



March 4, 2025

Notice is hereby given of a Regular Meeting of Nacogdoches City Council to be held on the above date in the City Council Chambers of City Hall, 202 E. Pilar Street, Nacogdoches, Texas, beginning at 5:30 p.m. for the purpose of considering the following agenda items.

Some City Council Members may attend via videoconference but a quorum of the City Council and the Presiding Officer will be present at the above-stated physical location. The meeting will be streamed live at: <https://www.nactx.us/21>. There will be an opportunity for the public to comment on agenda items in person in Council Chambers.

**PLEASE LIMIT PRESENTATIONS TO THREE MINUTES
(UNLESS PRIOR APPROVAL IS OBTAINED)**

1. CALL TO ORDER.
2. PLEDGE OF ALLEGIANCE.
3. OPEN FORUM. Open Forum is an opportunity for citizens to address the City Council about items listed on the agenda, as well as on matters that are not specifically listed on the agenda. Alternatively, a citizen may address the City Council about an agenda item when the item comes up for consideration during the meeting. In order to address the City Council, please complete the Public Comment Form and submit it to the City Secretary prior to the start of the meeting. In accordance with the Texas Open Meetings Act, the City Council will not discuss, deliberate, or make any decisions on items not listed on the agenda. Comments are limited to 3 minutes per person.
4. ITEMS TO BE REMOVED FROM CONSENT AGENDA.
5. CONSENT AGENDA: Items included under Consent Agenda require little or no deliberation by Council. Approval of Consent Agenda authorizes the City Manager or his designee to proceed with conclusion of each in accordance with staff recommendations as reflected in the minutes of this meeting.
 - A. Consider approval of purchase of a Peterbilt 548 Dump Truck from Rush Truck Center, utilizing BuyBoard Cooperative Purchasing Contract #723-23, for a not-to-exceed amount of \$183,510.00. (Utility Construction Manager)
 - B. Consider approval of purchase of a Vactor RamJet Jet Rod Trailer from Kinloch Equipment & Supply, Inc., utilizing Sourcwell Cooperative Purchasing Contract #101221-VTR, for a not-to-exceed amount of \$109,725.00. (Utility Construction Manager)
 - C. Consider the approval of a consulting services agreement between the City of Nacogdoches and Todd Simoneaux. For the purposes of providing financial management to the City. (City Manager)

- D. Consider the approval of an agreement between the City of Nacogdoches and Bonita Hall, Consultant, for the purposes of providing Administrative Services in various areas of the City. (City Manager)
 - E. Review and accept the Investment Report for the quarter ended December 31, 2024. (Interim Finance Director)
 - F. Consider approval of the minutes for the February 4, 2025, Regular City Council Agenda, and the February 18, 2025, Regular City Council Agenda. (City Secretary)
6. REGULAR AGENDA: City Council will receive staff recommendations and public input on the following items, and may deliberate and take formal action on the item.
- A. Consider approval of a contract by and between the City of Nacogdoches and Duplichain Contractors, LLC for the 2025 Ridgebrook Drive Drainage Improvements Project for a not-to-exceed amount of \$263,060.00. (Director of Public Works/City Engineer)
 - B. Consider approval of a contract by and between the City of Nacogdoches and McKinney & Moore of Texas, LLC for SWTP Filter 1 Rehabilitation Project for a not-to-exceed amount of \$361,243.38. (Director of Public Works/City Engineer)
 - C. Consider approval of a contract by and between the City of Nacogdoches and SCS Engineers for professional engineering services on Landfill Block O, Cells 3 and 4 Construction for a not-to-exceed amount of \$149,500.00. (Assistant Director of Public Works/Assistant City Engineer)
 - D. Discuss and consider adoption of an ordinance of the City of Nacogdoches, Texas, Amending Chapter 74 – “Parks and Recreation” and Adding Article IV – “Special Events”, of the Code of Ordinances of the City of Nacogdoches, Texas; Providing a Severability Clause; Providing a Continuation Clause; Providing a Repeal Clause; and Providing an Effective Date. (City Attorney)
 - E. Discuss and consider adoption of the proposed City of Nacogdoches Special Event Guidelines and Special Event Fee Structure. (Community Services Director)
 - F. Consider Resolution No. 1386-03-25 supporting the interpretation, site development, partnership and funding opportunities for the Eyes of Father Margil site located at 800 East Main Street. (Community Services Director)
7. EXECUTIVE SESSION: Executive Sessions are for City Council to receive information and deliberate on matters specified in Subchapter D of the Texas Open Meetings Act. Council may reconvene in open session to vote on the matter.
- A. Deliberation regarding Economic Development negotiations under Government Code Section 551.087 as follows:
 - 1. Discuss or deliberate regarding commercial or financial information the

- governmental body has received from business prospects that the governmental body seeks to have locate, stay, or expand in or near the territory of the governmental body and with which the governmental body is conducting economic development negotiations; and
2. Deliberate the offer of financial or other incentives to business prospects described by Subdivision 1 above.

