expand in the Permian Basin.

What is your personal vision for the City?

My personal goal for Midland would be to create a place that people not only want to work but also want to raise a family here.

Midland is in desperate need to invest in its local community such as schools, affordable housing and small business in order to obtain a growing healthy local economy.

Please specify any time constraints you may have.

Schedule is fairly flexible during working hours. Afternoons can get tied up with kids activities.

Please list below the Board(s) or Commission(s) on which you are interested in serving:

(You can find a complete and current list on the City's website at www.midlandtexas.gov)

(1) Name of Board/Commission:

Midland Housing Authority Commission

Please tell us why you are interested in serving on this board or commission.

Being a lender and being involved in the community has given me the desire to make a positive impact on my community's housing situation. Having a young kids has opened my eyes to how much Midland is in need of teachers to help guide our youth and cost of

housing can be a big deterrent for young teachers to pass on the Permian Basin.

What contribution would you most like to make?

Serving on this commission would allow me to contribute to the development for affordable housing programs, policies and initiatives.

Allowing me to advocate for those in need of suitable housing, work to address housing challenges that Midland has continued to face. It's an opportunity to create positive change and contribute to the betterment of Midland's housing landscape.

Additional pertinent information or references:

(2) Name of Board/Commission:

Planning and Zoning Commission

What contribution would you most like to make?

I would use my experience in commercial lending/real estate to help with Midland development. I believe we need to strive to bring in more local small business's to our community by offering more incentives that we tend to offer to corporate companies. I've seen many small business owners turn away from buying land in the city limits due to the extra costs demands imposed by the city.

Additional pertinent information or references:

Applications are maintained on file in the City Secretary's office for a period of one year. Should you need additional information, please call us at 432-685-7430.

Signature of Applicant



Applications may be submitted online via email or print in order to send by mail:

City of Midland
City Secretary's Office
PO Box 1152
Midland, TX 79702

Submit Via Email

Print Application



**APPLICATION FOR CITY OF MIDLAND
BOARDS/COMMISSIONS/COMMITTEES**

As an applicant for a City board, commission, or committee, please be advised that all information on this application is subject to the Texas Open Records Act and will be available to the public.

PLEASE TYPE OR PRINT CLEARLY:

Name: Dillon Custer

Address: 2400 Seaboard Ave

Midland TX 79705
(City) (State) (Zip)

I am ☒ I am not ☐ a U.S. Citizen

Please tell us about yourself:

I have lived in Midland 5 years.

Professional and/or Community Activities:

Young Professionals in Energy Member. My wife and I recently moved back to Midland from Houston, and I am looking to get more involved the community, which is one of the reasons I'm interested in serving on an Advisory Board.

Date: 8/9/2023
Phone: 281-799-3361 (Home)
432-245-6037 (Business)
Email: dcuster@diamondbackenergy.com

Are you a graduate of Midland 101? ☐ yes ☒ no

Occupation: Reservoir Engineer at Diamondback Energy

What is your personal vision for the City?

I view Midland as the perfect place to work hard, make a living, and raise a family. I want people to be excited about moving here and proud of living here. I believe Midland has the people and the resources to continue growing and improving the quality of life for it's citizens. Specifically, I see the downtown Midland area as a great area to focus on enhancing.

Please specify any time constraints you may have.

My regular work hours are from 7:30-5:30 Monday-Thursday and 7:30-11:30 Friday. However, I do not foresee any issue attending meetings during that time frame as long as I can provide notice to my supervisor.

Please list below the Board(s) or Commission(s) on which you are interested in serving:

(You can find a complete and current list on the City's website at www.midlandtexas.gov)

(1) Name of Board/Commission:

Barbara & George H.W. Bush Convention Center Advisory Board

Please tell us why you are interested in serving on this board or commission.

I believe the Bush Convention Center was a terrific improvement to the downtown area, and I have attended numerous corporate and industry events there. Therefore, I have a vested interest in helping maintain and improve the Convention Center.

What contribution would you most like to make?

To ensure the Bush Convention Center is well-managed and provide a voice for the young-adult generation in a city leadership position.

Additional pertinent information or references:

While most recent stint in Midland has been 1.5 years, I have moved in and out of Midland several times since 2011. Therefore I am interested in serving the city and the community that I've been apart of and benefited from.

Reference: Zack Deck - Coworker at Diamondback. Serves on MDC.

(2) Name of Board/Commission:

Citizens Development and Hotel/Motel Advisory Board

What contribution would you most like to make?

To help the City of Midland leaders grow and improve Midland. Also, to ensure Midland is capable of attracting younger generations of talent in all industries related to Midland.

Additional pertinent information or references:

I would love to have the opportunity to serve the City of Midland.

Applications are maintained on file in the City Secretary's office for a period of one year. Should you need additional information, please call us at 432-685-7430.

Signature of Applicant

Dillon Custer

Digitally signed by Dillon Custer
Date: 2023.08.09 09:08:03 -05'00'

Applications may be submitted online via email or print in order to send by mail:

City of Midland
City Secretary's Office
PO Box 1152
Midland, TX 79702

Submit Via Email

Print Application



APPLICATION FOR CITY OF MIDLAND BOARDS/COMMISSIONS/COMMITTEES

As an applicant for a City board, commission, or committee, please be advised that all information on this application is subject to the Texas Open Records Act and will be available to the public.

PLEASE TYPE OR PRINT CLEARLY:

Name: Michelle M. Evans, M.Ed

Address: 1206 Daybreak Way

Midland TX 79705

(City) (State) (Zip)

I am ☒ I am not ☐ a U.S. Citizen

Please tell us about yourself:

I have lived in Midland ⁴¹ years.

Professional and/or Community Activities:

I currently work for the United Way of Midland as the Director of Community Engagement (8-Yrs) and worked for the state of Texas with DFPS for 17 yrs. I have worked with numerous organizations and agencies over the years.

I also work in my local church, where I'm a volunteer Director for our local food pantry.

What is your personal vision for the City?

My vision for any city encompasses a wide range of aspects, aiming to create a thriving, sustainable, and inclusive environment that enhances the quality of life for all residents.

Please specify any time constraints you may have.

At this time, I can not think of any time constraints. If approved for my selected commission, my office has approved me to attend the meeting as it is currently listed on the City website.

Please list below the Board(s) or Commission(s) on which you are interested in serving:

(You can find a complete and current list on the City's website at www.midlandtexas.gov)

(1) Name of Board/Commission:

Midland Housing Authority Commission

Please tell us why you are interested in serving on this board or commission.

I believe in the importance of housing equity and want to work towards ensuring everyone has access to safe, affordable, and stable housing; serving on the board can allow me to advocate for policies and initiatives promoting these goals.

Date: 8/9/2023

Phone: 432-349-7981 (Home)

432-685-7714 (Business)

Email: michelle.evans7981@gmail.com

Are you a graduate of Midland 101? ☐ yes ☒ no

Occupation: Non-Profit

What contribution would you most like to make?

I have extensive experience working with non-profits, state, county, and local governments, procurements, research, contracts, budgets, data collection, development/management, policy development, project management, diversity, equity, and inclusion. I currently serve on the 2-1-1 Committee and the MAHA.

Additional pertinent information or references:

NA

(2) Name of Board/Commission:

NA

What contribution would you most like to make?

NA

Additional pertinent information or references:

NA

Applications are maintained on file in the City Secretary's office for a period of one year. Should you need additional information, please call us at 432-685-7430.

Signature of Applicant

Michelle Evans

Digitally signed by Michelle Evans
Date: 2023.08.09 14:08:33 -05'00'

Applications may be submitted online via email or print in order to send by mail:

City of Midland
City Secretary's Office
PO Box 1152
Midland, TX 79702

Submit Via Email

Print Application

Michelle Evans, M.Ed, CTPM

Midland, Texas, United States



michelle.evans7981@gmail.com



4323497981



linkedin.com/in/michelle-evans-m-ed-
ctpm-66345866

Summary

Michelle Evans has a Bachelor of Arts in Sociology and a Master of Education in Counseling. She served the state of Texas for over 17 years as a Caseworker Contracts Specialist and Procurement Project Management (working with state, county, and local government offices).

Michelle's Experience includes:

- 10+ years of Team Management
- 10+ years of Volunteer Management
- 10+ years of Program Management
- 10+ years of Database Creation, Entry, and Maintenance
- 10+ year's Budget (Projection, Management, Analysis, and Reporting)
- 10+ years of Auditing
- 10+ years of Processing Payments
- 15+ years of Policy Development
- 15+ years of Training (staff and community stakeholders)
- 15+ years of Project Management
- 6+ years of Diversity, Equity, and Inclusion (DEI) work
- 6+ years Grant / Procurement Software Creation, Entry, Maintenance, and Reporting
- 15+ years of Analyzing/Reporting on the compliance of Contracts and Procurements.
- 10+ years of developing and maintaining websites
- 10+ years of creating media packets/flyers
- 10+ years of creating video slide shows and movies.
- Change Agent
- Excellent computer skills (Microsoft Office)

Michelle is a Certified by the Texas Comptroller of Public Accounts.

Experience



Director of Community Engagement

United Way of Midland

Aug 2015 - Present (8 years 1 month)

- Develop and implement community investment and impact strategies.
- Manager, Compliance & grant management for local EFSP / ARPA funding strategies and sit on the Local Board.
- Manage and implement all allocation processes related to programs, grants, and community initiatives, including recruiting and supporting volunteers, organizing materials and records, and preparing reports for staff, volunteers, and funding partners.
- Represent United Way of Midland in its Race, Diversity, Equity, and Inclusion work in the Permian Basin.
- Partner Fundraising

- Manage and supervise all program funding activities and volunteer training for the annual review process, including financial review, outcome review, site visits, and the Application/Request for Continuation of Funding (RCF) process.
- Evaluate and measure community impact achievements.
- Assists in obtaining grants and other sources of funding.
- Assists with campaign activities, including information/data gathering for planning and marketing purposes.
- Provides support and coordination of training programs and other resources to nonprofit organizations, volunteers, and interested community members.
- Serves as an internal and external resource for the county's health and human service offerings.



Regional Contract Manager

Texas Department of Family and Protective Services

Jan 2012 - Aug 2015 (3 years 8 months)

Contract Manager - Adult Protective Services / Child Protective Services

- Consult on Procurement development teams. Tasks include:
 - # Develop solicitations, contracts, and amendments by identifying provider resources.
 - # Create a written description of services/statement of work.
 - # Evaluate information supplied by bidders, and
 - # Negotiate contract specifications.
- Audit and monitor monthly billings and fiscal data for compliance with the terms of the contract and state policies.
- Train new staff on purchase client services policies and procedures.
- Maintain expenditure ledgers, contractor invoices, and statistical data.
- Conduct risk assessment to determine contractor monitoring plans.
- Monitor contract agencies to ensure their compliance with state policies and procedures.
- Represented Contacts/Procurements in its Race, Diversity, Equity, and Inclusion work in the Regions 2/9/10 (Abilene / Midland / El Paso areas).



State of Texas Procurement Project Manager

Texas Department of Family and Protective Services

Mar 2006 - Jan 2012 (5 years 11 months)

- Developed, managed, and evaluated a broad range of procurements for client services. (Statewide)
- Wrote, reviewed, edited, and finalized Request for Proposal (RFP), Invitation for Bid (IFB), Small Purchases (SMA), Provider Enrollment (PEN), and other procurement documents.
- Planned, organized, coordinated, and prepared statements of work, service specifications, contracts, and other procurement documents related to Purchased Client Services (PCS).
- Oversaw and documented the evaluation of responses/bids to service and solicitations received.
- Maintained records for all services procured, responses received, and contracts awarded and denied.
- Trained Procurement Managers and other agency staff on the procurement process and contract workflow.
- Consulted with Regional Management to identify needs.
- Purchased goods from the Texas Comptroller of Public Accounts Online Ordering System (TX Smartbuy).



Executive Director / Co-Founder

Youth Outreach Ministries (YO)

Sep 2002 - Dec 2010 (8 years 4 months)

- Responsible for all administrative aspects of the organization and managing Recreational, Educational, Anger-Management, Social Service programs, and Volunteers.
- Researched, wrote, and submitted grant proposals, in which I was able to secure grant funding, In-Kind supplies, and computer software.
- Created and monitored the organization's budget and budget projections.
- Organized the design and development of a playground, computer lab, and food pantry.
- Created a membership database and business ledger.
- Maintained logs and inventory books for all equipment and authored agreements with a local church and the West Texas Food Bank.
- Trained volunteers on Youth Outreach's policies and procedures.



Interim Contracts Regional Program Director

Texas Department of Family and Protective Services

Dec 2005 - Mar 2006 (4 months)

- Supervised seven Contract Managers and two Support Staff employees.
- Conducted interviews and hired staff for vacant positions.
- Reported to direct Statewide Contract Program Administrator and the Program Administrator for Child Protective (CPS) Services.
- Reviewed contracts and policy and procedures to ensure that regional offices complied with standards.



Regional Lead / Contract Manager

Texas Dept. of Family and Protective Services (DFPS)

Dec 2001 - Mar 2006 (4 years 4 months)

- Procured, evaluated, negotiated, and awarded contracts.
- Developed competitive procurement procedures for the award of contracts.
- Managed, monitored, and maintained federal, state, and local contracts in the amount of a million plus dollars.
- Supervised two Contract Managers and one Support Staff employee.
- Oversaw Regional contracts budgets - Reported budget projections and budget spending to the Child Protective Services (CPS) Budget Analyst.
- Monitored contractor performance by conducting on-site visits to determine compliance with Federal, State, and Regional policies and procedures.
- Consulted with DFPS staff and representatives from various organizations to access their needs.



Case Manager

Pathways Child Placing Agency

Feb 2001 - Dec 2001 (11 months)

- Managed a caseload of 15 to 25 children (Under DFPS Conservatorship) and 3 to 7 foster families.
- Monitored foster homes to ensure that minimum standards, agency policies, and licensing requirements were met.
- Investigated alleged child abuse and neglect in agency foster homes to determine risk.



Child Protective Specialist

Texas Dept. of Family and Protective Services (DFPS)

Sep 1997 - Oct 2000 (3 years 2 months)

- Investigated child abuse and neglect to determine risk on an on-call basis.
- Monitored the well-being of children in foster care under DFPS Conservatorship.
- Worked closely with law enforcement, schools, courts, and hospitals in a 7-county area.
- Earned certification as a Certified Child Protective Specialist in 2000.

Education



Sul Ross State University

Master's degree, Education in Counseling

Aug 1998 - May 2001



Angelo State University

Bachelor's degree, BA - Sociology / Minor Art

Aug 1994 - Aug 1996

Licenses & Certifications



Certified Texas Contract Development - Texas Comptroller of Public Accounts

Issued Nov 2005 - Expires Nov 2025

1900024554



Certified Texas Contracts Manager - Texas Comptroller of Public Accounts

Issued Jun 2015 - Expires Nov 2025

CTCM0506152



Findhelp.org Certified - Findhelp Certified

34634357

Skills

Microsoft Office • Public Speaking • Management • Customer Service • Leadership • Policy • Training • Community Outreach • Nonprofits • Government



APPLICATION FOR CITY OF MIDLAND BOARDS/COMMISSIONS/COMMITTEES

As an applicant for a City board, commission, or committee, please be advised that all information on this application is subject to the Texas Open Records Act and will be available to the public.

PLEASE TYPE OR PRINT CLEARLY:

Name: Martin Silva

Address: 5615 Magellan Street

Midland Texas 79705

(City) (State) (Zip)

I am ☒ I am not ☐ a U.S. Citizen

Please tell us about yourself:

I have lived in Midland ²² years.

Professional and/or Community Activities:

Permian Basin Association of Pipeliners

Midland Aggies Club

Date: 8/6/2023

Phone: 432-352-5756 (Home)

(Business)

Email: martys9395@gmail.com

Are you a graduate of Midland 101? ☐ yes ☒ no

Occupation: Regional Sales for Oilfield Supply Company

What is your personal vision for the City?

I have lived in midland almost my entire life. This is my home and I love my community and its citizens. I would love to see this be a place families want to move to. In the oilfield you constantly hear people say derogatory things about our community and it hurts. I believe a serious culture change is needed and I will work diligently to ensure every midlander loves our community as much as I do

Please specify any time constraints you may have.

I have an 8-5 job but as a salesman it is very flexible so i am able to attend any regular meetings that will be needed for any board or commissions.

Please list below the Board(s) or Commission(s) on which you are interested in serving:

(You can find a complete and current list on the City's website at www.midlandtexas.gov)

(1) Name of Board/Commission:

Planning and Zoning Commission

Please tell us why you are interested in serving on this board or commission.

I want to see more things to do for young families together. It seems like a new bar is open every month but we as a community are seriously lacking in places we can enjoy with our children. Also I feel as if we are somewhat stuck in the small town mindset. Our

community is constantly expanding and we do not have all the big business and activities other communities of our same size do

What contribution would you most like to make?

I would love to be able to bring in more of a family friendly midset to our community. Working in the oilfield you constantly hear of people who work here but do not want to bring their family for various reasons. I truly believe if we are able to partner and bring more business and change the culture of our community we will see Midland grow and prosper.

Additional pertinent information or references:

Dr. Stephanie Howard (432) 240-1002
Robert Marquez (432) 978-9712

(2) Name of Board/Commission:

Midland Housing Authority Commission

What contribution would you most like to make?

I understand how hard it can be to find affordable housing in Midland. I just purchased a home two months ago. I would love to be able to provide families a place to stay and see the smile of children finally have their own room or just a stable place to live.

Additional pertinent information or references:

Dr. Stephanie Howard (432) 240-1002
Robert Marquez (432) 978-9712

Applications are maintained on file in the City Secretary's office for a period of one year. Should you need additional information, please call us at 432-685-7430.

Signature of Applicant

Martin J. Smith

Applications may be submitted online via email or print in order to send by mail:

City of Midland

City Secretary's Office

PO Box 1152

Midland, TX 79702

Submit Via Email

Print Application



APPLICATION FOR CITY OF MIDLAND BOARDS/COMMISSIONS/COMMITTEES

As an applicant for a City board, commission, or committee, please be advised that all information on this application is subject to the Texas Open Records Act and will be available to the public.

PLEASE TYPE OR PRINT CLEARLY:

Name: J. Andrew DeWoody

Address: 2501 Homeland Dr

Midland TX 79707-2145

(City) (State) (Zip)

I am ☒ I am not ☐ a U.S. Citizen

Please tell us about yourself:

I have lived in Midland 9 years.

Professional and/or Community Activities:

I work remotely as a research professor for Purdue; I work in population genomics. I've served as a Director for an international NGO serve on IUCN's Species Survival Commission, and serve as an advisor to many similar organizations. I'm a native West Texan, having grown up in Odessa, and I live in Midland. My family has ranches in both Coleman and Terrell Counties.

What is your personal vision for the City?

I'd like Midland to be a nicer place to live. It's a good place to raise a family now but I wish there was a stronger, local culture of pride in the West Texas landscape. We have many itinerant workers (both white- and blue-collar) who disparage West Texas. The best oil and gas operators should serve as aspirational peers for the industry; if they did so effectively, Midland would be a better place to live

Please specify any time constraints you may have.

With sufficient advance notice, I have considerable flexibility with my time.

Please list below the Board(s) or Commission(s) on which you are interested in serving:

(You can find a complete and current list on the City's website at www.midlandtexas.gov)

(1) Name of Board/Commission:

Oil and Gas Advisory Commission

Please tell us why you are interested in serving on this board or commission.

I have a background in oil; my grandfather was a pumper for Shell and I grew up hunting jackrabbits on his leases. Today, I conduct conservation research (whales, prairie-chickens, songbirds) for federal & state agencies and for the oil and gas industry.

Date: 8/8/2023

Phone: 7654268603 (Home)
same (Business)

Email: jadewoody@gmail.com

Are you a graduate of Midland 101? ☐ yes ☒ no

Occupation: Professor, Purdue University

What contribution would you most like to make?

I could serve as an objective and effective sounding board for the oil and gas industry when it comes to environmental concerns related to conservation (e.g., threatened and endangered species). I think about these issues when it comes to production on our family ranches but also in my professional capacity.

Additional pertinent information or references:

Interested parties can look up my academic credentials on Google Scholar Profiles or via standard academic search engines.

(2) Name of Board/Commission:

Oil and Gas Advisory Commission

What contribution would you most like to make?

See above.

Additional pertinent information or references:

Ron Schindler (Pioneer Resources) and Ben Sheppard (Permian Basin Petroleum Association) are both familiar with my work.

Dane Crunk (Syntal) or Dick Saulsbury (Saulsbury Industries) both know me personally.

Applications are maintained on file in the City Secretary's office for a period of one year. Should you need additional information, please call us at 432-685-7430.

Signature of Applicant

J.A. DeWoody Digitally signed by J.A. DeWoody
Date: 2023.08.08 14:02:24 -05'00'

Applications may be submitted online via email or print in order to send by mail:

**City of Midland
City Secretary's Office
PO Box 1152
Midland, TX 79702**

Submit Via Email

Print Application



APPLICATION FOR CITY OF MIDLAND BOARDS/COMMISSIONS/COMMITTEES

As an applicant for a City board, commission, or committee, please be advised that all information on this application is subject to the Texas Open Records Act and will be available to the public.

PLEASE TYPE OR PRINT CLEARLY:

Name: Pete Ruiz

Address: 902 Bonham

Midland texas 79703
(City) (State) (Zip)

I am ☒ I am not ☐ a U.S. Citizen

Please tell us about yourself:

I have lived in Midland ⁵⁹ years.

Professional and/or Community Activities:

Board Member Boys and Girls Club, Housing Authority Board Member, State Of Texas PAPA Arts Board Member, Member of State c
Member of State of Texas Recruiment committe,

Date: 8/8/2023

Phone: 432-296-2300 (Home)

432-250-180 (Business)

Email: peteruiz@guidingheartcounselingcent

Are you a graduate of Midland 101? ☐ yes ☒ no

Occupation: Therapist

What is your personal vision for the City?

Delivering exceptional services and amenities in an equitable, effective, and efficient manner will ensure that
that Midland remains a highly sought-after community. Innovative and sustainable measures will also be used to ensure Midland's
future growth and prosperity.

Please specify any time constraints you may have.

I own my business so have no time constraints

Please list below the Board(s) or Commission(s) on which you are interested in serving:

(You can find a complete and current list on the City's website at www.midlandtexas.gov)

(1) Name of Board/Commission:

housing authority

Please tell us why you are interested in serving on this board or commission.

I love to give back to my community. In the past, my time was limited, but now that I have my own business, it's time to get active onc

What contribution would you most like to make?

Time and effort

Additional pertinent information or references:

(2) Name of Board/Commission:

What contribution would you most like to make?

Additional pertinent information or references:

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Signature of Applicant



Applications may be submitted online via email or print in order to send by mail:

City of Midland

City Secretary's Office

PO Box 1152

Midland, TX 79702

Submit Via Email

Print Application

3



APPLICATION FOR CITY OF MIDLAND BOARDS/COMMISSIONS/COMMITTEES

As an applicant for a City board, commission, or committee, please be advised that all information on this application is subject to the Texas Open Records Act and will be available to the public.

PLEASE TYPE OR PRINT CLEARLY:

Name: Kari Hennagin

Address: 1209 W Wall Street

Midland Texas 79701

(City) (State) (Zip)

I am ☒ I am not ☐ a U.S. Citizen

Please tell us about yourself:

I have lived in Midland 3.5 years.

Professional and/or Community Activities:

I have been on many nonprofits boards over the last 30 years in Florida, Alabama & Texas. I was on the Destination, Hotel, Motel Advisory board in Ft Myers, Florida for 2 years (2013 & 2014).

Date: 8/7/2023

Phone: 432-227-1013 (Home)

432-685-7715 (Business)

Email: Khennagin@uwmidland.org

Are you a graduate of Midland 101? ☐ yes ☒ no

Occupation: CEO for United Way of Midland

What is your personal vision for the City?

Midland should be a place where individuals can come, live, play and raise a family in a friendly enviroment.

Midland should be a place where all individuals have access to food, housing, education, medical, mental health and the ability to find work and make a decebt wage.

Please specify any time constraints you may have.

none

Please list below the Board(s) or Commission(s) on which you are interested in serving:

(You can find a complete and current list on the City's website at www.midlandtexas.gov)

(1) Name of Board/Commission:

Citizens Development and Hotel/Motel Advisory Board

Please tell us why you are interested in serving on this board or commission.

I want to get more involved within the city.

What contribution would you most like to make?

I want to bring in the nonprofit prospective.

Additional pertinent information or references:

I worked in the for-profit sector for 22 years and have worked in the nonprofit sector for over 20 years. I can bring in my experience from both. I also have a child in an MISD school who is also very involved in sports in Midland.

(2) Name of Board/Commission:

What contribution would you most like to make?

Additional pertinent information or references:

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Signature of Applicant



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APPLICATION FOR CITY OF MIDLAND BOARDS/COMMISSIONS/COMMITTEES

As an applicant for a City board, commission, or committee, please be advised that all information on this application is subject to the Texas Open Records Act and will be available to the public.

PLEASE TYPE OR PRINT CLEARLY:

Name: Joseph Schwab

Address: 5508 Kingston Dr.

Midland TX 79705

(City) (State) (Zip)

I am ☒ I am not ☐ a U.S. Citizen

Please tell us about yourself:

I have lived in Midland 28 years.

Professional and/or Community Activities:

Worked forty years as a petroleum geologist

Taught College Classic Courses at Midland College

Member of the YMCA

What is your personal vision for the City?

1) Maintain current "small town life style" via careful planning and growth

2) Develop Midland's appeal to young professionals by creating and encouraging entertainment venues

3) Develop Midland's appeal to young families by creating Midland as a hub for various sports offerings for children

Please specify any time constraints you may have.

None at present time

Date: 8/6/2023

Phone: 432-889-2633 (Home)

(Business)

Email: 1980jalan@gmail.com

Are you a graduate of Midland 101? ☒ yes ☐ no

Occupation: Retired Geologist

Please list below the Board(s) or Commission(s) on which you are interested in serving:

(You can find a complete and current list on the City's website at www.midlandtexas.gov)

(1) Name of Board/Commission:

Oil and Gas Advisory Commission

Citizens Development and Hotel/Motel Advisory Board

Parks and Recreation Commission

Please tell us why you are interested in serving on this board or commission.

Oil & Gas Advisory Commission...because of my strong background in the Oil & Gas Industry

Citizens Development...because of the need to promote Midland as a sports center and destination city

Parks & Recreation...because of a need to develop Midland as a regional youth sports center.

What contribution would you most like to make?

Oil & Gas Commission...to help the city make wise decisions concerning the resources within the bounds of the city for it's citizens

Citizens Development...to help the city promote the city as a business and family friendly community

Parks & Recreation...to continue the development of parks for not only citizens but also to attract visitors to spend time in Midland

Additional pertinent information or references:

(2) Name of Board/Commission:

What contribution would you most like to make?

Additional pertinent information or references:

Applications are maintained on file in the City Secretary's office for a period of one year. Should you need additional information, please call us at 432-685-7430.

Signature of Applicant

Joseph Schwab

Applications may be submitted online via email or print in order to send by mail:

City of Midland
City Secretary's Office
PO Box 1152
Midland, TX 79702

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3



**APPLICATION FOR CITY OF MIDLAND
BOARDS/COMMISSIONS/COMMITTEES**

As an applicant for a City board, commission, or committee, please be advised that all information on this application is subject to the Texas Open Records Act and will be available to the public.

PLEASE TYPE OR PRINT CLEARLY:

Name: Ciara McDaniel
Address: 3609 Boyd Ave.
Midland TX 79707
(City) (State) (Zip)

Date: 8/7/2023
Phone: 432-999-3033 (Home)
636-614-5354 (Business)
Email: ciarakmcdaniel@gmail.com

I am ☒ I am not ☐ a U.S. Citizen

Please tell us about yourself:

I have lived in Midland 3 years.

Are you a graduate of Midland 101? ☐ yes ☒ no

Occupation: Drilling Engineer - Diamondback Energy Company

Professional and/or Community Activities:

I join with Keep Midland Beautiful through Diamondback to plant trees in local parks. I serve as a reading buddy at Bunche Elementary
I volunteered at the Bunche Elementary's story walk and distributed books to local children. I participate in local high school career fa
I attend YPE, SPE, and AADE events in Midland. I also volunteer with Meals on Wheels in Midland and am constantly looking for nev

What is your personal vision for the City?

It is my goal for Midland to become a destination rather than a pit-stop in oilfield careers. I want Midland to be a thriving community w
I think Midland has come a long way even in the relatively short time that I've been here, but I think that there is still plenty of room to
Midland has a very young population and I'd love to see the city continue to develop ways to attract and keep that population engage

Please specify any time constraints you may have.

I work Monday - Thursday from 7:30 to 4:00 and Friday from 7:30 to 11:30. I will be able to attend meetings at any time, so I don't hav

Please list below the Board(s) or Commission(s) on which you are interested in serving:

(You can find a complete and current list on the City's website at www.midlandtexas.gov)

(1) Name of Board/Commission:

Oil and Gas Advisory Commission

Please tell us why you are interested in serving on this board or commission.

Oil and Gas Advisory Commission - I have a B.S. in Petroleum Engineering and a B.A. in Government and I'm currently working as a

What contribution would you most like to make?

I want to provide my perspective and unique background to represent the young professionals and new families in Midland to further

I would like to pair my industry experience with my passion for government to help resolve local oil and gas matters.

Additional pertinent information or references:

Auggie Setiadarma - Drilling Manager at Diamondback Energy: Phone: (432) 556-7179. Email: asetiadarma@diamondbackenergy.cc

Ashley Colquitt - Corporate Affairs Representative at Diamondback Energy (reference for community involvement): Phone: 432-221-7

Amy Lane - Senior Drilling Technician at Diamondback Energy: Phone: (432)294-0723. Email: alane@diamondbackenergy.com

(2) Name of Board/Commission:

Parks and Recreation Commission

Planning and Zoning Commission

What contribution would you most like to make?

Parks and Recreation Commission - As I mentioned in my reason for my interest in the Oil and Gas Advisory Commission, I have a B

Planning and Zoning Commission: I love Midland and I want to see it keep growing and thriving. Participating in the Planning and Zor

Additional pertinent information or references:

See references above.

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Signature of Applicant



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APPLICATION FOR CITY OF MIDLAND BOARDS/COMMISSIONS/COMMITTEES

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PLEASE TYPE OR PRINT CLEARLY:

Name: Aaron Urquieta

Address: 2404 Culpeper Dr

Midland TX 79705

(City) (State) (Zip)

I am ☒ I am not ☐ a U.S. Citizen

Please tell us about yourself:

I have lived in Midland 35 years.

Professional and/or Community Activities:

I support by volunteering to the organizations in which my wife is involved in: Keep Midland Beautiful, Permian Basin Opera, Wine W
and Shoes, St. Ann's Fair, United Way, Aphasia Center of West Texas, West Texas food Bank and SJ PTA.

Date: 8/3/2023

Phone: 8064017534 (Home)

(Business)

Email: _____

Are you a graduate of Midland 101? ☐ yes ☒ no

Occupation: Sr. Account Manager

What is your personal vision for the City?

My vision for Midland is to help elevate this city to a family friendly, community engaged city.

I would also like to see growth on the outer parts of the city.

Please specify any time constraints you may have.

My schedule is pretty flexible, with the exception of, the 2nd Monday morning every month due to a mandatory work meeting.

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(You can find a complete and current list on the City's website at www.midlandtexas.gov)

(1) Name of Board/Commission:

Planning and Zoning Commission

Please tell us why you are interested in serving on this board or commission.

I am very eager to get more involved with the community I grew up in and currently raising my family of proud Midlanders.

I want to see more positive and steady development within the city.

What contribution would you most like to make?

I would like to volunteer my time.

Additional pertinent information or references:

(2) Name of Board/Commission:

What contribution would you most like to make?

Additional pertinent information or references:

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Signature of Applicant

aaron urquieta

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APPLICATION FOR CITY OF MIDLAND BOARDS/COMMISSIONS/COMMITTEES

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PLEASE TYPE OR PRINT CLEARLY:

Name: Elizah Don Arp

Address: 3601 Timberwolf Trl.

Midland TX 79705

(City)

(State)

(Zip)

I am ☒ I am not ☐ a U.S. Citizen

Please tell us about yourself:

I have lived in Midland 16 years.

Professional and/or Community Activities:

Meeting with clients, Generating leads, Managing client databases, Providing guidance, Promoting properties, Mediating negotiations, Researching local property listings, and Performing comparative market analysis.

Date: 8/2/2023

Phone: (432) 312-6711 (Home)

(432) 312-6711 (Business)

Email: arp.elizah@gmail.com

Are you a graduate of Midland 101? ☐ yes ☒ no

Occupation: Realtor

What is your personal vision for the City?

Provide the citizens of Midland with a healthy, attractive and safe physical environment which includes access for all modes of transportation, access to well maintained parks and recreational areas, development of new industries that will help Midland sustain during oil bust periods, and continue overall efficient growth of Midland Texas.

Please specify any time constraints you may have.

I work weekly 9am-5pm Monday through Saturday, But with notice I am able to schedule myself as needed.

Please list below the Board(s) or Commission(s) on which you are interested in serving:

(You can find a complete and current list on the City's website at www.midlandtexas.gov)

(1) Name of Board/Commission:

Planning and Zoning Commission

Please tell us why you are interested in serving on this board or commission.

Having a professional occupation in the real estate industry I feel the need to be apart of decsion making for planning and zoning in Midland, which is a city that has taken care of me and I would love the opportunity to return the favor to Midland and it's community.

What contribution would you most like to make?

I will contribute my time and absolute effort into any action I take under the Planning and Zoning Commission. I will uphold the utmost respect, care, and interest for those in the community of Midland, TX.

Additional pertinent information or references:

(2) Name of Board/Commission:

What contribution would you most like to make?

Additional pertinent information or references:

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Signature of Applicant

DocuSigned by:

Elizah Arp

8/2/2023

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PLEASE TYPE OR PRINT CLEARLY:

Name: Archia Jones Word
Address: 207 East Darnold Ave
Midland Texas 79705
(City) (State) (Zip)

Date: 08012023
Phone: (432) 889-7006 (Home)
(504) (Business)
Email: archiajones@midlandtx.com

I am ☒ I am not ☐ a U.S. Citizen

Please tell us about yourself:

Are you a graduate of Midland 101? ☐ yes ☒ no

I have lived in Midland 58 years.

Occupation: Substitute Teacher

Professional and/or Community Activities:

St. Andrews Presbyterian Mission Committee Member (3yrs)
Centers For Children & Families Volunteer (3yrs); Advocate
Member for implementing a Martin Luther King Street; Carver Reunion
Committee Member, NAACP Member

What is your personal vision for the City?

My personal vision for the city of Midland is to
promote diversity, continue to advocate for
children in what is possible, & to help serve when needed.

Please specify any time constraints you may have.

Being newly retired, my schedule can be adjusted
for need purposes.

Please list below the Board(s) or Commission(s) on which you are interested in serving:

(You can find a complete and current list on the City's website at www.midlandtexas.gov)

(1) Name of Board/Commission:

Midland Housing Authority Commission
Permian Basin Community Center for MH/MR (Permian Care)

Please tell us why you are interested in serving on this board or commission.

To advocate for children, senior citizens and gain
knowledge in how to best help the community of Midland.

What contribution would you most like to make?

For the purpose of Midland Housing Authority, to learn about the needs of our community, research what has made a difference elsewhere that benefit Midland, Tx.

Additional pertinent information or references:

Presently, I'm one of the Directors of Promise Seeds Ministry. Our primary focus has been on helping with their needs. A primary reference is: Ms. Brenda Niblett & (432) 254-8298

(2) Name of Board/Commission:

Permian Basin Community Center for MH/MR (Permian Care) would like to help in any way possible in educating our community that it's OK, if help is needed.

What contribution would you most like to make?

My contribution to this community would likely be in the area of help. After gaining victory in mental depression, and advocate to some a voice of encouragement to those in need.

Additional pertinent information or references:

Many times one might not know the root of life's outcome based on choices. To educate our community on symptoms to look for & then get help without being a shame would be my quest.

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Signature of Applicant

Africa Word

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FAX: (432) 685-7433

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APPLICATION FOR CITY OF MIDLAND BOARDS/COMMISSIONS/COMMITTEES

As an applicant for a City board, commission, or committee, please be advised that all information on this application is subject to the Texas Open Records Act and will be available to the public.

PLEASE TYPE OR PRINT CLEARLY:

Name: Vicky Bakhos Webb

Address: 1601 Humble Ave

Midland TX 79705

(City) (State) (Zip)

I am ☒ I am not ☐ a U.S. Citizen

Please tell us about yourself:

I have lived in Midland 20 years.

Professional and/or Community Activities:

previous president of Children's Community Clinic, current board member

Junior League of Midland

YWLA advisory task force, New physician board member of the Texas Academy of Family Physicians

What is your personal vision for the City?

as a primary care physician who manages mental health and grateful for the

Permiacare and services we have available, I would love to be more involved in the governance of the

entity and provide support in any way I could to further improve and enhance the mental health crisis we are currently facing.

Please specify any time constraints you may have.

My hospital call days are usually tough to meet during, however I get to pick those dates months in advance.

Please list below the Board(s) or Commission(s) on which you are interested in serving:

(You can find a complete and current list on the City's website at www.midlandtexas.gov)

(1) Name of Board/Commission:

Permian Basin Community Center for MH/MR (PermiCare)

Please tell us why you are interested in serving on this board or commission.

I would like to use my voice and expertise to further enhance our community in any way I could. Mental health care

Date: 7/26/2023

Phone: 432-553-5384 (Home)

(Business)

Email: dr.bakhoswebb@gmail.com

Are you a graduate of Midland 101? ☐ yes ☒ no

Occupation: Family Medicine Physician

What contribution would you most like to make?

educational, experience, knowledge, passion, interpersonal abilities.

Additional pertinent information or references:

(2) Name of Board/Commission:

Planning and Zoning Commission

What contribution would you most like to make?

as above

Additional pertinent information or references:

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Signature of Applicant

Vicky B Webb 8/1/2023

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APPLICATION FOR CITY OF MIDLAND BOARDS/COMMISSIONS/COMMITTEES

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PLEASE TYPE OR PRINT CLEARLY:

Name: Andra Lancaster Jones

Address: 2511 Seaboard

Midland TX 79705

(City) (State) (Zip)

I am ☒ I am not ☐ a U.S. Citizen

Please tell us about yourself:

I have lived in Midland 13 years.

Professional and/or Community Activities:

16 years education experience as a teacher, coach, school administrator; volunteer golf coach with First Tee of West Texas

Sustaining member of Junior League of Midland, Member of Midland Coterie Club, Advocate for better school facilities, teacher and student supports, Midland College PreK Community Advisory, United Way Excellence in Education Committee

What is your personal vision for the City?

Our city is growing and changing with new life moving in and great history from the residents who have lived here. I want Midland to become a place where more people see it as a long term home versus just a stop in the road for career. The amenities that our city offers, if keeping up with trends and tried and true methods, will ensure that we continue keep and attract great citizens.

Please specify any time constraints you may have.

I work full time in both Midland & Odessa. I am flexible and control my calendar. As long as I know ahead of time meetings for the committee or any other supporting engagements I can typically make anything work.

Please list below the Board(s) or Commission(s) on which you are interested in serving:

(You can find a complete and current list on the City's website at www.midlandtexas.gov)

(1) Name of Board/Commission:

Parks and Recreation Commission

Please tell us why you are interested in serving on this board or commission.

Our parks are key greenspaces that add value to families and the health of our community. These are hubs for community and important in the physical, mental and emotional development of our youth.

Date: 8/1/2023

Phone: 940-206-6037 (Home)

432-337-8389 (Business)

Email: Andra@Basinkids.org

Are you a graduate of Midland 101? ☐ yes ☒ no

Occupation: Executive Director of Boys & Girls Clubs

What contribution would you most like to make?

Ensuring that parks continue to get improvements throughout Midland. Looking at opportunities for park experiences that might be 'out of the box'. Encouraging more park-centric events to bring neighborhoods together. Supporting the efforts to get quality youth sports complexes for our local youth that will also attract dollars to our city through visitors, games and tournaments.

Additional pertinent information or references:

Suzy Prucka, Sarah Judge & John Norman can speak to my work ethic and commitment to youth in the Permian Basin

I am passionate about being a solution seeker and love being innovative to find new ways to approach ideas.

I am an advocate for our city, we have so much value above ground, just like we do below ground, let's shout this out for all to hear!

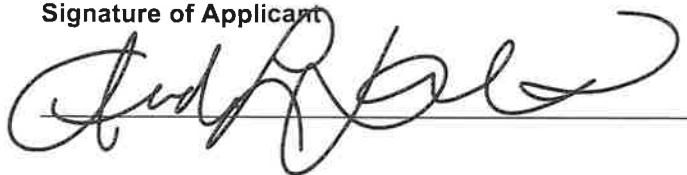
(2) Name of Board/Commission:

What contribution would you most like to make?

Additional pertinent information or references:

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Signature of Applicant



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1



APPLICATION FOR CITY OF MIDLAND BOARDS/COMMISSIONS/COMMITTEES

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PLEASE TYPE OR PRINT CLEARLY:

Name: Anthony Colton

Address: 3501 Northfield Drive

Midland TX 79707

(City) (State) (Zip)

I am ☒ I am not ☐ a U.S. Citizen

Please tell us about yourself:

I have lived in Midland 3 years.

Professional and/or Community Activities:

Participate with the Midland Run Crew.

Ran the Energy City 10K this last year.

What is your personal vision for the City?

I would like our city to be a welcoming place to all with diverse activities for all our citizens both in entertainment and work related venues.

Please specify any time constraints you may have.

I work full-time but can generally arrange my schedule as needed.

Please list below the Board(s) or Commission(s) on which you are interested in serving:

(You can find a complete and current list on the City's website at www.midlandtexas.gov)

(1) Name of Board/Commission:

Parks and Recreation Commission

Please tell us why you are interested in serving on this board or commission.

I would like to be more involved in my community and help out where I can.

Date: 8/1/2023

Phone: 432-599-0685 (Home)

432-247-6888 (Business)

Email: colton45pm@gmail.com

Are you a graduate of Midland 101? ☐ yes ☒ no

Occupation: Criminal Defense Attorney

What contribution would you most like to make?

I would like to help increase the outdoor recreation options in Midland and improve the ones that are already available.

Additional pertinent information or references:

I enjoy hiking and camping and just generally being in the outdoors. At present, I usually travel to New Mexico as our options are limited here in Midland. It would be great to see additional opportunities here at home.

(2) Name of Board/Commission:

Planning and Zoning Commission

What contribution would you most like to make?