8. ADJOURN.



Rhonda Lewis
City Secretary



This agenda is posted as required under G. C. Section 551.041. For more information or a copy of the Open Meetings Act, please contact Attorney General of Texas at 1-800-252-8011; City Secretary at (936) 559-2506 or visit City of Nacogdoches web site at www.nactx.us.

CERTIFICATION

This meeting will be conducted pursuant to Chapter 551 of the Texas Government Code. The Council reserves the right to adjourn into Executive Session at any time during the meeting to discuss any of the above posted agenda, as authorized by Texas Local Government Code Sections 551.071 [litigation and certain consultation with attorney], 551.072 [acquisition of interest in real property], 551.073 [prospective gift to city], 551.074 [certain personnel deliberations], 551.076 [deployment/implementation of security personnel or devices], or 551.087 [deliberations regarding economic development negotiations]. The City of Nacogdoches is committed to compliance with the Americans with Disabilities Act. Reasonable modifications and equal access to communications may be provided upon request. Please contact the City Secretary at (936) 559-2506 for information. I certify the notice of meeting was posted in the directory outside of City Hall, 202 E. Pilar Street, Nacogdoches, Texas 75961, on February 27, 2025, by 5:00 p.m., pursuant to Chapter 551 of the Texas Government Code.

Rhonda Lewis, City Secretary

PRESENTER: Jason Smith, Utility Construction Manager

ITEM/SUBJECT: Consider approval of purchase of a Peterbilt 548 Dump Truck from Rush Truck Center, utilizing BuyBoard Cooperative Purchasing Contract #723-23, for a not-to-exceed amount of \$183,510.00. (Utility Construction Manager)

SUMMARY/BACKGROUND: Staff has procured a quote for a Peterbilt 548 Dump Truck used in the Utility Construction Division from Rush Truck Center for the amount of \$183,510.00.

They are under a BuyBoard cooperative purchasing contract (BuyBoard Contract #723-23) which is exempt from the competitive bidding process under Texas Local Government Code Section 252.022(a)(12)(D). This is a budgeted item in the FY24-25 budget for capital equipment.

FINANCIAL:

Item is budgeted:

Account No.: 30.37 680.20

Account Name: *Utility Construction – Vehicle Capital Expense*

Amount: \$ 189,217.44

COUNCIL PRIORITIES: THIS AGENDA ITEM IS CONSISTENT WITH THE FOLLOWING CITY COUNCIL PRIORITIES

Not Applicable

CITY CONTACT: Jason Smith, Utility Construction Manager
smithje@nactx.us
(936) 564-7980

ATTACHMENTS:

1. Quote
2. Capital Equipment Budget



Rush Truck Center, Lufkin

3901 N Medford Dr.

Lufkin, TX 75901

936-637-7383

Customer Proposal Letter

City of Nacogdoches
PO BOX 635030
NACOGDOCHES, TX 75963-5070

Thank you for trusting us with your business. Please review the proposal below, and if you approve, sign and return to us at your convenience. We look forward to working with you and will continue to do our best to earn your trust now and in the future.

VEHICLE INFORMATION

Year 2025 Make Peterbilt Model 548 Stock # 1795224 Serial # 2NP8LJ0X4SM739173

Additional Vehicle Details: Includes : 15-17 Yard Warren 1/2 Round Demo Dump Body with air operated high lift tailgate & electric tarp

Quantity		Total
Truck Price per Unit	\$ 183,510.00	\$ 183,510.00
F.E.T. (Factory & Dealer Paid)	\$ 0.00	
Net Sales Price	\$ 183,510.00	\$ 183,510.00
Optional Extended Warranty(ies)		
State Sales Tax		
Documentary Fee	\$ 0.00	\$ 0.00
Total Sales Price	\$ 183,510.00	\$ 183,510.00
Trade Allowance (see DISCLAIMER Below)		
Deposit / Down Payment		
Unpaid Balance Due on Delivery	\$ 183,510.00	\$ 183,510.00

Sales Representative

Signature

James Ellis

Printed Name

Date

Purchaser

Signature

Printed Name / Title

Date

Accepted by Sales Manager
or General Manager

Signature

Printed Name

Date

Quote good until 3/31/2025

Note: The above Customer Proposal is a quotation only. Sale terms subject to approval of Sales Manager of Dealer.