I would like to see sidewalk and bike lane improvements to increase alternate travel and recreation as well as better the transportation for our disabled community.

Additional pertinent information or references:

I enjoy running and biking. The lack of bike lanes and aggressive driving make it difficult to escape the gym for exercise and enjoyment.

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Signature of Applicant



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PLEASE TYPE OR PRINT CLEARLY:

Name: Ryan Elizabeth Coulehan

Address: 6502 Evergreen Avenue

Midland TX 79707

(City)

(State)

(Zip)

I am ☒ I am not ☐ a U.S. Citizen

Please tell us about yourself:

I have lived in Midland ¹ years.

Professional and/or Community Activities:

Sales Leader at NewsWest 9

Provisional Member of Junior League of Midland

Date: 7/27/2023

Phone: 915-525-2902 (Home)

432-703-3501 (Business)

Email: recoulehan3@outlook.com

Are you a graduate of Midland 101? ☐ yes ☒ no

Occupation: Director of Sales at NewsWest 9

What is your personal vision for the City?

As a new Midlander, I am impressed by the sense of community present throughout the City as a whole. I am eager to take a more active role in strengthening the sense of community, in particular for the animal residents of our area. My vision is for Midland to be as great a place for companion animals as it is for people.

Please specify any time constraints you may have.

Professional obligations constitute my only time constraints, but at the time of this application no conflicts exist.

Please list below the Board(s) or Commission(s) on which you are interested in serving:

(You can find a complete and current list on the City's website at www.midlandtexas.gov)

(1) Name of Board/Commission:

Animal Control Advisory Commission

Please tell us why you are interested in serving on this board or commission.

Prior to a career in Media, I worked in animal rescue for four years. It is something I am deeply passionate about to this day, and I believe my experience will make me a valuable member to the Commission.

What contribution would you most like to make?

4+ years of experience in animal welfare offering an outside perspective and insights into programs that worked in another West Texas city. I most hope to contribute to lowering the euthanasia rate in Midland while maintaining a good qualitative of life for all companion animals.

Additional pertinent information or references:

References: Betty Hoover, Executive Director of the Humane Society of El Paso (retired), 915-525-1086

Eric Boehm, form Executive Director of El Paso Veterinary Medical Association, 904-434-5237

Leslie McElroy, Assistant News Director at NewsWest 9, 210-245-5352

(2) Name of Board/Commission:

What contribution would you most like to make?

Additional pertinent information or references:

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PLEASE TYPE OR PRINT CLEARLY:

Name: Parker Landis

Address: 809 Stanolind Ave

Midland TX 79705

(City)

(State)

(Zip)

I am ☒ I am not ☐ a U.S. Citizen

Please tell us about yourself:

I have lived in Midland .5 years.

Professional and/or Community Activities:

American Association of Professional Landmen

Permian Basin Landmen's Association

Date: 7/27/2023

Phone: 719-322-8976 (Home)

432-685-4361 (Business)

Email: parker.landis@conocophillips.com

Are you a graduate of Midland 101? ☐ yes ☒ no

Occupation: Land Negotiator

What is your personal vision for the City?

I believe in preserving the traditions and values of the city while fostering an environment that promotes the growth and prosperity of those who call Midland home.

Please specify any time constraints you may have.

N/A

Please list below the Board(s) or Commission(s) on which you are interested in serving:

(You can find a complete and current list on the City's website at www.midlandtexas.gov)

(1) Name of Board/Commission:

Parks and Recreation Commission

Please tell us why you are interested in serving on this board or commission.

I deeply value family and community bonds. By promoting outdoor activities and recreational spaces, I hope to enrich the experiences that encourage kids and families spend quality time together furthering everyone's sense of belonging in Midland.

What contribution would you most like to make?

As a junior member on the commission, I will help senior members advocate for funding, design fun and diverse programs, and work toward creating exciting and well-maintained spaces.

Additional pertinent information or references:

I have served in various positions for student organizations during college and at a summer camp for children focused on wilderness exploration.

(2) Name of Board/Commission:

Midland Housing Finance Corporation

What contribution would you most like to make?

As a junior member of the group, I will be happy to leverage my hard skills and experience to assist on various evaluations and projects.

Additional pertinent information or references:

I received my Bachelor's Degree in Real Estate and Corporate Finance and have worked budgets for large development projects.

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Signature of Applicant

Parker Landis Parker Landis
2023.07.27 07:55:16 -05'00'

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PLEASE TYPE OR PRINT CLEARLY:

Name: Mickey Cargile
Address: 415 W Wall St Ste 2200
Midland TX 79701
(City) (State) (Zip)

Date: 7/25/2023

Phone: 432-352-3485 (Home)
432-617-1394 (Business)

Email: mickey@cargileinvestments.com

I am ☒ I am not ☐ a U.S. Citizen

Please tell us about yourself:

I have lived in Midland 40 years.

Are you a graduate of Midland 101? ☐ yes ☒ no

Occupation: Investment Advisor

Professional and/or Community Activities:

Director Green Tree Country Club 9 years (President 2 yrs, Secretary/Treasurer/Finance Chair 7 yrs); Director Green Tree Estates

HOA 3 yrs (President 2 yrs, Finance Chair 1 yr); Director Juvenile Diabetes Foundation 6 yrs (President 3 yrs);

President, Cargile Charitable Foundation; President and Founder Cargile Investment Management, Inc (43 yrs); News contributor

What is your personal vision for the City?

I have no vision for the city. I leave that to our elected representation. My personal vision is to feed the hungry, shelter the homeless, educate all children, and provide help and care for those in need. To do good in the community.

Please specify any time constraints you may have.

None

Please list below the Board(s) or Commission(s) on which you are interested in serving:

(You can find a complete and current list on the City's website at www.midlandtexas.gov)

(1) Name of Board/Commission:

Permian Basin Community Centers for MHMR dba PermianCare

Please tell us why you are interested in serving on this board or commission.

I am called to serve. I have the experience and skill-set to add value in the boardroom.

The mission of this organization is one to which I want to belong.

What contribution would you most like to make?

Investment management oversight, financial management oversight, leadership if needed.

Additional pertinent information or references:

Chris Barnhill- PermiaCare CEO- 432-553-5530

Barbara Yarbrough - MISD Educator and Volunteer, PermiaCare Trustee - 432-528-1759

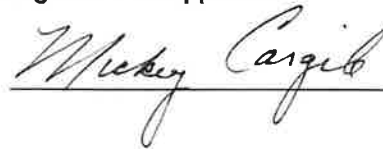
(2) Name of Board/Commission:

What contribution would you most like to make?

Additional pertinent information or references:

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Signature of Applicant



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Mickey Cargile is President of Cargile Investment Management. With 42 years' experience in the financial industry, he is a nationally recognized authority in investment management. Since founding the firm in 1984, Mickey has built a reputation as a trusted source of ethics, prudence, and foresight.

Mickey routinely provides commentary and analysis on investment, economic and financial issues for major national and international news publications including *Bloomberg*, *Businessweek*, *Consumer Reports*, *Fortune*, *Forbes*, *Money*, and *U.S. News & World Report*. Mickey has been quoted as an expert in *The Wall Street Journal*, *Financial Times*, *New York Times*, *Washington Post*, *Dallas Morning News*, *Fort Worth Star-Telegram* and *Houston Chronicle*. Locally, he has provided expert advice and commentary published in the *Midland Reporter-Telegram* and the *Odessa American*. Mickey has appeared as a guest expert on national broadcasts of Fox News Channel and CNBC.

You can catch Mickey Thursday mornings on *Wake Up West Texas*, *Money with Mickey*, on CBS-7 at 6:45 AM, and on *Morning Drive with Kris Moore*, *Money Matters*, on KCRS Radio at 7:30 AM



APPLICATION FOR CITY OF MIDLAND BOARDS/COMMISSIONS/COMMITTEES

As an applicant for a City board, commission, or committee, please be advised that all information on this application is subject to the Texas Open Records Act and will be available to the public.

PLEASE TYPE OR PRINT CLEARLY:

Name: Erin Bailey

Address: 2406 Humble Ave

Midland TX 79705

(City) (State) (Zip)

I am ☒ I am not ☐ a U.S. Citizen

Please tell us about yourself:

I have lived in Midland ³ years.

Professional and/or Community Activities:

Outside of working for Diamondback, where we are heavily involved in the community, I am on the board and a "big" for Big Brothers

Big Sisters of the Permian Basin. I also teach fitness classes at Embury Lagree, A Lagree Studio.

Date: 7/24/2023

Phone: 210-620-8986 (Home)

432-218-2160 (Business)

Email: ecb625@outlook.com

Are you a graduate of Midland 101? ☐ yes ☒ no

Occupation: Corporate Affairs Rep. at Diamondback Energy

What is your personal vision for the City?

My personal vision is that Midland will be a place where people of all ages want to live, work and play. As a young adult and as someone who has lived all over the country, I see the great things Midland has to offer, the wonderful people and sense of community it has. I want others to Midland as a place where they want to live and raise a family, not just a stop on their career path.

Please specify any time constraints you may have.

My typical work hours are 8:00 AM - 5:00 PM but they are flexible.

Please list below the Board(s) or Commission(s) on which you are interested in serving:

(You can find a complete and current list on the City's website at www.midlandtexas.gov)

(1) Name of Board/Commission:

Parks and Recreation Commission

Please tell us why you are interested in serving on this board or commission.

I am interested in serving on this board because I think parks and recreation adds true value to our city and helps in making Midland a better place to live, work and play. I want to raise a family here and want my future kids to be able to enjoy quality amenities.

What contribution would you most like to make?

The contribution I would like to make most it to help improve the quality of life in Midland.

Additional pertinent information or references:

Clint Williamson, Manager Corporate Affairs - Diamondback Energy, cwilliamson@diamondbackenergy.com, 432-247-6220

Chuck Blumenauer, Midland Fire Chief, cblumenauer@midlandtexas.gov, 432-934-4373

Paige Purvis, Owner, Embody Lagree, paige@embodylagree.com

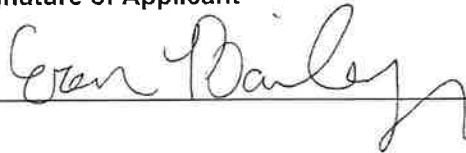
(2) Name of Board/Commission:

What contribution would you most like to make?

Additional pertinent information or references:

Applications are maintained on file in the City Secretary's office for a period of one year. Should you need additional information, please call us at 432-685-7430.

Signature of Applicant



Applications may be submitted online via email or print in order to send by mail:

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PLEASE TYPE OR PRINT CLEARLY:

Name: Linda Griffin

Address: 2101 Northrup Drive

Midland, TX 79705

(City)

(State)

(Zip)

I am ☒ I am not ☐ a U.S. Citizen

Please tell us about yourself:

I have lived in Midland 42 years.

Professional and/or Community Activities:

I am on the board of "Live on Stage," an organization that brings live music to the community at a resonable price.

Date: 6/19/2023

Phone: 432-889-8677 (Home)

(Business)

Email: ljgriffin@gmail.com

Are you a graduate of Midland 101? ☐ yes ☒ no

Occupation: retired

What is your personal vision for the City?

I am concerned about the quality of life for all Midlanders regardless of how much income they have or don't have.

Many people are struggling, but don't know where to go for help or who to ask.

Please specify any time constraints you may have.

Please list below the Board(s) or Commission(s) on which you are interested in serving:

(You can find a complete and current list on the City's website at www.midlandtexas.gov)

(1) Name of Board/Commission:

Midland Housing Authority Commission

Please tell us why you are interested in serving on this board or commission.

My daughter has lived in Hillcrest Manor for 10 years. She is eligible due to her disability.

I am concerned about the quality of life of the residents and others who live in similar facilities due to circumstances.

My personal experience with low-income housing, through my daughter, gives me insight into problems and, hopefully, solutions.

What contribution would you most like to make?

Concerning Hillcrest Manor and Langtree Village, I would take a personal interest in making the facilities better for the residents.

Most of the residents have very limited income and more needs to be done to help provide them with a decent place to live.

Additional pertinent information or references:

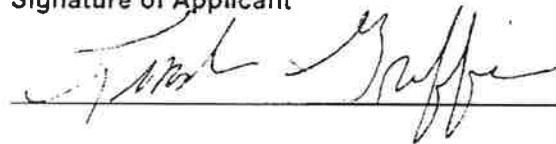
(2) Name of Board/Commission:

What contribution would you most like to make?

Additional pertinent information or references:

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Signature of Applicant



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PLEASE TYPE OR PRINT CLEARLY:

Name: Chris Nolan

Address: 1614 W. Dengar Ave.

Midland TX 79705

(City) (State) (Zip)

I am ☒ I am not ☐ a U.S. Citizen

Please tell us about yourself:

I have lived in Midland 9 years.

Professional and/or Community Activities:

Texas Society of CPAs (TXCPA) Permian Basin Chapter member, Midland Odessa Business and Estate Council (MOBEC) member,

Senior Life Midland Board of Directors and Executive Committee, Texas Tech Alumni Association Permian Basin Chapter Treasurer,

Leadership Midland (Class of 2024)

What is your personal vision for the City?

To become the top destination city in West Texas. Primarily, strengthening economic development and improving overall quality of
life factors by attracting more professional talent and reinvesting in community assets for future generations to enjoy.

Please specify any time constraints you may have.

Senior Life Midland Board of Directors meetings are typically at noon on the first Tuesday of each month.

Please list below the Board(s) or Commission(s) on which you are interested in serving:

(You can find a complete and current list on the City's website at www.midlandtexas.gov)

(1) Name of Board/Commission:

Midland Development Corporation

Please tell us why you are interested in serving on this board or commission.

To help further efforts enhancing the attractiveness of Midland's business regions. Specifically, since I work in the Fasken Center,
continuing to revitalize the downtown area and foster new ventures to help create jobs and enhance current businesses recruit talent.

Date: 6/2/2023

Phone: 512-965-3806 (Home)

432-683-1835 (Business)

Email: cnolan28@gmail.com

Are you a graduate of Midland 101? ☐ yes ☒ no

Occupation: Tax Partner, Certified Public Accountant (CPA)

What contribution would you most like to make?

To help incentivize businesses relocating from other states (or other parts of Texas) to establish their headquarters in Midland or open a Midland location.

Additional pertinent information or references:

Zachary Deck, MBA (703-659-5911) - Leadership Midland Classmate

Steven Jeffcoat, CPA (432-212-3602) - Tax Partner with Whitley Penn (formerly Johnson, Miller, & Associates)

Alan Douglas, CPA (432-770-4041) - retired Partner with Whitley Penn (formerly Johnson, Miller, & Associates)

(2) Name of Board/Commission:

Airport Planning and Development Board

What contribution would you most like to make?

To increase the attractiveness of Midland International Air and Space Port for potential advertising opportunities, new business partners, and to expand/optimize the current footprint as needed.

Additional pertinent information or references:

Tim Culp, CPA (432-685-9038) - President, Southwest Royalties, Inc.

Ryan Bartholomee, CPA (432-685-1964), Chief Financial Officer, Shenandoah Petroleum Corporation

Kevin Dawson, SHRM-CP (432-694-2587) - Leadership Midland Classmate

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Signature of Applicant



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PLEASE TYPE OR PRINT CLEARLY:

Name: Samuel Jolliffe V

Address: 1703 West Industrial Ave

Midland TX 79701

(City)

(State)

(Zip)

I am ☒ I am not ☐ a U.S. Citizen

Please tell us about yourself:

I have lived in Midland 1 years.

Professional and/or Community Activities:

Captain and Embraer 170 Simulator Instructor for Republic Airlines. Line-Oriented Safety Auditor for Republic Airlines.

First Officer for Spirit Airlines. Meals on Wheels Midland driver.

Date: 6/7/2023

Phone: (386) 562-1542 (Home)

(Business)

Email: Samjolliffe5@gmail.com

Are you a graduate of Midland 101? ☐ yes ☒ no

Occupation: Airline Pilot

What is your personal vision for the City?

Continued sustainable growth and industry diversification. Continued attraction and retention of new Midlanders from other

U.S. cities

Please specify any time constraints you may have.

My only time constraint currently is my work with Spirit Airlines. I average 15 days per month away from home with work.

I am able to organize my flight schedule around the Airport board meetings or as otherwise needed.

Please list below the Board(s) or Commission(s) on which you are interested in serving:

(You can find a complete and current list on the City's website at www.midlandtexas.gov)

(1) Name of Board/Commission:

Airport Advisory Board

Please tell us why you are interested in serving on this board or commission.

I have a 20 year background in aviation and have been very interested in the decisions that our airport faces. I have thoroughly

Enjoyed the three meetings I have attended so far. I feel that I can add great input as someone who travels weekly to numerous

airports around the world and sees how they operate.

What contribution would you most like to make?

I would like to contribute my time and my aviation knowledge to the board so that we can continue the development of our Spaceport and to compete with and differentiate ourselves from the other Texas Spaceports. I would also like to help bring additional airlines and/or destinations from MAF. Continued terminal facility expansion and passenger services is also important to me.

Additional pertinent information or references:

Ben Fietz, airport board member. Jaime Linderman, airport board member. Justin Kuethe, airport board member

(2) Name of Board/Commission:

What contribution would you most like to make?

Additional pertinent information or references:

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Signature of Applicant

Samuel Hopkins Jolliffe V

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PLEASE TYPE OR PRINT CLEARLY:

Name: Melissa Ruckman
Address: 4300 San Pedro Court
Midland Texas 79707
(City) (State) (Zip)

Date: 7/3/2023

Phone: _____ (Home)
432-683-4261 (Business)

Email: melissa.ruckman@wtabstract.com

I am ☒ I am not ☐ a U.S. Citizen

Please tell us about yourself:

I have lived in Midland 54 years.

Are you a graduate of Midland 101? ☒ yes ☐ no

Occupation: Escrow Officer

Professional and/or Community Activities:

Member of Texas Land Title Association

Member of Permian Basin Board of Realtors

Many Church Activities

What is your personal vision for the City?

I am honored to call Midland, Texas my home. I am a native Midlander that wants to see our Community continue to develop and grow and to insure that the next generation can prosper and carry on the traditions that have made Midland a great place to live and work

Please specify any time constraints you may have.

I work full time so would need to know times of meeting in advance to schedule them

Please list below the Board(s) or Commission(s) on which you are interested in serving:

(You can find a complete and current list on the City's website at www.midlandtexas.gov)

(1) Name of Board/Commission:

Planning & Zoning

Please tell us why you are interested in serving on this board or commission.

I work day to day in a particular area of the Real Estate Industry and would hope to be able to pass on some of that knowledge where applicable

What contribution would you most like to make?

As a Citizen of Midland I would like to contribute to the overall good for our City by serving and dedicating what time I can

Additional pertinent information or references:

Just came through the Citizen's 101 Class and have learned that you don't have to know everything about a particular area in order to serve on a Board. I would like to say Thank you to Karisa Danley & Martha Cortazar for all their hard work on the Citizen's 101 Class.

(2) Name of Board/Commission:

What contribution would you most like to make?

Additional pertinent information or references:

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Signature of Applicant

Melina Rukman

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PLEASE TYPE OR PRINT CLEARLY:

Name: Dustin Joe Johnson

Address: 700 Mc Donald St

Midland Tx 79703

(City)

(State)

(Zip)

I am ☒ I am not ☐ a U.S. Citizen

Please tell us about yourself:

I have lived in Midland 28 years.

Professional and/or Community Activities:

President Of Midland Skatepark Association

Date: 6/2/2023

Phone: 432-889-3855 (Home)

(Business)

Email: dustyjoe2006@gmail.com

Are you a graduate of Midland 101? ☐ yes ☒ no

Occupation: Architectural Draftsman

What is your personal vision for the City?

I want to see Midland grow to its full potential and have many ideas to improve the city that I've learned in my travels that could be brought here that would improve the city tremendously. After not making City Council was advsd to start by joining on of these boards. And since improving parks especially the William and Sam Memorial Skatepark this was the one to join.

Please specify any time constraints you may have.

I work full time for Vandergriff Group Architects can attend meetings during lunch with a heads up and generally free after 5pm

Please list below the Board(s) or Commission(s) on which you are interested in serving:

(You can find a complete and current list on the City's website at www.midlandtexas.gov)

(1) Name of Board/Commission:

Parks and Recreation

Please tell us why you are interested in serving on this board or commission.

The William and Sam Memorial Skatepark has been neglected and forgotten about for coming up on 20 years no no major improvements or upgrades even though the number of people who use this park has over quadrupled since it opened. Meanwhile

the organized sports facilities around it constantly get upgrades because they're organized and action sports isn't.

What contribution would you most like to make?

I want to be the voice for the growing action sports community here, there are plenty of unused places that could be made into simple cheap parks most made by city employees so everything could be done in house. Popularity of action sports is growing worldwide and is being featured in the Olympics. So i feel midland could potential be the home of future Olympic athletes in these.

Additional pertinent information or references:

Been a voice for this community for over 10 years attending various meetings with the city including parks and rec meetings, city council meetings, and even private meetings with parks and rec directors and members city officials to advise on equipment and help with ideas on location of certain items out there to keep from being damaged.

(2) Name of Board/Commission:

What contribution would you most like to make?

Additional pertinent information or references:

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Signature of Applicant

Dustin Joe Johnson

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PLEASE TYPE OR PRINT CLEARLY:

Name: Liliana Lopez

Address: 104 S Glenwood Dr

Midland TX 79703

(City) (State) (Zip)

I am ☒ I am not ☐ a U.S. Citizen

Please tell us about yourself:

I have lived in Midland 14 years.

Professional and/or Community Activities:

Board Member West Texas Opportunities

Date: 7/7/2023

Phone: 432-413-2750 (Home)

(Business)

Email: lilianalopez656@gmail.com

Are you a graduate of Midland 101? ☒ yes ☐ no

Occupation: Housing Counselor

What is your personal vision for the City?

It is a beautiful city with a lot of opportunities for its residents

Please specify any time constraints you may have.

None

Please list below the Board(s) or Commission(s) on which you are interested in serving:

(You can find a complete and current list on the City's website at www.midlandtexas.gov)

(1) Name of Board/Commission:

Midland Housing Authority Commission

Please tell us why you are interested in serving on this board or commission.

I would like to contribute to my community and be more aware of the benefits of this program.

What contribution would you most like to make?

I am available to the needs of the program

Additional pertinent information or references:

(2) Name of Board/Commission:

What contribution would you most like to make?

Additional pertinent information or references:

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PLEASE TYPE OR PRINT CLEARLY:

Name: Neville Peyton

Address: 2624 Delano Avenue

Midland Texas 79701

(City) (State) (Zip)

I am ☒ I am not ☐ a U.S. Citizen

Please tell us about yourself:

I have lived in Midland ²³ years.

Professional and/or Community Activities:

Midland 101

Volunteered With The Basin Dream Center

Volunteered With Meals on Wheels

What is your personal vision for the City?

My personal vision for the City is to create a better everyday life for the people, to bring the community together and to see the City move toward its full potential.

Please specify any time constraints you may have.

None

Please list below the Board(s) or Commission(s) on which you are interested in serving:

(You can find a complete and current list on the City's website at www.midlandtexas.gov)

(1) Name of Board/Commission:

Midland Housing Authority Commission

Please tell us why you are interested in serving on this board or commission.

I am interested in serving on this commission because I believe that I could have an impact on improving the quality of life for vulnerable populations (the elderly and disabled) in our City.

Date: 6/14/2023

Phone: (432) 528-4855 (Home)

N/A (Business)

Email: Pey5938@gmail.com

Are you a graduate of Midland 101? ☒ yes ☐ no

Occupation:

What contribution would you most like to make?

I would contribute my life experiences as an Educator and a mother of a disabled son. I know what it takes to identify the needs of individuals and define immediate steps to address those needs. I want to be a contributing member of society by offering my time and personal resources to strengthen those most vulnerable while alleviating homelessness and human suffering in the city.

Additional pertinent information or references:

Sandy Vasquez, Vice Principal, Alternative Education Center, Odessa, Texas, Sandy.vasquez@ectorcountyisd.org (432) 456-0044
Tina Gillihan, Director of Basin Dream Center for Orphans, Midland, Texas , (432) 967-9452

(2) Name of Board/Commission:

What contribution would you most like to make?

Additional pertinent information or references:

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PLEASE TYPE OR PRINT CLEARLY:

Name: Christopher M. Butler

Address: 5714 Sister Creek

Midland TX 79707

(City)

(State)

(Zip)

I am ☒ I am not ☐ a U.S. Citizen

Please tell us about yourself:

I have lived in Midland 37 years.

Professional and/or Community Activities:

Previous 2-Term Board President for the Family Promise of Midland, Leadership Midland Alumni, Midland Chamber of Commerce Member

Date: June 29, 2023

Phone: 432-634-1435 (Home)

(Business)

Email: chris@cmbcllc.com

Are you a graduate of Midland 101? ☐ yes ☒ no

Occupation: Business Owner

What is your personal vision for the City?

For Midland to have the courage and commitment to invest in itself, to be who we say we are; the Energy Capital.

Please specify any time constraints you may have.

None

Please list below the Board(s) or Commission(s) on which you are interested in serving:

(You can find a complete and current list on the City's website at www.midlandtexas.gov)

(1) Name of Board/Commission:

Airport Planning and Development

Please tell us why you are interested in serving on this board or commission.

Serving on the Airport Planning and Development board would allow me the incredible opportunity to actively engage with my local community and contribute to the overall betterment of Midland. By dedicating my time and expertise, I would be able to advocate for the needs and concerns of the community, working towards equitable solutions and ensuring that the development of the airport continues to meet the evolving needs of residents.

What contribution would you most like to make?

As a professional and a father, I am deeply invested in the community's growth and well-being. By actively participating in the city's reinvestment into the community and fostering long-term development, I would have the opportunity to channel my expertise into a thriving community that flourishes for generations to come.

Additional pertinent information or references:

Wes Gotcher - Moriah Group
Tony Sam - Caza Petroleum
Tom Miller - Executive Director - Family Promise of Midland
Grant Billingsley - President & CEO - Scharbauer Foundation

(2) Name of Board/Commission:

Planning and Zoning Commission

What contribution would you most like to make?

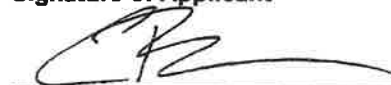
I would like to help foster long-term development in Midland and create a positive cycle of progress and prosperity for the community for years to come.

Additional pertinent information or references:

Wes Gotcher - Moriah Group
Tony Sam - Caza Petroleum
Tom Miller - Executive Director - Family Promise of Midland
Grant Billingsley - President & CEO - Scharbauer Foundation

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Signature of Applicant



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PLEASE TYPE OR PRINT CLEARLY:

Name: Claudius Sanchez Czyzewska

Address: 4315 Greenbriar Dr

Midland TX 79707

(City) (State) (Zip)

I am ☒ I am not ☐ a U.S. Citizen

Please tell us about yourself:

I have lived in Midland 5 years.

Professional and/or Community Activities:

Principal Engineer at Magrym Consulting, Fitness Instructor at Midland YMCA, President Elect of Rotary Club of Midland,

Parent-coach for U8 boys Soccer MSA and U9 girls basketball YMCA, Manager of Real Midland Adult Soccer Team,

President Elect at Texas Society of Professional Engineers Permian Basin Chapter, UTPB Engineering Advisory Board Member

What is your personal vision for the City?

Make Midland a place where people want to live, where people feel proud of where they live and where people don't want to leave behind. Ensure the City has all the necessary services, amenities and resources to attract and retain individuals and families from any race and socio-economic background. Help citizens feel that Midland is not a transient community, but a permanent place to live.

Please specify any time constraints you may have.

max time commitment up to 2 hours/week

Please list below the Board(s) or Commission(s) on which you are interested in serving:

(You can find a complete and current list on the City's website at www.midlandtexas.gov)

(1) Name of Board/Commission:

Airport planning and development

Please tell us why you are interested in serving on this board or commission.

As a civil engineer, I envision airports as small versions of a full functioning City. The infrastructure maintenance and improvements needed at the airport are critical to ensure successful day-to-day operations and sustainable growth. I believe my professional

Date: 6/26/2023

Phone: 575-495-1378 (Home)

432-999-2737 (Business)

Email: claudius.sanchez@gmail.com

Are you a graduate of Midland 101? ☐ yes ☒ no

Occupation: Civil Engineer

background will be invaluable to the airport leadership, and will provide a positive and unique perspective in every decision.

What contribution would you most like to make?

My contribution will be focused on helping with infrastructure related decisions. From FOBs, to tarmac operations, to passenger access needs, I can contribute to assess capital project funding and maintenance needs. As an avid traveler and taxpayer, I am always on the look for the most cost-effective way to ensure any system, such as the airport, can function as efficient as possible.

Additional pertinent information or references:

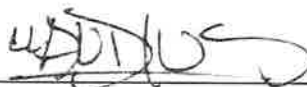
(2) Name of Board/Commission:

What contribution would you most like to make?

Additional pertinent information or references:

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Signature of Applicant



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Midland, TX 79702

Submit Via Email

Print Application



APPLICATION FOR CITY OF MIDLAND BOARDS/COMMISSIONS/COMMITTEES

As an applicant for a City board, commission, or committee, please be advised that all information on this application is subject to the Texas Open Records Act and will be available to the public.

PLEASE TYPE OR PRINT CLEARLY:

Name: Robert R. "Robin" Donnelly
Address: 800 Canonero
Midland Texas 79705
(City) (State) (Zip)

Date: 6/2/2023
Phone: 4325594495 (Home)
4326836293 (Business)
Email: rrdonnelly@hotmail.com

I am ☒ I am not ☐ a U.S. Citizen

Please tell us about yourself:

I have lived in Midland ⁴⁷ years.

Are you a graduate of Midland 101? ☒ yes ☐ no

Occupation: Landman

Professional and/or Community Activities:

City of Midland Animal Advisory Board (as County Commissioner), City of Midland Airport Planning and Development Board,

Midland-Odessa Transportation Board Member, Midland Rotary Club, Permian Basin Landmans Association;

Midland County Commissioner, retired; Please note: I was a graduate of Leadership Midland 11th Class

Development Corporation, Board Member 2016 to 2018

What is your personal vision for the City?

Development of the transportation structure most importantly the airports and space ports will bolster the economic viability of the City of Midland into the future.

Please specify any time constraints you may have.

None

Please list below the Board(s) or Commission(s) on which you are interested in serving:

(You can find a complete and current list on the City's website at www.midlandtexas.gov)

(1) Name of Board/Commission:

City of Midland Airport Planning and Development Board

Please tell us why you are interested in serving on this board or commission.

I have previously serviced on this board and participated in looking at the future of both International and Airpark. I was on the board when the development of the spaceport was initiated. I believe I can contribute to successful management of the airports.

What contribution would you most like to make?

I believe understanding the history of how the airport facilities have developed and are operating would give me a head start on the enhancement of facilities within the structure of FAA rules and regulations.

Additional pertinent information or references:

References: Frank Kisner, Robin Poole, Justin Ruff

(2) Name of Board/Commission:

What contribution would you most like to make?

Additional pertinent information or references:

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Signature of Applicant



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APPLICATION FOR CITY OF MIDLAND BOARDS/COMMISSIONS/COMMITTEES

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PLEASE TYPE OR PRINT CLEARLY:

Name: Jordan Dyer

Address: 2307 Boyd Avenue

Midland, Texas 79

(City)

(State)

(Zip)

I am ☒ I am not ☐ a U.S. Citizen

Please tell us about yourself:

I have lived in Midland ³⁴ years.

Professional and/or Community Activities:

AAPG Active Member, SPE Member, Active in all local elections, assist keep Midland beautiful, Meals on wheels, etc.

ASPCA, SEPM, AADE active member, Member of the Petroleum Club

Date: 7/6/2023

Phone: 4327702334 (Home)

(Business)

Email: jdyerttu@gmail.com

Are you a graduate of Midland 101? ☐ yes ☒ no

Occupation: Vice President of Business Development

What is your personal vision for the City?

To diversify our optionality, this includes sustainable initiatives. A cleaner city via community outreach initiatives and increased public have the best amenities that our city can afford. We should be moving forward in terms of economic diversity and have optionality for A city we can be proud and call home with amenities people of this community deserve. Better options with common sense input.

Please specify any time constraints you may have.

None

Please list below the Board(s) or Commission(s) on which you are interested in serving:

(You can find a complete and current list on the City's website at www.midlandtexas.gov)

(1) Name of Board/Commission:

Airport Planning and Development board

Please tell us why you are interested in serving on this board or commission.

In regards to the airport we need diversification in our food and beverage offerings among other things, airport security lines need hel A fresh vision will help to spearhead new initiatives that provide optionality and save our taxpayers money and increase efficiency.

What contribution would you most like to make?

To help provide a better service and optionality in the food and beverage, and hospitality options at MAF.

Additional pertinent information or references:

Doug Scharbauer Sr.

Randy Geiselman

Jimmy Matthews

(2) Name of Board/Commission:

Citizens Development and Hotel/Motel Advisory Board.

What contribution would you most like to make?

Provide insight as to local and national trends of what people are looking for in restaurant and hotel options. Provide financial and business assistance. P&L oversight and leadership guidance across income statement and balance sheet management.

Creative guidance into trending markets for food, beverage and hospitality options.

Additional pertinent information or references:

Doug Scharbauer Sr.

Randy Geiselman

Jimmy Matthews

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Signature of Applicant



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APPLICATION FOR CITY OF MIDLAND BOARDS/COMMISSIONS/COMMITTEES

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PLEASE TYPE OR PRINT CLEARLY:

Name: R Gary Gray
Address: 4309 Greenville Dr.
Midland TX 79707
(City) (State) (Zip)

Date: 6/12/2023
Phone: 432-352-7552 (Home)
432-221-5103 (Business)
Email: garygray@me.com

I am ☒ I am not ☐ a U.S. Citizen

Please tell us about yourself:

I have lived in Midland 27 years.

Are you a graduate of Midland 101? ☐ yes ☒ no

Occupation: Physical Therapist / business owner

Professional and/or Community Activities:

City of Midland Zoning Bd. of Adjustment / Airport Zoning Bd. of Adjustment, Midland Children's Rehab Center (Medical Advisory Committee), Green Tree Country Club Bd of Governors (former President and Bd. member), Teen Flow Youth Ministry (President)

What is your personal vision for the City?

Improve all aspects including recruitment and retention, education, affordability, entertainment, facilities including those that include travel.

Please specify any time constraints you may have.

None

Please list below the Board(s) or Commission(s) on which you are interested in serving:

(You can find a complete and current list on the City's website at www.midlandtexas.gov)

(1) Name of Board/Commission:

Airport Planning and Development Board

Please tell us why you are interested in serving on this board or commission.

As a frequent traveler in and out of MAF I feel that I can add a unique and different perspective on our airports and related issues.

What contribution would you most like to make?

I would like to be able to contribute to the conversations and influence the decisions of the City regarding this Board by offering a business minded perspective from someone who is in and out of the airport almost weekly. This includes forward thinking, thoughts on development, and the ability to think in a prgressive manner.

Additional pertinent information or references:

While not having participated in a "Midland 101" class, I have attend and completed all of "Leadership Midland".

(2) Name of Board/Commission:

What contribution would you most like to make?

Additional pertinent information or references:

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Signature of Applicant



Applications may be submitted online via email or print in order to send by mail or fax:

City of Midland
City Secretary's Office
PO Box 1152
Midland, TX 79702
FAX: (432) 685-7433

Submit Via Email

Print Application



APPLICATION FOR CITY OF MIDLAND BOARDS/COMMISSIONS/COMMITTEES

As an applicant for a City board, commission, or committee, please be advised that all information on this application is subject to the Texas Open Records Act and will be available to the public.

PLEASE TYPE OR PRINT CLEARLY:

Name: Layton Hargesheimer

Address: 2802 Lockheed Dr.

Midland Texas 79701

(City) (State) (Zip)

I am ☒ I am not ☐ a U.S. Citizen

Please tell us about yourself:

I have lived in Midland ²⁶ years.

Professional and/or Community Activities:

Active Volunteer and Member of Redeemer Church of Midland

Society of Petroleum Engineers

Date: 6/7/2023

Phone: 432-413-7920 (Home)

432-687-3700 (Business)

Email: LaytonH@hannathon.com

Are you a graduate of Midland 101? ☐ yes ☒ no

Occupation: COO/Petroleum Engineer

What is your personal vision for the City?

My Vision is to ensure that the city of Midland maintains the unique and valuable community it currently has while we continue to lead and grow.

Please specify any time constraints you may have.

none

Please list below the Board(s) or Commission(s) on which you are interested in serving:

(You can find a complete and current list on the City's website at www.midlandtexas.gov)

(1) Name of Board/Commission:

Oil and Gas Advisory Committee (Petroleum Engineer)

Please tell us why you are interested in serving on this board or commission.

I am interested in this board to make certain Midland's resources are developed adequately while making our city and community first priority. The oil and gas industry has been a passion and area I have been around my entire life.

What contribution would you most like to make?

To serve the city of Midland by offering my oil and gas experience. I will commit to the citizens of Midland to serve in the best interest of our city with diligence and integrity.

Bachelor of Science in Petroleum Engineering from the University of Oklahoma

Additional pertinent information or references:

Dan Hord III, 432-253-7805, danhord@hedlocinv.com

Justin Kuethe, 432-238-1456, justink@hannathon.com

Randy Prude , 432-685-1980 , rprude@mcounty.com

(2) Name of Board/Commission:

Airport Planning and Development Board

What contribution would you most like to make?

To serve the city of Midland by offering my 26 years of resident experience.

I will commit to the citizens of Midland to serve in the best interest

Additional pertinent information or references:

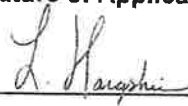
Dan Hord III, 432-253-7805, danhord@hedlocinv.com

Justin Kuethe, 432-238-1456, justink@hannathon.com

Randy Prude , 432-685-1980 , rprude@mcounty.com

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Signature of Applicant



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PLEASE TYPE OR PRINT CLEARLY:

Name: SAVANNAH Alvarado

Address: 2004 N L St

Midland Texas 79705
(City) (State) (Zip)

I am ☒ I am not ☐ a U.S. Citizen

Please tell us about yourself:

I have lived in Midland ²⁵ years.

Professional and/or Community Activities:

Bynum School Board of Directors, 2023 Marketing Chair, 2024 Executive Committee

2023 Bynum SMASH Chair | President & Owner- Hancock Advertising Group

2022 American Cancer Society Round Up Co-Chair, 2023 Round Up Marketing Chair

What is your personal vision for the City?

Improve the perception of Midland as a great place to live and raise a family. Improve the community involvement in City planned activities and improve landscaping.

Please specify any time constraints you may have.

n/a

Please list below the Board(s) or Commission(s) on which you are interested in serving:

(You can find a complete and current list on the City's website at www.midlandtexas.gov)

(1) Name of Board/Commission:

Parks and Recreation Commission: (Advisory)

Please tell us why you are interested in serving on this board or commission.

I grew up around the corner from Fasken park and I have watched the growth and impact that park has had not only on the neighborhood, but the city as a whole. The city offers great parks and activities, the community needs to be educated more. I'd like

Date: 6/23/2023
Phone: 432-288-3100 (Home)
432-694-2181 (Business)
Email: savannah@hancockgroup.net

Are you a graduate of Midland 101? ☐ yes ☐ no

Occupation: Marketing

to help improve community awareness of offerings.

What contribution would you most like to make?

Marketing and outreach

Additional pertinent information or references:

n/a

(2) Name of Board/Commission:

What contribution would you most like to make?

Additional pertinent information or references:

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Signature of Applicant

Savannah Alvarado

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PLEASE TYPE OR PRINT CLEARLY:

Name: Eduardo L. Aleman

Address: 1111 Magnolia

Midland Texas 79705

(City)

(State)

(Zip)

I am ☒ I am not ☐ a U.S. Citizen

Please tell us about yourself:

I have lived in Midland ³³ years.

Professional and/or Community Activities:

Date: 1/19/2023

Phone: 432-254-0327 (Home)

432-254-0327 (Business)

Email: eduardoaleman72@yahoo.com

Are you a graduate of Midland 101? ☐ yes ☒ no

Occupation: _____

What is your personal vision for the City?

I'd like to see more local residents successfully develop land. We get a lot of people from other cities and/or states come in and develop land not understanding that there is an ordinance to follow. Nothing against them, I'd just like to see more locals succeed.

Please specify any time constraints you may have.

Please list below the Board(s) or Commission(s) on which you are interested in serving:

(You can find a complete and current list on the City's website at www.midlandtexas.gov)

(1) Name of Board/Commission:

Planning and Zoning Commission

Please tell us why you are interested in serving on this board or commission.

I work for schumman Surveying and we offer platting services. I believe it will be beneficial for me to be a part of this board to get educated and to then be able to better assist our clients.

What contribution would you most like to make?

My time to meet with planning and Zoning todiscuss people's plans and Ideas on Land Development and get City staff's thoughts and opinions to either support or suggest a better route.

Additional pertinent information or references:

(2) Name of Board/Commission:

What contribution would you most like to make?

Additional pertinent information or references:

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Signature of Applicant

Eduardo J Aleman

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PLEASE TYPE OR PRINT CLEARLY:

Name: Manny Aranda

Address: 3617 Sinclair Ave

Midland TX 79707

(City) (State) (Zip)

I am ☒ I am not ☐ a U.S. Citizen

Please tell us about yourself:

I have lived in Midland 15 years.

Professional and/or Community Activities:

Real Estate and Facility Lead for large Oil & Gas company in Midland, 7 year volunteer coach with MSA, Local Lead Pastor.

Member of the Midland Ministerial Alliance

Date: 6/21/2023

Phone: 432-236-5199 (Home)

(Business)

Email: aranda.mjr@gmail.com

Are you a graduate of Midland 101? ☐ yes ☒ no

Occupation: Oil & Gas Real Estate & Facility

What is your personal vision for the City?

For Midland to be a place that citizens can be proud of to call home, when people who come in from out of town can consider this a place to live and not just work.

Please specify any time constraints you may have.

Available M-Sat

Please list below the Board(s) or Commission(s) on which you are interested in serving:

(You can find a complete and current list on the City's website at www.midlandtexas.gov)

(1) Name of Board/Commission:

Parks and Recreation Commission

Please tell us why you are interested in serving on this board or commission.

As a citizen, recreational coach and local pastor, the parks play a very important role in my life. My wife and I met at Hogan, my kids grew up playing and practicing at these parks and our churches often used these parks for parties and gatherings and special events.

I feel that being on this board will help me contribute back to my community for all the great memories and time spent at these places

What contribution would you most like to make?

I would love to assist in improving and enhancing our parks. My perspective as an active user of these facilities will give the board a practical understanding that will help with enhancements and recommendations for plans moving forward.