DISCLAIMER: Any order based on this Proposal is subject to Customer executing Dealer's standard form Retail Sales Order and other required documents incorporating the above terms. Any documentary fees, FET, state tax, title, registration and license fees subject to adjustment and change. This Proposal is based upon Dealer's current and expected inventory, which is subject to change. Dealer is not obligated to retain any specific vehicles in stock, nor maintain any specific inventory levels. Dealer shall not be obligated to fulfill Proposal in event quoted vehicle(s) is not in stock or available within requested delivery schedule. **Manufacturer has reserved the right to change the price to Dealer of any vehicle not currently in Dealer's stock, without notice to Dealer. If a vehicle identified in this Proposal is not currently in Rush's stock at the time an order is placed by the Customer, Dealer reserves the right to change the vehicle price at any time to reflect any price increases imposed by the Manufacturer.** Dealer shall not be liable for any delay in providing or inability to provide Quoted Vehicle(s). Above listed Trade Value based upon current appraisal of Trade Vehicle(s). Dealer may adjust Trade Value of Trade Vehicle(s) to reflect changes in condition and/or mileage of Trade Vehicle(s) between date of current appraisal and acceptance of the Trade Vehicle by Customer.

⁽¹⁾ Includes subscription period for # of specified months. ⁽²⁾ Customer's use of RushCare Service is governed by the RushCare User Agreement located at <https://www.rushtruckcenters.com/rushcare-user-agreement>. ⁽³⁾ Customer's use of Telematics Services is governed by separate 3rd party license terms and Rush is not liable for the Telematic Service. (4) Gap Coverage is provided and administered by an independent 3rd party provider under a separate contract directly between Customer and the 3rd party provider.

City of Nacogdoches
2024 / 2025 Utility Fund Reserves Expenses

Department	Description	Depreciation Fund
Capital Equipment:		
Utility Const	16 Yard Dump Truck	\$ 165,000
Utility Const	3500 Extended Cab 4X4	\$ 75,000
Utility Const	3500 Crew Cab 4X4	\$ 75,000
Utility Const	Sewer Jetrod Trailer	\$ 120,000
Utility Const	Bobcat E55 Mini Excavator	\$ 85,000
Utility Const	Towable Air Compressor	\$ 40,000
Water Production	Street Sweeper	\$ 340,000
Water Production	New Roof Office Building	\$ 40,000
Wastewater	Pond Dredging	\$ 350,000
Wastewater	Vacuum Pump	\$ 25,000
Wastewater	Surface Aerators (3)	\$ 36,000
Capital Equipment Total		\$ 1,351,000
Capital Improvements:		
Water	Water Line Additions/Replacements - ARPA	\$ 1,050,000
Water	Water Line Additions/Replacements	\$ 750,000
Water	Water Line Developer Reimb.	\$ 250,000
Water	Water Well Rehab (one annually)	\$ 350,000
Water	SCADA Upgrades	\$ 765,000
Water	VED for Motors at Surface Treatment Plant	\$ 1,600,000
Water	AMR Transmitter & Meter Replacement	\$ 2,000,000
Water	Direct Connect US 59 Water Line	\$ 956,000
Water	Water Treatment Filter Reconstruction	\$ 400,000
Water	SWTP Blowers	\$ 800,000
Water	SWTP LED Lighting	\$ 120,000
Wastewater	Sanitary Sewer Line Additions/Replacements - ARPA	\$ 1,511,000
Wastewater	Sanitary Sewer Line Additions/Replacements	\$ 750,000
Wastewater	Banita Creek Sanitary Sewer Line Replacement	\$ 2,449,000
Wastewater	Lanana Creek Sanitary Sewer Line Replacement	\$ 2,500,000
Wastewater	Sanitary Sewer Line Developer Reimb.	\$ 250,000
Wastewater	Direct Connect US 59 Water Line	\$ 480,000
Wastewater	Clarifier Rebuild	\$ 1,950,000
Wastewater	Grit Trap Replacement	\$ 1,100,000
Wastewater	SCADA Upgrades	\$ 640,000
Wastewater	Lift station (FM 1878) Replacement	\$ 900,000
Wastewater	WWTP Aerator Replacement	\$ 90,000
Wastewater	WWTP General Improvements	\$ 500,000
Wastewater	WWTP Headworks Conveyor Rebuild	\$ 60,000
Wastewater	Belt Press Building	\$ 1,350,000
Wastewater	WWTP Aeration Upgrades	\$ 300,000
Wastewater	WWTP 8" Pump Replacement	\$ 80,000
Capital Improvements Total		\$ 23,951,000
Grand Total		\$ 25,302,000

PRESENTER: Jason Smith, Utility Construction Manager

ITEM/SUBJECT: Consider approval of purchase of a Vactor RamJet Jet Rod Trailer from Kinloch Equipment & Supply, Inc., utilizing Sourcewell Cooperative Purchasing Contract #101221-VTR, for a not-to-exceed amount of \$109,725.00. (Utility Construction Manager)

SUMMARY/BACKGROUND: The Utility Construction Division utilizes a trailer-mounted jet rod system for daily maintenance of sewer lines and for cleaning and clearing sewer blockages related to root intrusion, grease buildup and slow-flowing sewer mains. This is the main unit used when customers call for residential sewer backups at their homes for quick response and to prevent backups in areas that have had repeated blockages. The currently-owned equipment is a 2002 model which has a bad pump and is not functional.