Additional pertinent information or references:

Tim Leach - Founder Conhco Resources

Jon Wymore- Midland Ministerial Alliance

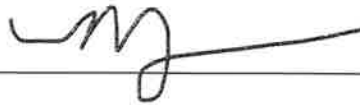
(2) Name of Board/Commission:

What contribution would you most like to make?

Additional pertinent information or references:

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Signature of Applicant



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PLEASE TYPE OR PRINT CLEARLY:

Name: Heather Bredimus

Address: 4013 Fairwood Dr.
Midland, TX 79707

(City) (State) (Zip)

I am ☒ I am not ☐ a U.S. Citizen

Please tell us about yourself:

I have lived in Midland 35 years.

Professional and/or Community Activities:

The Rotary Club of Midland (Public Image Chair & President Nominee), St. Joseph's Ministry (Co-Founder & Chair of the Foster/Adopt Parent Support Group), The Crisis Center of West Texas (Certified Sexual Assault Victim Advocate), Midland Community Theatre (Actor & Fundraising Volunteer), League of Women Voters (Board Member)

What is your personal vision for the City?

I envision a city where the needs and aspirations of all its residents are met, regardless of their socio-economic status, race, or gender. We should strive to foster a community that embraces diversity, collective well-being, and compassion. Midland should be known for our innovation and entrepreneurship, as well as the ideal place to raise a family.

Please specify any time constraints you may have.

Thursdays (11:30 AM-1:30 PM)

3rd Tuesday of every month (5:00 - 9:00 PM)

2nd Wednesday of every month (11:30 AM - 1:30 PM)

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(You can find a complete and current list on the City's website at www.midlandtexas.gov)

(1) Name of Board/Commission:

Citizens Development and Hotel/Motel Advisory Board

Please tell us why you are interested in serving on this board or commission.

My experience volunteering with multiple local nonprofits has provided the skills necessary to pinpoint specific needs within our community and develop action plans to address our mission.

Date: 07/01/2023

Phone: (432) 978-3785 (Home)

(432) 683-1740 (Business)

Email: heatherbredimus@yahoo.com

Are you a graduate of Midland 101? ☐ yes ☒ no

Occupation: Graphic Designer

What contribution would you most like to make?

My professional skills include communications, advertising, and social media marketing. My strength lies in presenting information to mass audiences, especially concerning initiatives designed to serve others. Proficiency in this area can be used to assist the City of Midland communicate how the Hotel/Motel Funds are being utilized effectively.

Additional pertinent information or references:

Patty Pisklak - Executive Director of CASA of West Texas and the St. Joseph's Ministry - (432) 413-4556

Adrian Carrasco - Past President of The Rotary Club of Midland - (432) 553-7787

Hannah Horick - Director of Education & Partnerships at The Crisis Center of West Texas - (903) 218-7113

(2) Name of Board/Commission:

What contribution would you most like to make?

Additional pertinent information or references:

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Signature of Applicant

Heather Bredin

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BOARDS/COMMISSIONS/COMMITTEES

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PLEASE TYPE OR PRINT CLEARLY:

Name: RAYMOND C (SKEET) DOSS

Address: 545 JUNIPER CT
MIDLAND, TX 79707

(City)

(State)

(Zip)

I am ☒ I am not ☐ a U.S. Citizen

Please tell us about yourself:

I have lived in Midland 49 years

Professional and/or Community Activities:

HELD ALL LEADERSHIP OFFICES PERMIAN BASIN BOARD OF REALTORS, CHAIRED 8
NON-PROFITS, WAS ONE OF THREE ORIGINAL FOUNDERS OF APHASIA CENTER, STARTING
BOARD OF MIDLAND ARTS ASSEMBLY, ACTIVE CHURCH MEMBER FBC

What is your personal vision for the City?

TO SEE THE CITY PROTECT PRIVATE PROPERTY RIGHTS WHILE AGGRESSIVELY MOVING
FORWARD IN AN ORDERLY STRUCTURE TO PROVIDE RESIDENTIAL & COMMERCIAL
EXPANSION

Please specify any time constraints you may have.

THURSDAYS 9-1

Date: 5/11/2023

Phone: 432.699.4228 (Home)

432.352.4826 (Business)

Email: SKEETDOSS@AOL.COM

Are you a graduate of Midland 101? ☐ yes ☒ no

Occupation REAL ESTATE BROKER

Please list below the Board(s) or Commission(s) on which you are interested in serving:

(You can find a complete and current list on the City's website at www.midlandtexas.gov)

(1) Name of Board/Commission:

PLANNING & ZONING

Please tell us why you are interested in serving on this board or commission.

AS STATED ABOVE. TO SEE ORDERLY EXPANSION OF THE CITY PLUS I FEEL THAT
AFTER 38 YEARS IN REAL ESTATE I HAVE SOME KNOWLEDGE OF THE MARKET
AND THE DIRECTION OF GROWTH

What contribution would you most like to make?

TO FAIRLY AND EQUITABLY ASSURE THAT PROPERTY RIGHTS ARE UTILIZED
PROPERLY AND PROTECTED

Additional pertinent information or references:

REFERENCES: MAYOR LORI BLONG, EX-MAYORS WES PERRY, JERRY MORALES,
CARROLL THOMAS, COUNCIL WOMAN/MEN AMY BUCKES, SCOTT DUFFORD

(2) Name of Board/Commission:

What contribution would you most like to make?

Additional pertinent information or references:

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Signature of Applicant

Raymond C. Don

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PLEASE TYPE OR PRINT CLEARLY:

Name: Mason Sparacino

Address: Dunbarton Oaks Blvd

Midland Texas 79705

(City) (State) (Zip)

I am ☒ I am not ☐ a U.S. Citizen

Please tell us about yourself:

I have lived in Midland 15+ years.

Professional and/or Community Activities:

What is your personal vision for the City?

To inspire citizens to get involved in a way that benefits everyone quality of life.

Please specify any time constraints you may have.

NA

Please list below the Board(s) or Commission(s) on which you are interested in serving:

(You can find a complete and current list on the City's website at www.midlandtexas.gov)

(1) Name of Board/Commission:

Planning and Zoning Commission

Please tell us why you are interested in serving on this board or commission.

Being in real estate, I have a passion for problem solving and planning issues related to this field.

Date: 5/19/2023
Phone: 432-770-9975 (Home)
432-312-8890 (Business)
Email: bmanagement.sparacino@gmail.com

Are you a graduate of Midland 101? ☐ yes ☒ no
Occupation: Realtor/Property Manager

What contribution would you most like to make?

Additional pertinent information or references:

(2) Name of Board/Commission:

Parks and Recreation Commission

What contribution would you most like to make?

Additional pertinent information or references:

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Signature of Applicant

Mason Sparacino

dotloop verified
05/19/23 9:41 AM CDT
V8CJ-3DWE-G0B0-JJYZ

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APPLICATION FOR CITY OF MIDLAND BOARDS/COMMISSIONS/COMMITTEES

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PLEASE TYPE OR PRINT CLEARLY:

Name: Billy Gibbs

Address: 500 W Ohio Ave, Ste 201-D

Midland TX 79701

(City)

(State)

(Zip)

I am ☒ I am not ☐ a U.S. Citizen

Please tell us about yourself:

I have lived in Midland 57 years.

Professional and/or Community Activities:

Coach at the YMCA, member of Midland Chamber of Commerce; sponsor of Pease Elementary, and involved with my church activities

Date: 4/21/2023

Phone: 432-215-5005 (Home)

432-247-1115 (Business)

Email: billygibbs296@gmail.com

Are you a graduate of Midland 101? ☐ yes ☒ no

Occupation: Entrepreneur/ Real Estate

What is your personal vision for the City?

To have a greater opportunity for all citizens in employment, financial arenas, home ownership. To assist Midland to become better in all aspects so that it can become the best city. A city that cares about the people that live here, work here and make Midland grow. To help citizens achieve a greater sense of pride and hopefulness that Midland continues to be great.

Please specify any time constraints you may have.

None

Please list below the Board(s) or Commission(s) on which you are interested in serving:

(You can find a complete and current list on the City's website at www.midlandtexas.gov)

(1) Name of Board/Commission:

Planning & Zoning Commission

Please tell us why you are interested in serving on this board or commission.

I would like to see Midland grow equally so that our communities are diversified and where everyone feels welcomed and respected. By doing this and embracing our differences, it makes us stronger and more resilient as a community.

What contribution would you most like to make?

I will bring perspective, approach, attitude, insight, and passion. I want Midland to have the willingness to take charge of communities and be proactive in our decision making

Additional pertinent information or references:

(2) Name of Board/Commission:

What contribution would you most like to make?

Additional pertinent information or references:

Applications are maintained on file in the City Secretary's office for a period of one year. Should you need additional information, please call us at 432-685-7430.

Signature of Applicant

Billy Gibbs

Applications may be submitted online via email or print in order to send by mail:

**City of Midland
City Secretary's Office
PO Box 1152
Midland, TX 79702**

Submit Via Email

Print Application



APPLICATION FOR CITY OF MIDLAND BOARDS/COMMISSIONS/COMMITTEES

As an applicant for a City board, commission, or committee, please be advised that all information on this application is subject to the Texas Open Records Act and will be available to the public.

PLEASE TYPE OR PRINT CLEARLY:

Name: Henry Randal Strickland. go by Randal

Address: 5916 Homestead Blvd
Midland TX 79707
(City) (State) (Zip)

I am ☒ I am not ☐ a U.S. Citizen

Please tell us about yourself:

I have lived in Midland 33 **years.**

Professional and/or Community Activities:

PGA Professional and Masters Golf Business owner for 18 years. Member of Stonegate Fellowship. Served as VP of Grasslands W
HOA. Coach for West Texas Chapter of First Tee

Date: 4/11/2023

Phone: 432-234-8290 (Home)
n/a (Business)

Email: rstrickland@newwavees.com

Are you a graduate of Midland 101? ☐ yes ☒ no

Occupation: VP of Sales

What is your personal vision for the City?

Improve the parks and outdoor activities for all ages of Midland residents.

Please specify any time constraints you may have.

none

Please list below the Board(s) or Commission(s) on which you are interested in serving:

(You can find a complete and current list on the City's website at www.midlandtexas.gov)

(1) Name of Board/Commission:

Parks and Recreation Commission

Please tell us why you are interested in serving on this board or commission.

I moved to Midland in 1989 to work as an Assistant Pro at Hogan Park and have called Midland my home ever since. Midland has blessed me and now it is time to give back.

What contribution would you most like to make?

To help figure out best use of our parks and give Midland as much quality outdoor activities as possible.

Additional pertinent information or references:

(2) Name of Board/Commission:

What contribution would you most like to make?

Additional pertinent information or references:

Applications are maintained on file in the City Secretary's office for a period of one year. Should you need additional information, please call us at 432-685-7430.

Signature of Applicant

Henry Randal Strickland

Digitally signed by Henry Randal
Strickland
Date: 2023.04.11 15:00:02 -05'00'

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APPLICATION FOR CITY OF MIDLAND BOARDS/COMMISSIONS/COMMITTEES

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PLEASE TYPE OR PRINT CLEARLY:

Name: Shonna Garcia

Address: 1 LaFayette Pl.

Midland TX 79705

(City)

(State)

(Zip)

I am ☒ I am not ☐ a U.S. Citizen

Please tell us about yourself:

I have lived in Midland 46 years.

Professional and/or Community Activities:

Over my 25 yr career I have extremely active with my board, serving on committes, board of directors, and many other volunteer positions. I am a 2019 graduate of TRLP. I was extremeley involed on the Parent assoc of Trinity for 11years. I also am the founder of The Fabulous Women of Midland (over 1600 members) promoting local businesses and giving back to local non-profits each month.

What is your personal vision for the City?

I love Midland and all that it represents. I believe Midland is known across Texas as a place to build wealth and a great place to raise a family. I would like to see that reputation continue to stay strong and become even more attractive for families to want Midland to be their home!

Please specify any time constraints you may have.

Being in Real Estate I conduct business on appointments so i can schedule around any time commitments.

Date: 1/25/2023

Phone: 432-559-6110 (Home)

432-682-1144 (Business)

Email: Shonna@BillLanier.com

Are you a graduate of Midland 101? ☐ yes ☒ no

Occupation: Real Estate Broker

Please list below the Board(s) or Commission(s) on which you are interested in serving:

(You can find a complete and current list on the City's website at www.midlandtexas.gov)

(1) Name of Board/Commission:

Planning & Zoning

Please tell us why you are interested in serving on this board or commission.

I want to make a positive impact to Midland in any way I can and think P&Z is a great way for me to do that, and the knowledge

I will gain from serving will allow me to serve my clients on a higher level

What contribution would you most like to make?

I feel that my experience in real estate will be beneficial to Planning & Zoning.

Additional pertinent information or references:

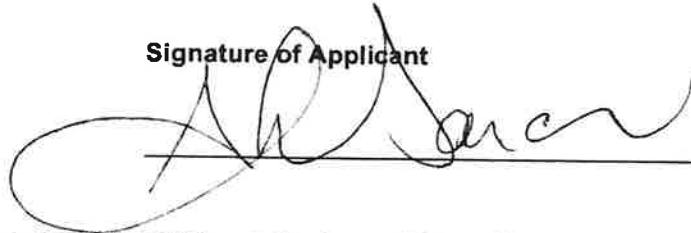
(2) Name of Board/Commission:

What contribution would you most like to make?

Additional pertinent information or references:

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Signature of Applicant



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PLEASE TYPE OR PRINT CLEARLY:

Name: GUSTAVO GONZALEZ

Address: 6609 MOSSWOOD DR

MIDLAND TX 79707

(City)

(State)

(Zip)

I am ☒ I am not ☐ a U.S. Citizen

Please tell us about yourself:

I have lived in Midland 6 years.

Professional and/or Community Activities:

SPE - Society of Petroleum Engineers (Chair Program), SWPSC (Program Committee Member)

SPE- Volunteer Activities in the permian such as West Texas Food bank, social events thru SPE Permian Basin

Date: 1/6/2023

Phone: 432-257-2009 (Home)

432-257-2009 (Business)

Email: GGONZALEZ@ODSEP.COM

Are you a graduate of Midland 101? ☐ yes ☒ no

Occupation: Chief Comercial Officer for Odessa Separator Inc

What is your personal vision for the City?

My vision of Midland is a place where Midlanders feel proud about the city, a safe place where the community feels protected and wants to raise their families. I beleive in our local market, skills and talents from the comunity where we can create more events such as concerns, theatre, festivals, Opera, Art shows, etc,

Please specify any time constraints you may have.

Once a month I need to travel to Houston, Denver or Dallas due to business meetings. But these trips are scheudle with at least 2 weeks in advance

Please list below the Board(s) or Commission(s) on which you are interested in serving:

(You can find a complete and current list on the City's website at www.midlandtexas.gov)

(1) Name of Board/Commission:

Midland Downtown Park Conservancy Board

Please tell us why you are interested in serving on this board or commission.

I can add value to the Board, and help them to protect and create innovate ways to have the community participating and using our green areas, as well of making these social areas more enjoyable.

What contribution would you most like to make?

My background is an Industrial Engineering, but has been involved in the Oil and Gas from the past 10 years. but I have some engineering knowledge and Financial/Operational background that could help the board.

Additional pertinent information or references:

My current position involves a lot of constant communication with people from E&P companies that are either moving to Midland or already live in Midland. If they want some references: Paula Tocora (Environmental Eng from ConocoPhillips), Seth Riddle

(2) Name of Board/Commission:

Oil and Gas Advisory Committee:

What contribution would you most like to make?

I have more than 10 years of experience in the Oil and Gas industry including US and Overseas shales. Managing personnel and working in conjunction with a very diverse group of people from different countries.

Additional pertinent information or references:

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Signature of Applicant



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PLEASE TYPE OR PRINT CLEARLY:

Name: J. BRIAN MARTIN

Address: 3906 LEDGEBROOK CT.
MIDLAND, TEXAS

(City)

(State)

(Zip)

I am ☒ I am not ☐ a U.S. Citizen

Please tell us about yourself:

I have lived in Midland 46 years.

Professional and/or Community Activities:

I AM ENTERING RETIREMENT AFTER 50 YEARS OF SERVICE. I HAVE BEEN ACTIVE IN THE COMMUNITY (I WAS AN ASSISTANT CITY ATTORNEY IN THE 1970'S) AND WOULD LIKE TO CONTINUE FOLLOWING AND ASSISTING THE CITY OF MIDLAND'S PROGRESS.

What is your personal vision for the City?

CONTINUED GROWTH AT RATIONAL RATES WITH SUPPORTING INFRASTRUCTURE THAT WILL KEEP THE CITIZEN'S SAFE, REASONABLY COMFORTABLE AND WITH COMMUNITY FACILITIES THAT ARE NEEDED AS WELL AS COMPLIMENTARY TO THE CITY.

Please specify any time constraints you may have.

THE BOARDS I SERVE ON MEET MONTHLY IN THE EVENINGS (6:30 or 7:00 P.M.), WHICH ARE USUALLY NOT CONFLICTING WITH OTHER BOARDS. SEE ATTACHED RESUME

Please list below the Board(s) or Commission(s) on which you are interested in serving:

(You can find a complete and current list on the City's website at www.midlandtx.gov IS 12)

(1) Name of Board/Commission:

MIDLAND DEVELOPMENT CORPORATION.

Please tell us why you are interested in serving on this board or commission.

MY PRACTICE HAS INVOLVED PUBLIC AND PRIVATE DEVELOPMENT, SALE AND PURCHASE OF REAL PROPERTY. ALSO, I HAVE HAS FREQUENT

CONTACT WITH CITY MANAGERS SINCE 1976 TO DATE AS WELL AS THE
CITY ATTORNEYS.

What contribution would you most like to make?

ADVICE, GUIDANCE, PARTICIPATION IN CITY OF MIDLAND
PROJECTS AS THE CITY COUNCIL DEEMS THEM APPROPRIATE
AND NECESSARY AND THAT WILL AID THE CITY IN ORDERLY GROWTH.

Additional pertinent information or references:

I HAVE MANY FRIENDS AND ACQUAINTANCES AT THE CITY
INCLUDING MIKE CANON (FORMER MAYOR) AS WELL AS THE CITY
ATTORNEY BOB O'NEILL, STEPHEN GARE, COURTNEY SHARP WAS
A GOOD FRIEND, ALONG WITH FRED ROSS, TIM BROWN

(2) Name of Board/Commission:

PLANNING & ZONING COMMISSION

What contribution would you most like to make?

WHILE I WAS ASSISTANT CITY ATTORNEY I WAS ASSIGNED
TO MOST OF THEIR MEETINGS AS LEGAL COUNSEL. IT HAS INTERESTING
TITLE ISSUES FROM TIME TO TIME THAT I CAN HELP WITH.

Additional pertinent information or references:

I PREFER SERVICE ON THE MDC BOARD INITIALLY (IF
AVAILABLE), TO UNDERSTAND THE BOARD'S OPERATION
AND CONNECTION WITH THE COUNCIL AND ITS (THE BOARD'S) DUTIES.

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Signature of Applicant



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City of Midland

City Secretary's Office

PO Box 1152

Midland, TX 79702

Submit Your

Print Name

BIOGRAPHICAL INFORMATION

J. BRIAN MARTIN

Attorney At Law
600 North Loraine
Midland, Texas 79701
December 3, 2022

EDUCATION

St. Mary's University Law School, San Antonio, Texas, 1972, J.D.

St. John's University, Collegeville, Minnesota, 1969, Government/Political Science-B.A.

CERTIFICATION

Licensed State Bar of Texas-1972; Board certified Texas Board of Legal Specialization, Commercial Real Estate Law and Residential Real Estate Law since 1990. "AV Preeminent" rating Martindale-Hubble Peer Review.

COURT CERTIFICATION

United States Supreme Court-1976; United States Court of Appeals, 5th Circuit-1977; United States District Court, Southern District-1976; United States District Court, Western District-1976; United States Court of Military Appeals-1973; All Courts of the State of Texas-1972

PROFESSIONAL ACTIVITIES

State Bar of Texas (Real Estate, Probate and Trust Law Section);
Texas Bar Foundation, Life Fellow (2001 to date);
The College of The State Bar of Texas, (2003 to date);
Midland County Bar Association (since 1976);
Advisory Board Midland College Business Studies (Since 1980);
Instructor-Real Estate Law and Contracts-Midland College (1980 to 1994);
Advisory Board Permian Basin Area Foundation Midland Housing Trust Fund (1992 to date);
Director, Habitat For Humanity of Midland (2000-2006);
Director (VP) MARC, Inc. (2003-to 2010)
President of Board of Directors MARC, Inc. 2012 to 2013;
Board Member, Board Secretary) St. Ann's School Endowment Fund, Inc. 1981 to present and the St. Ann's Finance Council (President).

EMPLOYMENT HISTORY

Captain, Judge Advocate General's Corps, U.S. Army, 1972-1976;
1st Assistant City Attorney, City of Midland, Texas 1976-1981;
Partner-Freeman, Hyde & Martin 1981-1990;
Partner-Morgan, Ward, Leeton & Martin- 1990-1992;
General Counsel-Sr. VP Lone Star Abstract & Title Co. 1992 to 2016.
General Counsel, West Texas Abstract & Title Co. 2016 to October 1, 2022
Retired from private practice.

PRACTICE

Mr. Martin is a sole practitioner (Law Offices of J. Brian Martin and Associates, PC. His primary practice prior to retirement involves real estate finance, residential, retail, farm and ranch and commercial real property development and title examination; litigation involving real estate issues; ad valorem property tax litigation; probate and estate practice; business entity creation and servicing. When requested, the firm has assisted the City of Midland with purchase and sale of real property in the City and facilitated title information and Title insurance coverage for property acquired by the City. Mr. Martin assisted the city with purchase or acquisition of the Loop 250 project at its inception including condemnation matters.

PERSONAL INTEREST

Mr. Martin has been a parishioner (since 1976) of St. Ann's Catholic Church of Midland, Texas where he serves on the St. Ann's School Educational Endowment fund and the Parish Finance Council; He is a member of the Midland Shooters Association of Midland, Texas and has been an avid hunter and sport fisherman since age 12. Mr. Martin has been married 52 years (Evelyn) with two Children (Brian Patrick and Shannon) and three grandchildren (Emory, Jack and Claire). Brian Patrick is a graduate of Texas Tech University (BA Business Management); Shannon is a graduate of Texas A&M University (B.S. Industrial Engineering) and University of Houston Law School (J.D.)



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PLEASE TYPE OR PRINT CLEARLY:

Name: Brennan Berry

Address: 1503 Harvard Aave.

Midland TX 79701

(City)

(State)

(Zip)

I am ☒ I am not ☐ a U.S. Citizen

Please tell us about yourself:

I have lived in Midland 7 years.

Professional and/or Community Activities:

Currently working as the Chief Operating Officer for ERP Funds, a Midland-based real estate investment fund that focuses on commercial real estate investments in the Permian Basin (operating over 2.5 million SF as of 2022). I graduated from Leadership Midland in 2018 and currently serve on the Board of Governors for the Midland Community Theater in addition to the DMMD board.

What is your personal vision for the City?

Quality of life in Midland has always been something of interest to me and an area that I would like to pursue with local government. Midland has come a long way in the 7 years that I've lived here however I think we are just at the beginning of really changing the city for the better and through further leadership, I'm confident we can achieve great results.

Please specify any time constraints you may have.

Available to meet most weekdays, either during business hour or after hours. I am generally pretty flexible in regards to timing.

Please list below the Board(s) or Commission(s) on which you are interested in serving:

(You can find a complete and current list on the City's website at www.midlandtexas.gov)

(1) Name of Board/Commission:

Airport Planning and Development Board

Please tell us why you are interested in serving on this board or commission.

I have had a lifelong interest in aviation and previously worked in the travel industry at Four Seasons Hotels and Resorts. Since moving to Midland in 2015, I have pursued my private pilot's license and will soon be working on my instrument rating.

Date: 9/2/2022

Phone: (646) 460-4778 (Home)

(432) 242-8850 (Business)

Email: bberry@erpfunds.com

Are you a graduate of Midland 101? ☐ yes ☒ no

Occupation: Real Estate Investment

What contribution would you most like to make?

As a frequent user of both Midland International Airport and Midland Airport, I'd like to see these assets optimized and provide guidance wherever possible.

Additional pertinent information or references:

Scooter Brown (fellow partner at ERP Funds)

(2) Name of Board/Commission:

Planning and Zoning Commission

What contribution would you most like to make?

Help with thoughtful development in Midland that provides the best outcome for the community at large.

Additional pertinent information or references:

As someone who works in commercial real estate, I believe I can share insights that would hopefully be unique and relevant, and to use my expertise in the field when providing recommendations to City Council.

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Signature of Applicant



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City of Midland

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PO Box 1152

Midland, TX 79702

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Print Application

Brennan P. Berry

400 W. ILLINOIS AVE., SUITE 1630, MIDLAND, TX

C: +1 646 460 4778

BBERRY@ERPFUNDS.COM

SKILLS / VALUE ADD

- Strong understanding of the real estate, travel and hotel industry with exposure to the Middle East, UK and US markets
- Results-driven and consistent high-performer; recognized for achievements related to strong sales performance
- Consistently demonstrate leadership, strong work-ethic and conscientious approach to work

PROFESSIONAL EXPERIENCE

ENERGY RELATED PROPERTIES

Midland, Texas

Chief Operating Officer, Partner

June 2015 - Present

- Oversee property management and leasing efforts of a 2.5 million square foot portfolio of office and industrial properties throughout the Permian Basin
- Manage a team of 25 professionals including property managers, engineers and accounting staff
- Maintain key investor relationships including the distribution of financial reporting, leasing updates and market analyses
- Serve as primary point of contact for capital improvement projects and coordinate with contractors and key stakeholders
- Responsible for designing and executing marketing campaigns, including social and traditional media
- Identify acquisition targets and negotiate purchase terms for single and multi-tenant industrial properties

FOUR SEASONS HOTELS AND RESORTS

London, United Kingdom

Account Director, London Worldwide Sales Office

January 2014 - May 2015

Account Manager, London Worldwide Sales Office

November 2011 - January 2014

- Managed Greater London-based 3rd party meeting planner accounts and corporate end-user clients
- Grew account base revenue over 90% from 2011 to 2013 (2011 goal of £1.57 mil. and 2013 actual revenue of over £3 mil.)
- Achieved President's Club level results in 2013 (exceeded 135% of annual goal)
- Awarded Sales Manager of the Quarter in Q3 2013 out of entire WSO network (roughly 40 eligible candidates)
- Planned and executed familiarization trips with clients to a variety of hotels in the Four Seasons portfolio
- Organized international sales developments and London networking events on behalf of hotels and resorts, managing budgets, client invitations and program logistics
- Managed European Business Development Initiative in 2013, one of twelve colleagues selected globally out of the entire sales and marketing organization

FOUR SEASONS HOTELS AND RESORTS

Dubai, United Arab Emirates

Regional Sales Manager, Middle East Worldwide Sales Office

February 2010 - November 2011

Sales Coordinator, Middle East Worldwide Sales Office

June 2007 - January 2010

- Managed travel agent and wholesale accounts in the United Arab Emirates and Kuwait
- Identified and prospected potential corporate, group, government and retail travel agent accounts
- Achieved President's Club recognition in 2011 and Sales Manager of the Quarter in Q4 2010
- Organized quarterly sales developments, typically representing 25 hotels throughout the major cities of the GCC
- Oversaw and implemented prospecting campaigns designed to target specific sectors in various markets in the Middle East
- Assisted with the development of an annual marketing plan as well as an annual budget for the regional sales office
- Collaborated with airlines to organize familiarization trips for Middle East-based clients to various Four Seasons Hotels
- Developed a quarterly electronic newsletter and a bi-annual update targeting clients in the meeting planning sector
- Participated in sales trainings in the Middle East that focused on prospecting, communication and account management

THE BROOKINGS INSTITUTION

Washington, D.C.

Intern, Middle East Policy

Spring 2007

- Worked at the Saban Center for Middle East Policy for the Project on U.S. Relations with the Islamic World, specifically researching programs designed to improve relations between the two regions in the wake of 9/11 and interviewing their principals to assess their best practices. Our findings were compiled into the policy paper titled: *The Opportunity of the Obama Era: Can Civil Society Help Bridge Divides between the United States and a Diverse Muslim World?*
- Assisted in organizing the U.S.-Islamic World Forum, a joint-venture between Brookings and the Qatar Ministry of Foreign Affairs

U.S. - SAUDI ARABIAN BUSINESS COUNCIL

Washington, D.C.

Intern, Research Department

Fall 2006

- Researched, compiled and wrote articles for the council's quarterly newsletter and press releases for the council's website
- Updated sector reports weekly, particularly in petrochemicals, tourism and transportation, and power generation
- Updated and edited annual Saudi Arabian business guide in addition to creating new sections for emerging industries

FERRIS, BAKER WATTS, INC.

Washington, D.C.

Intern, Washington Sales Office

Winter 2004 - Spring 2005

- Coordinated in-house operational tasks such as account setups, transfers, and regulatory compliance
- Provided consultation on equity and fixed-income selection
- Developed comprehensive asset allocation plans and portfolio recommendations
- Encoded client account activity electronically to generate performance reports and statements

PACKET

29.156

September 12, 2023

EDUCATION

THE GEORGE WASHINGTON UNIVERSITY

Washington, D.C.

Bachelor of Arts in International Affairs, Concentration in Middle East & Asia, Minor in History

May 2007

GPA: Major 3.5

Awards: Dean's List 2006 – 2007

Abroad: Semester in Beirut, Lebanon at the American University of Beirut

Spring 2006

Semester in Tokyo, Japan at Kanda University of International Studies

Fall 2005

AIESEC exchange to Egypt on Department of State-sponsored Salaam Program

Summer 2005

Lived in Jeddah, Saudi Arabia on a US Department of State-sponsored homestay program

Summer 2002

Languages: Arabic – Proficient in Lebanese colloquial dialect

French – Intermediate level

Japanese – Intermediate level

ADDITIONAL

- Licensed real estate broker in Texas and Florida
- Member of the Board of Governors at the Midland Community Theater
- Board Member of the Downtown Midland Management District
- Graduate of the Leadership Midland Class of 2018 (Midland Chamber of Commerce program)



APPLICATION FOR CITY OF MIDLAND BOARDS/COMMISSIONS/COMMITTEES

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PLEASE TYPE OR PRINT CLEARLY:

Name: Christina Tumbusch

Address: 2922 Moss Ave

Midland Texas 79705

(City)

(State)

(Zip)

I am ☒ I am not ☐ a U.S. Citizen

Please tell us about yourself:

I have lived in Midland ²⁶ years.

Professional and/or Community Activities:

- Licensed Real Estate Agent.

- Animal foster for Permian Basin Animal Advocates (PBAA) and Midland Animal Shelter Adoptables (MASA).

- Fitness instructor at locally owned women's fitness and kickboxing studio.

What is your personal vision for the City?

My vision for the city is for it to be an inviting place for business professionals and families. I was born and raised in Midland, left for college and to pursue professional development, and moved back over five years ago to raise my family and be closer to relatives.

Please specify any time constraints you may have.

N/A

Date: 10/3/2022

Phone: 432-352-5565 (Home)

432-570-5512 (Business)

Email: ctumbusch@gmail.com

Are you a graduate of Midland 101? ☐ yes ☒ no

Occupation: Commercial Property Manager

Please list below the Board(s) or Commission(s) on which you are interested in serving:

(You can find a complete and current list on the City's website at www.midlandtexas.gov)

(1) Name of Board/Commission:

Parks and Recreation Commission

Please tell us why you are interested in serving on this board or commission.

As a mother to an 8 month old, I would like to have inviting green spaces in the community for us to enjoy nature and the outdoors.

Our home is right in front of a local park and we use it daily for play and exercise. I have met other community and neighborhood

members at the park and I am invested in making sure all the parks throughout the city are a safe, clean, and welcoming place.

What contribution would you most like to make?

I can contribute expertise in management and maintenance of the parks, as well as whatever is needed to manage the budget of the parks. I have also lived in various cities in Texas, across the US, and even in Europe and can provide perspective on how parks are set up and managed in other places.

Additional pertinent information or references:

I have a Bachelors degree in Business and International Studies as well as a Masters in Accounting.

(2) Name of Board/Commission:

Animal Services Advisory Commission

What contribution would you most like to make?

Midland has made significant improvements in the animal services department. However, I think we still have an issue with overpopulation of animals in the community. There is also a notable amount of dumping animals in the county. I would like to see a continued increase in the spay and neuter of animals to prevent overpopulation.

Additional pertinent information or references:

References from PBAA and MASA can be provided upon request.

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Signature of Applicant



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PLEASE TYPE OR PRINT CLEARLY:

Name: Jeanne Morales

Address: P.O. Box 11043

Midland TX 79702

(City)

(State)

(Zip)

I am ☒ I am not ☐ a U.S. Citizen

Please tell us about yourself:

I have lived in Midland 24 years.

Professional and/or Community Activities:

Midland County Bar Association

Participate in 5k runs for charity, help Fix West Texas

Date: 10/4/2022

Phone: 432-296-1361 (Home)

432-682-8855 (Business)

Email: jeannemorales@rocketmail.com

Are you a graduate of Midland 101? ☐ yes ☒ no

Occupation: Attorney

What is your personal vision for the City?

I just want a nice place to live, that we can be proud of, and feel safe.

Please specify any time constraints you may have.

Work can be flexible

Please list below the Board(s) or Commission(s) on which you are interested in serving:

(You can find a complete and current list on the City's website at www.midlandtexas.gov)

(1) Name of Board/Commission:

Parks & Recreation

Please tell us why you are interested in serving on this board or commission.

I enjoy being outdoors and have been to many of our parks. In my youth I was a lifeguard. .

I am always happy when I see people playing at the park or walking their dogs

What contribution would you most like to make?

Whatever is needed.

Additional pertinent information or references:

I have two dogs that I take walking

(2) Name of Board/Commission:

What contribution would you most like to make?

Additional pertinent information or references:

Applications are maintained on file in the City Secretary's office for a period of one year. Should you need additional information, please call us at 432-685-7430.

Signature of Applicant

Janne Morales

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APPLICATION FOR CITY OF MIDLAND
BOARDS/COMMISSIONS/COMMITTEES

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PLEASE TYPE OR PRINT CLEARLY:

Name: Daniel Norwood
Address: 1705 MADDERY
MIDLAND, TX 79705
(City) (State) (Zip)

Date: 9-23-2022

Phone: 432 6825544 (Home)
" 618 5012" (Business)

Email: danny@dannynorwood.com

I am ☒ I am not ☐ a U.S. Citizen

Please tell us about yourself:

I have lived in Midland 64 years.

Well I started in 20 but it ended b/c of Covid.
Are you a graduate of Midland 101? ☒ yes ☐ no
Occupation: Rector

Professional and/or Community Activities:

Past Board Member of Am. Heart Ass., Big Brother, Center for
Battered Women's, Am. Cancer Society. I am currently
on the Midland-Odessa Urban District Board.

What is your personal vision for the City?

I would like to see the city continue to grow and add more
attractions to bring future residents here; Also would like
to see MIDO ~~Improve~~ Improve

Please specify any time constraints you may have.

NONE

Please list below the Board(s) or Commission(s) on which you are interested in serving:

(You can find a complete and current list on the City's website at www.midlandtexas.gov)

(1) Name of Board/Commission:

Animal Services

Please tell us why you are interested in serving on this board or commission.

I have always owned dogs and would like to see
city improve on handling homeless dogs & cats &
getting them into homes and not euthanized.

What contribution would you most like to make?

Would be nice to have perhaps a 1/4 ly open house
for public to bring food, treats, & view the animals.

Additional pertinent information or references:

(2) Name of Board/Commission:

PARKS & REC.

What contribution would you most like to make?

Just offer a new perspective from someone who
grew up here, raised my children, on how to improve
the parks.

Additional pertinent information or references:

Applications are maintained on file in the City Secretary's office for a period of one year. Should you need additional information, please call us at 432-685-7430.

Signature of Applicant

Jamie S. Norwood

Applications may be submitted online via email or print in order to send by mail:

City of Midland

City Secretary's Office

PO Box 1152

Midland, TX 79702

Submit Via Email

Print Application



APPLICATION FOR CITY OF MIDLAND BOARDS/COMMISSIONS/COMMITTEES

As an applicant for a City board, commission, or committee, please be advised that all information on this application is subject to the Texas Open Records Act and will be available to the public.

PLEASE TYPE OR PRINT CLEARLY:

Name: LIDIA RODRIGUEZ
Address: 2438 WHITMIRE BLVD APT 12B
MIDLAND TX 79705
(City) (State) (Zip)

I am ☒ I am not ☐ a U.S. Citizen

Please tell us about yourself:

I have lived in Midland 4 years.

Professional and/or Community Activities:

I currently am working on my CPA, however, in the past I have been a volunteer with Salvation Army, A Future Without Poverty, and United Way. I have also been a volunteer Grant Writer with United Way of Denton County and was able to get \$10,000 for their organization. Previous member of ASPA- American Society for Public Administration. I've also been a literacy tutor.

What is your personal vision for the City?

I see a growing city with better access to local activities, as well as a city with better streets, parks, local activities, and schools. I also see the need to renovate areas in need of repair and development. Better access to transportation to local citizens and ensuring that there is collaboration between local departments and resources is important.

Please specify any time constraints you may have.

I am studying for my CPA but as long as I have a set amount of hours each week, I should be okay. I also work 8 a.m.-5 p.m. with lunch between 12:00 p.m. and 1:00 p.m. I also work late and on weekends during tax season.

Please list below the Board(s) or Commission(s) on which you are interested in serving:

(You can find a complete and current list on the City's website at www.midlandtexas.gov)

(1) Name of Board/Commission:

PARKS AND RECREATION COMMISSION

Please tell us why you are interested in serving on this board or commission.

I am interested in this board because I saw that they needed assistance with grant opportunities. Since I have past experience, I think I can help build up some system for them to apply for grants to better develop our community.

Date: 7/25/2022

Phone: 817-675-2325 (Home)

432-687-0243 (Business)

Email: LRV8020@HOTMAIL.COM

Are you a graduate of Midland 101? ☐ yes ☒ no

Occupation: TAX PREPARER

What contribution would you most like to make?

I hope that I can potentially build a database for grant writing and hopefully even get some grant funds for the community.

I have experience also with special events, fund raising, and needs assessment.

Additional pertinent information or references:

Reference: Jim Morris (Employer) 432-687-0243

(2) Name of Board/Commission:

What contribution would you most like to make?

Additional pertinent information or references:

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Signature of Applicant

Lidia Rodri

Applications may be submitted online via email or print in order to send by mail:

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City Secretary's Office

PO Box 1152

Midland, TX 79702

Submit Via Email

Print Application

Lidia Rodriguez

2438 Whitmire Blvd Apt 12B
Midland, TX 79705

lrv8020@hotmail.com
817-675-2325 Cell

Objective: To obtain a position in accounting (currently employed as a tax preparer)

Bilingual: English/Spanish

Houston Community College

2017-2021

Non-Degree Seeking Student

Emphasis: Accounting Courses towards becoming a CPA Exam Candidate

Currently: Completed Coursework- currently preparing for CPA Exam

GPA: 4.0/4.0 scale

University of North Texas

2008-2012

Non-Degree Seeking Student

Emphasis: Public Management and Non-Profit Management

Currently: Completed Coursework

Honors: Masters/Doctoral Fellowship (switched from degree seeking student to non-degree seeking), completed coursework in the program (3 years), non-ABD

GPA: 3.263/4.0 scale

Angelo State University, San Angelo, TX

M.P.A. Master in Public Administration

2004

Internship: Taskforce on Race Relations for the City of San Angelo

Note: Course work is listed as Government.

GPA:3.667/ 4.0 scale

Angelo State University, San Angelo, TX

B.A. in Government

2003

Main Areas of Concentration: American Political Process and American Political Theory

Minor: Business Administration

Honors: Pi Sigma Alpha, National Political Honor Society

GPA:3.423/ 4.0 scale

Skills and Additional Information

Computer Skills:

Typing- 65+wpm (last tested July 1, 2018- no errors 67 wpm)

Microsoft Word- Advanced

Microsoft Power Point- Intermediate

Microsoft Excel- Basic/Intermediate

Microsoft Outlook- Basic/Intermediate

Microsoft Access-Basic

QuickBooks Knowledge

Additional Skills and Office Equipment:

Cash Handling Experience and Confidential Records Maintenance

Customer Service Experience and General Clerical Experience (10 plus years)

Experience using basic office equipment including:

PC, Printer, Fax Machine, Scanner, and Copier

Multi-line telephone and Cash Register

Recent Employment History:

2018-Present	Morris, Holmquest, Tidwell, & Co.	Midland, TX
2011-2018	Kroger Pharmacy	Denton, TX
2008-2010	University of North Texas	Denton, TX
2008-2009	North Central Texas College	Corinth, TX
2007-2009	Kroger Pharmacy	Denton, TX
2005-2007	Western Texas College	Snyder, TX



APPLICATION FOR CITY OF MIDLAND BOARDS/COMMISSIONS/COMMITTEES

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PLEASE TYPE OR PRINT CLEARLY:

Name: Melissa "Mel" Mosier
Address: 708 Beckley Dr
Midland Tx 79703
(City) (State) (Zip)

Date: 9/26/2022
Phone: 432-640-9278 (Home)
432-561-9990 x 111 (Business)
Email: mmosier@ez-rider.org

I am ☒ I am not ☐ a U.S. Citizen

Please tell us about yourself:

I have lived in Midland 5 years.

Are you a graduate of Midland 101? ☐ yes ☒ no

Occupation: Director of HR

Professional and/or Community Activities:

Program Director fo PBSHRM

Director of HR for MOUTD/EZ-Rider

Active with Stonegate Fellowship

What is your personal vision for the City?

My person vision is to help with communication and events that happen all around. To see Midland thrive and contine to grow in a
a healthy way for all demographics.

Please specify any time constraints you may have.

I am pretty flexible and can make a schedule work depending on notice.

Please list below the Board(s) or Commission(s) on which you are interested in serving:

(You can find a complete and current list on the City's website at www.midlandtexas.gov)

(1) Name of Board/Commission:

Airport Planning and Development Board – Midland Housing Authority Commission

Animal Services Advisory Commission – Permian Basin Community Center for MH/MR (PermiaCare)

Planning and Zoning Commission

Please tell us why you are interested in serving on this board or commission.

To volunteer where there a need. Be more aware of what Midland is headed as far as growth and projects. I have been here 5yrs
and I believe it is time for me to step out and be apart of Midland, not just live here.

What contribution would you most like to make?

To fill in the gap, depending on what board and what the needs are I am ready to be proactive and take it all in as well as offer any guidance, or help that the board my need.

Additional pertinent information or references:

Reference-Dan Corrales

Reference- Lori Blong

Reference- Chuck Harrington

(2) Name of Board/Commission:

MOUTD- Board Liason

Program Director for Permian Basin Society for Human Resources Managment

What contribution would you most like to make?

It's too soon to tell, but I understand budgets, quorum, scheduling, and project analysis. So as I hope to be a vital part to any board

I am asked to serve, I really won't know how I can help and tell I learn more on each board and what has already been in motion, and what is next on the agenda.

Additional pertinent information or references:

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Signature of Applicant



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City Secretary's Office

PO Box 1152

Midland, TX 79702

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APPLICATION FOR CITY OF MIDLAND BOARDS/COMMISSIONS/COMMITTEES

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PLEASE TYPE OR PRINT CLEARLY:

Name: Jackie MacFarlane

Address: 5706 Devlin Pl

Midland TX 79707

(City)

(State)

(Zip)

Date: SEP 30/2022

Phone: 532 710 2024 (Home)

(Business)

Email: jackiem.macfarlane@gmail.com

I am ☐ I am not ☒ a U.S. Citizen NO USA

Please tell us about yourself: Canadian

Are you a graduate of Midland 101? ☐ yes ☒ no

I have lived in Midland 4 years.

Occupation: Marketing part time, volunteer

Professional and/or Community Activities:

On the Board of Directors at FORE Midland, a local nonprofit.
Will begin working part time at a local Marketing agency
in the near future. I've been volunteering and staying at home
with my kids the last few years.

What is your personal vision for the City?

Make Midland a place where families want to settle down.
Increase outdoor activity & possibilities in Midland.

Please specify any time constraints you may have.

N/A I am likely to be available for every Tuesday morning
meeting - for the Parks & Recreation Commission meetings.

Please list below the Board(s) or Commission(s) on which you are interested in serving:

(You can find a complete and current list on the City's website at www.midlandtx.gov)

(1) Name of Board/Commission:

Parks and Recreation Commission

Please tell us why you are interested in serving on this board or commission.

I have 2 young children so I'm interested in the parks
in Midland. Outdoor recreation is a passion of mine.

PACKET

29.170

September 12, 2023

What contribution would you most like to make?

I would like to help make Midland outdoor recreation more prevalent and encourage healthy living.

Additional pertinent information or references:

I care deeply about the power of outdoor play and would like to help encourage the use of parks & increase recreational activities for Midland's youth/families.

(2) Name of Board/Commission:

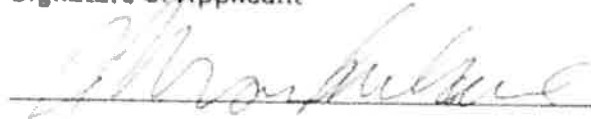
FORE Midland is a nonprofit run by local volunteers with the goal of saving green spaces for public recreation.

What contribution would you most like to make?

Additional pertinent information or references:

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Signature of Applicant



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City Secretary's Office
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Midland, TX 79702





APPLICATION FOR CITY OF MIDLAND BOARDS/COMMISSIONS/COMMITTEES

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PLEASE TYPE OR PRINT CLEARLY:

Name: Kevon Charles Rogers

Address: 5306 Logan Ct

Midland TX 79703

(City)

(State)

(Zip)

I am ☒ I am not ☐ a U.S. Citizen

Please tell us about yourself:

I have lived in Midland 26 years.

Professional and/or Community Activities:

Sales Representative at Rolltex Inc - 7 years, Worship Team at First Baptist Church - 5 years, Big Brothers Big Sisters - 3 years

Volunteer at Beal Park - 3 years, Volunteer at I20 Wildlife Preserve - intermittently

Date: 9/22/2022

Phone: 432-553-1450 (Home)

432-570-7576 (Business)

Email: kevon@rolltexinc.com

Are you a graduate of Midland 101? ☐ yes ☒ no

Occupation: Oilfield Sales Representative

What is your personal vision for the City?

Midland is a rare gem, not just for west Texas but in the wide world. We have a great gathering hub of people all here to work in the energy industry and my vision is to bring people of all cultures together to share in the parks and outdoor spaces we have in Midland.

Unique spaces like the Sibley Center and the I20 Wildlife Preserve are my favorite places.

Please specify any time constraints you may have.

I work flexible 8-5 hours M-F, and have a young daughter.

Please list below the Board(s) or Commission(s) on which you are interested in serving:

(You can find a complete and current list on the City's website at www.midlandtexas.gov)

(1) Name of Board/Commission:

Parks and Recreation Commission

Please tell us why you are interested in serving on this board or commission.

As a Midland native, I am excited by the opportunity to serve the Parks and Rec. commission to share with those living here the beautiful parks that we have with those who live here for work. It is too often said that Midland is boring and lacking activities and I

aim to combat this mentality by improving and sharing our outdoor spaces.

What contribution would you most like to make?

As an outdoor enthusiast & hiker, I would like to bring great attention to our parks as excellent places to spend time & get together.

I can contribute to the Parks and Rec. commission as one who spends much time in our parks and have my finger on the pulse for our parks' needs

Additional pertinent information or references:

Scott Rogers - owner of Rolltex - 432-570-7576

Susan - representative at Big Brothers Big Sisters Midland 432-425-9535

Frank Abila - long-time coworker - 432-352-4140

(2) Name of Board/Commission:

What contribution would you most like to make?

Additional pertinent information or references:

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Signature of Applicant



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APPLICATION FOR CITY OF MIDLAND BOARDS/COMMISSIONS/COMMITTEES

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PLEASE TYPE OR PRINT CLEARLY:

Name: Lori VanHoozer
5007 Chapel Hill Dr
 Address: Midland TX 79705
 (City) (State) (Zip)

08/22/2022

Date: _____
 Phone: 469-855-3647 (Home)
 _____ (Business)
 Email: lorivanhoozer@yahoo.com

I am ☒ I am not ☐ a U.S. Citizen

Please tell us about yourself:

42

I have lived in Midland _____ years.

Are you a graduate of Midland 101? ☐ yes ☒ no

Not employed

Occupation: _____

Professional and/or Community Activities:

I am co-founder of Fix West Texas and a lifetime board member, where I continue to spend a lot of my time. I have made the kennel signs

and various window decor for the Shelter as well as making the dog/cat bandanas to wear in the photographs taken by Tasha Sport

each week. I have also attended the volunteer orientation at the Shelter and have volunteered at the vaccination clinic, washed dishes and linens.

What is your personal vision for the City?

My vision is to see more community involvement and for the citizens to take pride in Midland. I would like to Midland to be a leader in animal welfare

for all of West Texas and to be a model for all cities across Texas and the US to follow. Our City desperately needs to be educated about the

importance of spay, neuter and vaccination of their dogs and cats. The ultimate goal is for Midland to be considered "No Kill".

Please specify any time constraints you may have.

None.

Please list below the Board(s) or Commission(s) on which you are interested in serving:

(You can find a complete and current list on the City's website at www.midlandtexas.gov)

(1) Name of Board/Commission:

Animal Services Advisory Commission

Please tell us why you are interested in serving on this board or commission.

I would like to see a reduction of owner surrenders and the abandonment of pets in our City. I believe this can be done by educating the public about

pet responsibility. I would also like to see collaboration between the Shelter and other businesses in town to promote foster and adoption.

What contribution would you most like to make?

Advocating for the Shelter and the pets in our City. I believe I will add value by having a new and different perspective. I want to help educate our citizens about animal welfare in order to reduce the amount of owner surrenders entering the shelter, which in turn will reduce some of the burden for the Shelter staff.

Additional pertinent information or references:

I would like to see Midland become proactive instead of reactive with regard to pet over population.

Bryan D Pope 214-538-7341

Tommy or Jeri Rea 432-770-4974

(2) Name of Board/Commission:

I am applying for the Animal Services Advisory Commission.

What contribution would you most like to make?

My contribution is going to be working with others who are like-minded to achieve a common goal.

Additional pertinent information or references:

I have lived in Midland for 42 years; 1968 - 2002 and 2015 - present. I have a passion for dogs and want to be a part of something for the greater good.

Applications are maintained on file in the City Secretary's office for a period of one year. Should you need additional information, please call us at 432-685-7430.

Signature of Applicant

Levi Vandrogen

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APPLICATION FOR CITY OF MIDLAND BOARDS/COMMISSIONS/COMMITTEES

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PLEASE TYPE OR PRINT CLEARLY:

Name: Wade McClendon

Address: 2402 Seaboard

Midland TX 79705

(City) (State) (Zip)

I am ☒ I am not ☐ a U.S. Citizen

Please tell us about yourself:

I have lived in Midland 5 **years.**

Professional and/or Community Activities:

I am involved in coaching of kids soccer and flag football. I am a member of the Oilfield Connections group. My wife and I own a small business in the community.

Date: 9/14/2022

Phone: 254-716-4381 (Home)

432-333-4106 (Business)

Email: wade.mcclendon@aleraagroup.com

Are you a graduate of Midland 101? ☐ yes ☒ no

Occupation: Risk Management

What is your personal vision for the City?

Continue to make it better than when you found it. To become a place that attracts young adults to the area. To have a school district that supports the kids to excel in life.

Please specify any time constraints you may have.

Please list below the Board(s) or Commission(s) on which you are interested in serving:

(You can find a complete and current list on the City's website at www.midlandtexas.gov)

(1) Name of Board/Commission:

Airport Planning and Development Board

Citizens Development and Hotel/Motel Advisory Board

Oil and Gas Advisory Commission

Please tell us why you are interested in serving on this board or commission.

Each of these boards can serve to advise on aspects that can make real improvements to our community.

What contribution would you most like to make?

Any positive impact.

Additional pertinent information or references:

I look at this like a State Parks. Leave the park better than you found it. I teach this to my kids and it's a good motto to have.

(2) Name of Board/Commission:

What contribution would you most like to make?

Additional pertinent information or references:

Applications are maintained on file in the City Secretary's office for a period of one year. Should you need additional information, please call us at 432-685-7430.

Signature of Applicant



Digitally signed by Wade McClendon
Date: 2022.09.14 11:09:59 -05'00'

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Midland, TX 79702

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APPLICATION FOR CITY OF MIDLAND BOARDS/COMMISSIONS/COMMITTEES

As an applicant for a City board, commission, or committee, please be advised that all information on this application is subject to the Texas Open Records Act and will be available to the public.

PLEASE TYPE OR PRINT CLEARLY:

Name: Camille Killian

Address: 810 Trinidad Place

Midland TX 79705

(City)

(State)

(Zip)

I am ☒ I am not ☐ a U.S. Citizen

Please tell us about yourself:

I have lived in Midland ¹ years.

Professional and/or Community Activities:

ROPE Youth Board Member (Midland, TX), Church of Jesus Christ of Latter-Day Saints, Society of Petroleum Engineers,

Womens Energy Network (Permian Basin Chapter), former Genesis Domestic Violence Shelter Outreach Lead (Dallas, TX)

Date: 8/31/2022

Phone: 801-682-0009 (Home)

469-506-4148 (Business)

Email: camille.killian@pxd.com

Are you a graduate of Midland 101? ☐ yes ☒ no

Occupation: Operations Superintendent and Chemical Engineer

What is your personal vision for the City?

Midland is a growing, thriving city! I've been working in Midland for years but recently purchased a home and moved here full-time.

I see Midland as the energy capital of America. We have a wealth of resources and a huge amount of growth here, I want to support that growth while accommodating current residents' concerns and perspectives, to ensure growth is achieved sustainably.

Please specify any time constraints you may have.

With advance notice, I should have no issues attending meetings. Generally my evenings are free; during the work day I will need to coordinate ahead of time.

Please list below the Board(s) or Commission(s) on which you are interested in serving:

(You can find a complete and current list on the City's website at www.midlandtexas.gov)

(1) Name of Board/Commission:

Planning and Zoning Commission

Please tell us why you are interested in serving on this board or commission.

As a Midland resident, I am personally invested in ensuring that we allow for growth and development of our real estate and sub-surface oil and gas resources in a safe, environmentally compliant, sustainable way. My husband works in real estate development,

and I work in oil, so I have a balanced perspective and vested interest in both real estate and oil & gas growth.

What contribution would you most like to make?

As residential developments continue to expand, I would like to build a sustainable process to assess the risks posed by existing wells and tank batteries when planning nearby construction. If we can bring in oil & gas operators early in this process, we could incentivize operators to plug and abandon low-producing vertical wells, and also standardize spacing / safety recommendations.

Additional pertinent information or references:

From an oil & gas operator perspective, in a few recent cases we have not been aware that homes were being built near existing wells and/or tank batteries until after construction was started. If we had been made aware sooner, we might have been able to come to better compromise solutions and/or accelerate plans to plug and abandon the wells in question.

(2) Name of Board/Commission:

Oil and Gas Advisory Committee

What contribution would you most like to make?

I would like to assist in standardizing recommendations for safety equipment and construction spacing for wells / tank batteries near homes or other real estate developments (or in areas where future residential growth is likely).

Additional pertinent information or references:

S.B. Chemical Engineering, 2013 (Massachusetts Institute of Technology)

S.M. Chemical Engineering, 2014 (Massachusetts Institute of Technology)

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Signature of Applicant

Camille Killian

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City of Midland

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APPLICATION FOR CITY OF MIDLAND BOARDS/COMMISSIONS/COMMITTEES

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PLEASE TYPE OR PRINT CLEARLY:

Name: Dante A. Perez

Address: 2319 Sky View Rd

Midland Texas 79705

(City) (State) (Zip)

I am ☒ I am not ☐ a U.S. Citizen

Please tell us about yourself:

I have lived in Midland 4 years.

Professional and/or Community Activities:

Professionally, I have been working in Midland for 8.5 years, as a Drilling Engineer I work closely with land, water, production, and mineral departments by efficiently develop our oil fields. Also, I have supervised our construction department and worked in drilling rigs for 6 years. That has help me to acquire a critical decision making in high stress environments.

What is your personal vision for the City?

My vision of Midland is to continue creating and growing a city that our families enjoy being part of. Our city has extraordinary potential for businesses, students, families, and U.S. internal migrant professionals. My vision of Midland is having a place with more opportunities for our local entrepreneurs, encourage companies to hire MC and UTPB graduates, develop the city primarily focusing

Please specify any time constraints you may have.

(Continuation of last question) on our family spaces, and create an environment where young professionals proudly come to stay and serve the community.

(Current question) No constraints, my supervisors will be glad that I take time off from work to attend a city meeting.

Please list below the Board(s) or Commission(s) on which you are interested in serving:

(You can find a complete and current list on the City's website at www.midlandtexas.gov)

(1) Name of Board/Commission:

Midland Development Corporation

Please tell us why you are interested in serving on this board or commission.

I am interested in MDC because this board is the spear of Midland's future, business development its a key factor to increase families quality of life. As mention in previous question, I strongly believe in supporting our hard working local entrepreneurs.

Date: 8/24/2022

Phone: 432-231-7788 (Home)

(Business)

Email: dperez@crownquest.com

Are you a graduate of Midland 101? ☐ yes ☒ no

Occupation: Drilling Engineer at CrownQuest Operating LLC

What contribution would you most like to make?

In my career in the O&G private sector, I have learned how business are successfully and poorly ran. Also, I'm aware our community needs and have a strong desire to help develop Midland. So, my main contribution will be an all-around understanding from a business, citizen, and city standpoint. That comes in place when is time to advise or make a decision representing the community.

Additional pertinent information or references:

Reference: Jeffrey Beard - President of Midland Health Board of Directors - jbeard.district7@midlandhealth.org

I recently applied for Midland 101 - Fall 2022

(2) Name of Board/Commission:

Oil and Gas Advisory Committee

What contribution would you most like to make?

Enforcing oil and gas regulations in a well-organized and efficient way has powerful positive consequences for developing Midland. My main contribution will be technical knowledge in O&G operations while being a reliable member and a responsible citizen that wants to grow the city while thinking ahead, to make sure current development do not interfere with future city plans.

Additional pertinent information or references:

Jeffrey Beard - President of Midland Health Board of Directors - jbeard.district7@midlandhealth.org

Luke Dunn - Vice President of Engineering - ldunn@crowquest.com

I recently applied for Midland 101 Fall 2022

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Signature of Applicant

Dante Perez

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Print Application



APPLICATION FOR CITY OF MIDLAND
BOARDS/COMMISSIONS/COMMITTEES

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PLEASE TYPE OR PRINT CLEARLY:

Name: Laura Watkins

Address: 1005 Sinclair Ave
Midland, TX 79705

(City)

(State)

(Zip)

I am ☒ I am not ☐ a U.S. Citizen

Please tell us about yourself:

I have lived in Midland 65 years.

Date: 7/1/2022

Phone: 432-349-3287 (Home)

432-349-3283 (Business)

Email: lwatkins@isellpermio
basin.com

Are you a graduate of Midland 101? ☐ yes ☒ no

Occupation: realtor

Professional and/or Community Activities:

I'm very active in church work. I help with food pantry
teaching Bible class, making blankets, and any other area of need

What is your personal vision for the City?

I was born in Midland and I would like to see Midland
return to the town where people did great, dependable work.
We need kindness and manners back in our Midland Society.

Please specify any time constraints you may have.

As a realtor, I could have a closing scheduled at the
same time as ~~as~~ a meeting.

Please list below the Board(s) or Commission(s) on which you are interested in serving:

(You can find a complete and current list on the City's website at www.midlandtexas.gov)

(1) Name of Board/Commission:

Planning and Zoning Commission

Please tell us why you are interested in serving on this board or commission.

Zoning of property matters to homeowners. As a realtor, I have
clients ask a vacant lot. They want to know that a bar



APPLICATION FOR CITY OF MIDLAND BOARDS/COMMISSIONS/COMMITTEES

As an applicant for a City board, commission, or committee, please be advised that all information on this application is subject to the Texas Open Records Act and will be available to the public.

PLEASE TYPE OR PRINT CLEARLY:

Name: Melanie Robertson

Address: 1100 Silverton Drive

Midland TX 79705

(City)

(State)

(Zip)

I am ☒ I am not ☐ a U.S. Citizen

Please tell us about yourself:

I have lived in Midland 28 years.

Professional and/or Community Activities:

I work for Pioneer Natural Resources USA, Inc. and am a member of the Permian Leadership Team that is actively involved in the community. I've been a Landman for over 18 years and worked for Pioneer for the last 11 of them as a Landman, Land Supervisor and now as the Property Administration Manager.

What is your personal vision for the City?

Continued growth and strategic improvement of the City of Midland.

Please specify any time constraints you may have.

Please list below the Board(s) or Commission(s) on which you are interested in serving:

(You can find a complete and current list on the City's website at www.midlandtexas.gov)

(1) Name of Board/Commission:

Planning and Zoning Commission

Oil and Gas Advisory Commission- Real Estate background

Airport Planning and Development Board

Please tell us why you are interested in serving on this board or commission.

I relocated back to Midland last year and would like to be more involved in the community.

Date: 7/10/2023

Phone: (432) 853-0599 (Home)

(432) 559-8663 (Business)

Email: melanie.robertson@pxd.com

Are you a graduate of Midland 101? ☐ yes ☒ no

Occupation: Property Administration Manager at Pioneer

What contribution would you most like to make?

To listen, ask questions and make recommendations that are in the best interest of the City of Midland.

Additional pertinent information or references:

(2) Name of Board/Commission:

What contribution would you most like to make?

Additional pertinent information or references:

Applications are maintained on file in the City Secretary's office for a period of one year. Should you need additional information, please call us at 432-685-7430.

Signature of Applicant

Robertson, Melanie

Digitally signed by Robertson, Melanie
DN: cn=Robertson, Melanie ou=Domestic Operations
Reason: I filled out this form
Location
Date: 2023-07-10 10:24:05-00

Applications may be submitted online via email or print in order to send by mail:

**City of Midland
City Secretary's Office
PO Box 1152
Midland, TX 79702**

Submit Via Email

Print Application



APPLICATION FOR CITY OF MIDLAND BOARDS/COMMISSIONS/COMMITTEES

As an applicant for a City board, commission, or committee, please be advised that all information on this application is subject to the Texas Open Records Act and will be available to the public.

PLEASE TYPE OR PRINT CLEARLY:

Name: Adam Wnyus
Address: 1608 Seaboard Ave
Midland TX 79705
(City) (State) (Zip)

Date: 8/17/22

Phone: 432 288 3903 (Home)
____ (Business)

Email: adam@dahliacompanies.com

I am ☒ I am not ☐ a U.S. Citizen

Please tell us about yourself:

I have lived in Midland 12 years.

Are you a graduate of Midland 101? ☐ yes ☒ no

Occupation: _____

Professional and/or Community Activities:

SPE, AADE, MCC committees

What is your personal vision for the City?

I would like to see Midland continue to grow & develop
to be the premier city of our region. Additionally I'd
like to see us continue to diversify our offerings to attract
~~businesses~~ businesses and people outside of the O&G industry
Please specify any time constraints you may have.

none

Please list below the Board(s) or Commission(s) on which you are interested in serving:

(You can find a complete and current list on the City's website at www.midlandtexas.gov)

(1) Name of Board/Commission:

P&Z

Please tell us why you are interested in serving on this board or commission.

I own a real estate development company so I feel like
I can offer a unique prospective.

What contribution would you most like to make?

Help with the vision of expanding the city west and north

Additional pertinent information or references:

Chase Gardaphe
Lucy Sisñega

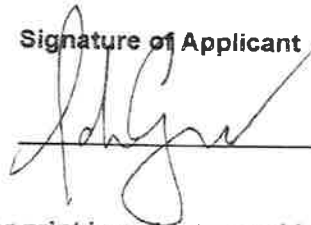
(2) Name of Board/Commission:

What contribution would you most like to make?

Additional pertinent information or references:

Applications are maintained on file in the City Secretary's office for a period of one year. Should you need additional information, please call us at 432-685-7430.

Signature of Applicant



Applications may be submitted online via email or print in order to send by mail:

City of Midland

City Secretary's Office

PO Box 1152

Midland, TX 79702

Submit Via Email

Print Application



APPLICATION FOR CITY OF MIDLAND BOARDS/COMMISSIONS/COMMITTEES

As an applicant for a City board, commission, or committee, please be advised that all information on this application is subject to the Texas Open Records Act and will be available to the public.

PLEASE TYPE OR PRINT CLEARLY:

Name: Ryan Buck

Address: 6100 Frio Drive

Midland TX 79707

(City) (State) (Zip)

I am ☒ I am not ☐ a U.S. Citizen

Please tell us about yourself:

I have lived in Midland 5 years.

Professional and/or Community Activities:

Southwest Oilmans Tennis Tournament Board Member. Previous President and Board Member of Toastmasters

Tutored algebra at Midland Legacy High School. Active participant in Habitat for Humanity numerous years.

Active member in SPE and YPE

What is your personal vision for the City?

Continued development to support a robust economy. Need to have the ability to support increased business needs, but also attract future families. The increased growth should be balanced by a vision to develop a sustainable economy that can thrive in low commodity prices and inevitably flourish beyond oil and gas.

Please specify any time constraints you may have.

Fairly busy work schedule (7am - 5pm weekdays), but will prioritize these meetings.

Please list below the Board(s) or Commission(s) on which you are interested in serving:

(You can find a complete and current list on the City's website at www.midlandtexas.gov)

(1) Name of Board/Commission:

Oil and Gas Advisory Commission

Please tell us why you are interested in serving on this board or commission.

I am fully committed to Midland and want to do everything I can do enhance the community. I see these two committees as having the ability to materially impact Midland's economy.

Date: 8/18/2022
Phone: 972-689-9056 (Home)
(Business)
Email: Ryan.Buck@pxd.com

Are you a graduate of Midland 101? ☐ yes ☒ no

Occupation: Production Engineering Supervisor; Pioneer

What contribution would you most like to make?

I am interested in leveraging my network to better the Midland community. I am also a registered Professional Engineer (PE 142934) in Petroleum Engineering, as well as an MBA, so hoping to provide both technical and business perspectives.

Additional pertinent information or references:

(2) Name of Board/Commission:

Airport Planning and Development Board

Oil and Gas Advisory Commission

What contribution would you most like to make?

I am interested in leveraging my network to better the Midland community. I am also a registered Professional Engineer (PE 142934) in Petroleum Engineering, as well as an MBA, so hoping to provide both technical and business perspectives.

Additional pertinent information or references:

Applications are maintained on file in the City Secretary's office for a period of one year. Should you need additional information, please call us at 432-685-7430.

Signature of Applicant

Buck, Ryan

Digitally signed by Buck, Ryan
DN: cn=Buck, Ryan ou=Domestic Exploration e=Ryan.Buck@pzd.com
Reason: I am the author of this document
Location:
Date: 2022-09-18 10:54-05'00

Applications may be submitted online via email or print in order to send by mail:

City of Midland

City Secretary's Office

PO Box 1152

Midland, TX 79702

Submit Via Email

Print Application

Production Engineering Supervisor | Proven Leader

Accomplished and self-motivated Production Engineering Supervisor with a specialization in the Permian Basin. In 2013, I graduated from the University of Oklahoma with Petroleum Engineering and MBA degrees (3.5 GPA). I am a proven leader with a track record of top-tier performance, specifically in production optimization, LOE-reduction, and emissions control. Daily, I strive to grow personally and add value to my company. I am an efficiency-minded leader driven by optimizing productivity and relationships.

My competitive advantage: first-rate communication skills paired with a commitment to excellence.

Employment**Pioneer Natural Resources**

Midland, TX and Las Colinas, TX

September 2013 – Present

Production Engineering Supervisor – Permian Basin (5 Years)

- Managed a high-performing team of production engineers responsible for all production, workover, and facility operations of the 1,500 rod pump vertical wells and 150 horizontal wells. Developed strong field relationships.
- High-level thinker and leader. Led several production-focused initiatives resulting in 2000+ bopd increase.
- LOE, OPEX, and CAPEX lead. Responsible for creation, tracking, and reconciliation of all budgets. Refined Pioneer's coding practices to ensure quality reporting. Led accrual process. Mentored others to raise awareness and understanding.
- Managed Pioneer's entire \$55MM ARO program, running 16 rigs, and plugging 600 wells in 2021. On pace for 650 in 2022.
- Acted as mentor to team. Organized 50+ trainings on a variety of topics. Scheduled dozens of gatherings and roundtables.
- Direct focus on emissions control. Led all areas with largest reduction in venting and flaring locations.
- Leader of the Proactive HSE training group. Trained all of Pioneer on how to properly conduct a safety observation.
- Directly led efforts to optimize leaseholding positions. Constant collaboration with land, legal, reservoir, and field operations. Developed in-depth understanding of lease intricacies.
- Acted as the production engineering point-of-contact for land trades. Ensured successful transactions.

Horizontal Production Engineer – Permian Basin (2 Years)

- Handled all production, workover, and facility operations in the XBC Giddings Estate lease. I operated all 111 horizontal producing wells and 6 SWD's in the most cost-effective manner. Developed gas lift, rod pump, and ESP proficiency.
- In-depth SWD tubing study. Developed recommendation and communicated effectively. Cut failure rate in half.
- Converted five high-failure rod pump wells to gas lift, resulting in a \$3.9MM NPV uplift.
- Identified weakness in the current choke design. Upgraded to more resilient design at no additional cost.
- Facilitated quarterly well reviews. Developed proficiency in well optimization and production uplift.
- Wrote Pioneer's standard rod pump workover procedure and standard tubing/coiled tubing lateral cleanout procedures.

Reservoir Engineer – Eagle Ford (1 Year)

- Forecasted reserves, monitored performance, and provided economics for a large portion of Eagle Ford acreage.
- Analyze and provided technical recommendation regarding refracs and offset frac hits.
- Worked in tandem with geologists to obtain a better grasp of the trends and performance drivers in the Eagle Ford shale.

Drilling Engineer – Permian Basin (1 Year)

- Developed drilling engineering skillset and learned how to manage a rig and crew. Acted as night company man.
- Attended a variety of classes and tours to bolster my drilling understanding.

Pioneer Natural Resources

Las Colinas, TX

Summer of 2012

Petroleum Engineering Intern

- Created new, more accurate and reliable set of Eagle Ford type curves. Helped expand possible parameters available.
- Side projects: study of molar basis equivalents using PVT data and determining analog wells for each area using PI.

Website: rbuck89.wixsite.com/ryanbuck

Aresco, LP

Plano, TX

Summers of 2010 and 2011

Petroleum Engineering Intern

- Returned to same company for consecutive summers. Assisted both the Petroleum Engineer and Executive Director with all daily operations. Responsibilities ranged from production reporting to refining legal lease agreements.

Additional Accomplishments and Skills

Licenses: Professional Engineer in Petroleum Engineering (PE 142934) and Security Industries Essentials (SIE) certification.

Involvement: SWOTT board member, 2016-17 President of Toastmasters at Pioneer (member for three years), algebra tutor at local Midland Lee High School, Habitat for Humanity, Society of Petroleum Engineers, and Young Professionals in Energy.

Skills: leadership, project management, collaboration, motivation, problem solving, public speaking, and time management.

Education

Petroleum Engineering at the Mewbourne College of Earth and Energy, University of Oklahoma, May 2013. GPA: 3.4.

Masters of Business Administration (MBA) at the Michael F. Price College of Business, University of Oklahoma, May 2013. GPA: 3.6.

Relevant Coursework

Leadership: several in-house Pioneer leadership courses and 17+ leadership-focused books.

Production: Petroskills Oil Production and Processing Facilities (PF-4 with Mahmood Moshfeghi), Petroskills Production Operations (PO1), Flowco Gas Lift Design School, and numerous Production-Focused Well Controls.

Reservoir: Petroskills Reservoir Management for Unconventional Reservoirs (RMUR with Jack Jones) and Petroskills Basic Reservoir Engineering (BR).

Drilling/Completions: Murchison Drilling School (top placement in class), NSI Technologies Hydraulic Fracturing (Carl Montgomery), Baroid Mud School, and Drilling-Focused Well Control.

Systems and Programs

Proficiencies: Spotfire, Power BI, Aries, WellView, and Microsoft Office.



APPLICATION FOR CITY OF MIDLAND BOARDS/COMMISSIONS/COMMITTEES

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PLEASE TYPE OR PRINT CLEARLY:

Name: Ryan Clink

Address: 401 Tradewinds Boulevard

Midland TX 79706

(City)

(State)

(Zip)

I am ☒ I am not ☐ a U.S. Citizen

Please tell us about yourself:

I have lived in Midland 3 years.

Professional and/or Community Activities:

I've been a member with the Midland Chamber of Commerce, Visit Midland, and the Hispano Chamber of Midland since 2019.

I have done volunteer work with the soup kitchen, meals on wheels and I also volunteer my time helping coach youth sports.

Date: 8/15/2022

Phone: 575-942-3549 (Home)

432-699-0989 (Business)

Email: ryan@insigniamgmt.com

Are you a graduate of Midland 101? ☐ yes ☒ no

Occupation: VP of Business Development

What is your personal vision for the City?

Personally, I love seeing some of the progress that the city is making in revamping the downtown area. I would like to see this continue and go even further. I also feel like there needs to be some additional funding to help make Midland more of a tourist destination instead of letting that money go to some of the other big cities in TX. Also, I feel like education must be a priority.

Please specify any time constraints you may have.

No time constraints at this time.

Please list below the Board(s) or Commission(s) on which you are interested in serving:

(You can find a complete and current list on the City's website at www.midlandtexas.gov)

(1) Name of Board/Commission:

Hotel/Motel Advisory Board

Please tell us why you are interested in serving on this board or commission.

I represent four different hotels in Midland and we have a minimum of two more in the pipeline at this time. I also have other hotels throughout the Permian Basin including another five hotels specifically in Odessa.

What contribution would you most like to make?

With having a good amount of the hotel room supply in Midland and being involved in the hospitality industry for the past 10 years I feel as though I bring a good amount knowledge and insight to this board. I know what the hoteliers are needing but also bring an open minded approach and can see things from many different lenses.

Additional pertinent information or references:

(2) Name of Board/Commission:

What contribution would you most like to make?

Additional pertinent information or references:

Applications are maintained on file in the City Secretary's office for a period of one year. Should you need additional information, please call us at 432-685-7430.

Signature of Applicant

Ryan Clink

Digitally signed by Ryan Clink
Date: 2022.08.15 14:19:04 -05'00'

Applications may be submitted online via email or print in order to send by mail:

City of Midland
City Secretary's Office
PO Box 1152
Midland, TX 79702

Submit Via Email

Print Application



APPLICATION FOR CITY OF MIDLAND BOARDS/COMMISSIONS/COMMITTEES

As an applicant for a City board, commission, or committee, please be advised that all information on this application is subject to the Texas Open Records Act and will be available to the public.

PLEASE TYPE OR PRINT CLEARLY:

Name: Joshua Sparks

Address: 1301 Telluride Dr

Midland TX 79705

(City) (State) (Zip)

I am ☒ I am not ☐ a U.S. Citizen

Please tell us about yourself:

I have lived in Midland 29 years.

Professional and/or Community Activities:

Midland Community Theatre Board of Governors, First Baptist Church choir,

Midland Rape Crisis & Children's Advocacy Center Board

What is your personal vision for the City?

I want a city that is seen as a great place to live, raise a family, and have great experiences with family and friends. I want it to be a place that attracts good people and makes them want to join the community. I want the city to serve its ever-changing population and keep up with the needs of those who call it home.

Please specify any time constraints you may have.

None

Please list below the Board(s) or Commission(s) on which you are interested in serving:

(You can find a complete and current list on the City's website at www.midlandtexas.gov)

(1) Name of Board/Commission:

Planning & Zoning Commission

Please tell us why you are interested in serving on this board or commission.

I have experience serving on this commission in the past and think that my expertise and leadership is needed to help steer the city development. I am interested in how the city grows and why it grows the way it does.

Date: 7/25/2022
Phone: 432-352-1555 (Home)
(Business)
Email: jrspark07@hotmail.com

Are you a graduate of Midland 101? ☒ yes ☐ no

Occupation: Engineer

What contribution would you most like to make?

I would like to be able to assist the city council in ushering responsible growth for our city using a unique perspective and an open mind. I want to contribute by leading in a way that others respect even if they don't agree.

Additional pertinent information or references:

I was an active member of this commission before and would be happy to be able to serve again. References include:

Mayor Patrick Payton, Councilwoman Lori Blong, Planning Division Manager Elizabeth Shaughnessy, Director of Development

Services Chuck Harrington

(2) Name of Board/Commission:

What contribution would you most like to make?

Additional pertinent information or references:

Applications are maintained on file in the City Secretary's office for a period of one year. Should you need additional information, please call us at 432-685-7430.

Signature of Applicant

Joshua R Sparks

Digitally signed by Joshua R Sparks
Date: 2022.07.25 16:07:50 -05'00'

Applications may be submitted online via email or print in order to send by mail:

**City of Midland
City Secretary's Office
PO Box 1152
Midland, TX 79702**

Submit Via Email

Print Application

MIDLAND HOUSING AUTHORITY COMMISSION
(Advisory; Membership - 5: Terms - 2 Years Expiring 2-3)
September 2021 - August 2022

MEMBER	TERM EXPIRES	ATTENDANCE	MEETINGS ATTENDED	TOTAL MTGS	ELIGIBLE	NOTES
Wes Gotcher	Oct 30 2022	60%	3	5		
Robert Lehrer	Oct 30 2022	100%	5	5		
Latoya Mayberry	Oct 30 2023	40%	2	5		
Sylvestor Cantu	Oct 30 2023	100%	5	5		
Cheryl Wadley	Oct 30 2023	100%	5	5		
Applicants Name	Additional Boards Applying to	COUNCIL NOTES				
Melissa Mosier						
Linda Griffin						
Liliana Lopez						
Neville Peyton						
Archia Word Jones						
Pete Ruiz						
Martin Silva						
Michelle Evans						

Kyle Jamerson
Jeff Hansard
Randall Milloy

MIDLAND-ODESSA URBAN TRANSIT DISTRICT BOARD
(Advisory; Membership - 12 with 6 appointed by Midland: Terms - 2 Years Staggered; Can serve 3 terms)
September 2021 - August 2022

MEMBER	TERM EXPIRES	ATTENDANCE	MEETINGS ATTENDED	TOTAL MTGS	ELIGIBLE	NOTES
Joseph Sanchez	Sept 30 2023	30%	3	10	Yes	
Daniel Norwood	Sept 30 2023	90%	9	10	Yes	
Brian Stubbs	Sept 30 2023	60%	6	10	Yes	
Don "Woody" Woodward	Sept 30 2024	60%	6	10		
Dan Corrales	Sept 30 2024	78%	7	9		
Robert Crites	Sept 30 2024	89%	8	9		
Applicants Name	Additional Boards Applying to	COUNCIL NOTES				
Randall Milloy						

PLANNING AND ZONING COMMISSION
(Advisory; Membership - 7: Terms - 3 Years)

September 2022 - August 2023

MEMBER	TERM EXPIRES	ATTENDANCE	MEETINGS ATTENDED	TOTAL MTGS	ELIGIBLE	NOTES
Lucy Sisniega	Sept 30 2026	92%	22	24	No	
Diane Williams	Sept 30 2023	79%	19	24	No	
Zachary Deck	Sept 30 2026	58%	14	24	NO	
Adrian Carrasco	Sept 30 2027	71%	17	24		
Abraham Bejil	Sept 30 2028	79%	19	24		
Emily Holeva	Sept 30 2028	63%	15	24		
Steven Villela	Sept 30 2029	100%	6	6		Appointed May 23, 2023
ALTERNATES:						
Salli Vega	Sept 30 2025	29%	7	24		
Beverly Dillow	Sept 30 2024	38%	9	24		
Applicants Name						
Brennan Berry	Mason Sparacino	Aaron Urquieta				
Melissa Mosier	J. Brian Martin	Ciara McDaniel				
Melanie Robertson	Camille Killian	Martin Silva				
Christopher Butler	Laura Watkins	Kyle Jamerson				
Eduardo Aleman	Adam Cunyus	Diana Trejo-Mesa				
Raymond Doss	Joshua Sparks	Randall Milloy				
Billy Gibbs	Melissa Ruckman	Lindsay Childress				
Shonna Garcia	Elizah Don Arp	David Grigsby				
Brian Stubbs	John Burkholder					

PERMIAN BASIN COMMUNITY CENTER FOR MH/MR (PERMIACARE)
(Decision Making; Membership - 2 (City); Terms - 2 Years)
September 2022 - August 2023

MEMBER	TERM EXPIRES	ATTENDANCE	MEETINGS ATTENDED	TOTAL MTGS	ELIGIBLE	NOTES
VACANT (Peckham) (City)	June 30 2024	71%	5	7	Yes	
Derek Cook (City)	June 30 2023	100%	7	7	Yes	
Applicants Name	Additional Boards Applying to	COUNCIL NOTES				
Melissa Mosier						
Mickey Cargile						
Vicky Bakhos Webb						
Archia Jones Word						
Randall Milloy						

ANIMAL SERVICES ADVISORY COMMISSION

(Decision Making; Membership - 6: Terms - 4 Years Expiring 4 odd and 2 even)

September 2022- August 2023

MEMBER	TERM EXPIRES	ATTENDANCE	MEETINGS ATTENDED	TOTAL MTGS	ELIGIBLE	NOTES
Manager (Daily Operations)	Sept 30 2025	67%	4	6		
Alyson Dial	Sept 30 2026	100%	6	6		
Dr. J. Annette Jensen (Vet)	Sept 30 2027	100%	6	6		
Tasha Sport	Sept 30 2024	100%	6	6		
Sharla Hotchkiss	Sept 30 2024	83%	5	6		
Judge Terry Johnson (County)	Sept 30 2027	50%	3	6		Appointed January 2023
Beth Meeks	Sept 30 2026	67%	4	6		Appointed October 2022
APPLICANTS NAME	Additional Boards Applying to	NOTES				
Melissa Mosier						
Christina Tumbusch						
Daniel Norwood						
Lori VanHoozer						
Ryan Coulehan						
Randall Milloy						

CITIZENS DEVELOPMENT AND HOTEL/MOTEL ADVISORY BOARD

(Advisory; Membership - 7: Terms - 2 Years Staggered)

September 2022 - August 2023

MEMBER	TERM EXPIRES	ATTENDANCE	MEETINGS ATTENDED	TOTAL MTGS	ELIGIBLE	NOTES
Clint Williamson	Sept 30 2023	75%	3	4	Yes	
Vickey Hailey	Sept 30 2023	75%	3	4	Yes	
VACANT (Ramsey)	Sept 30 2023	0%	0	4		
Brandon Ofield	Sept 30 2024	100%	4	4		
Ankur Bahkta	Sept 30 2024	75%	3	4		
Cole Harrison	Sept 30 2024	100%	4	4		
Reggie Lawrence	Sept 30 2024	75%	3	4		
APPLICANTS NAME	Additional Boards Applying to	NOTES				
Wade McClendon						
Jordan Dyer						
Ryan Clink						
Heather Bredimus						
Joseph Schwab						
Kari Hennagin						
Dillon Custer						
Diana Trejo-Mesa						
Jeff Hansard						
Randall Milloy						

MIDLAND DEVELOPMENT CORPORATION
(Membership - 7: Terms - 3 Years - Staggered)
September 2022 - August 2023

MEMBER	TERM EXPIRES	ATTENDANCE	MEETINGS ATTENDED	TOTAL MTGS	ELIGIBLE	NOTES
Chase Gardaphe	Jan 14 2025	100%	15	15		
Berry Simpson	Jan 14 2025	80%	12	15		
P Lourcey Sams	Jan 14 2026	100%	15	15		
Jill Pennington	Jan 14 2026	93%	14	15		
Brad Bullock	Jan 14 2026	87%	13	15		
Lucy Sisniega	Jan 14 2025	100%	15	15		
Zachary Deck	Jan 14 2026	100%	9	9		Appointed February 2023
Applicants Name	Additional Boards Applying to	COUNCIL NOTES				
Randall Milloy						

ZONING BOARD OF ADJUSTMENT AND AIRPORT ZONING BOARD OF ADJUSTMENT
(Advisory; Membership - 5: Terms - 2 Years Expiring 3 Odd & 2 Even)
September 2022 - August 2023

MEMBER	TERM EXPIRES	ATTENDANCE	MEETINGS ATTENDED	TOTAL MTGS	ELIGIBLE	NOTES
Reed Claybrook	Sept 30 2024	100%	3	3		
Derek Whiting	Sept 30 2023	67%	2	3		
E.J. Baldridge	Sept 30 2023	100%	3	3		
Robert Gray	Sept 30 2024	67%	2	3		
James Gerety	Sept 30 2024	33%	1	3		
ALTERNATES: (not applicable to Airport Zoning)						
Ross Schumann	Sept 30 2025	33%	1	3		
VACANCY						
VACANCY						
VACANCY						
Applicants Name	Additional Boards Applying to	NOTES				