Staff has procured a quote for a Vactor RamJet Jet Rod Trailer from Kinloch Equipment & Supply, Inc. for the amount of \$109,725.00. They are under a Sourcewell cooperative purchasing contract (Sourcewell Contract #101221-VTR) which is exempt from the competitive bidding process under Texas Local Government Code Section 252.022(a)(12)(D). This is a budgeted item in the FY24-25 budget for capital equipment.

FINANCIAL:

Item is budgeted:

Account No.: 30.37 680.25

Account Name: *Utility Construction – Equipment & Machinery*

Amount: \$ 177,419.81

COUNCIL PRIORITIES: THIS AGENDA ITEM IS CONSISTENT WITH THE FOLLOWING CITY COUNCIL PRIORITIES

Not Applicable

CITY CONTACT: Jason Smith, Utility Construction Manager
smithje@nactx.us
(936) 564-7980

ATTACHMENTS: 1. Quote
2. Capital Equipment Budget

Presents a Proposal Summary

of the

VACTOR[®]
RAMJET



Vactor RamJet 3036-750 Trailer

For

Nacogdoches 
the oldest town in Texas

PRODUCT DESCRIPTION

·Vactor Ramjet 3036-750 Trailer Mounted High Pressure Jetting Unit

STANDARD FEATURES

Hatz 74HP Diesel Engine Tier IV
USJ 36 GPM @ 3000 PSI
Triplex Plunger Pump
Tier 4 Basic Control Panel
Auto Shutdown (for High Engine Temp/Low Oil Pressure)
Water Recirculation & Anti-Freeze Sys
Pulsation System
Shrouded Engine
Two (2) 375 Gallon Black Water Tank
Large Pivot Hose Reel
¾" x 500' Sewer Hose
Manual Hose Guide
Hydraulic Driven Hose Reel
Twin 600 lbs. Torsion Bar Axle
D.O.T. Approved LED Lighting
42" Aluminum Toolbox
Aluminum Rims
Black Rounded Fenders
10' Leader Hose
¾" RPD 6R Nozzle
Finned Nozzle Extension
3" Tiger Tail
Nozzle Rack
2 2/1" x 25' Hydrant Hose
Emergency Stop Button

ADDITIONAL OPTIONS

FOOTAGE COUNTER MANUAL OPTION

FILL HOSE STORAGE RACK

DUAL HOSE REEL (SECOND REEL WITH ½" X 500' CAPACITY) INCLUDES ½" X 500' HOSE, TWO ADDITIONAL NOZZLES & NOZZLE RACK.

Total, Price F.O.B. Nacogdoches, TX: \$109,725.00

Product Model: Vactor RamJet 3036-750 Trailer

Payment Terms: Net Due Upon Delivery

Proposal Notes:

1. Prices quoted herein are firm until 3.12.25.
2. Price in accordance to Purchasing Coop Sourcewell #101221-VTR. City of Nacogdoches member # 139280.

SIGNED BY:

Date: _____

Dane Clarke
Tel: 727-729-0255

City of Nacogdoches
2024 / 2025 Utility Fund Reserves Expenses

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Grand Total		\$ 25,302,000



City Council Meeting

Date: March 4, 2025

Agenda Item: 5.C.

PRESENTER: Rick Beverlin, City Manager

ITEM/SUBJECT: Consider the approval of a consulting services agreement between the City of Nacogdoches and Todd Simoneaux. For the purposes of providing financial management to the City. (City Manager)

SUMMARY/BACKGROUND: In February 2025, the City of Nacogdoches experienced the separation of its Director of Finance, leaving a vacant position in this department. The City Manager asked the Special Projects and Budget Administrator, Todd Simoneaux, to step in and fill this position to provide consulting services and assist the City with meeting financial goals.

FINANCIAL:

COUNCIL PRIORITIES: THIS AGENDA ITEM IS CONSISTENT WITH THE FOLLOWING CITY COUNCIL PRIORITIES

CITY CONTACT: Richard Beverlin, City Manager
beverlinr@nactx.us
(936) 559-2506

ATTACHMENTS: 1. Agreement - Finance Consultant

AGREEMENT
FOR CONSULTING SERVICES
CITY OF NACOGDOCHES
STATE OF TEXAS
COUNTY OF NACOGDOCHES

This Agreement is entered into by the City of Nacogdoches, a Texas Municipal Corporation ("City"), acting by and through its City Manager, and Todd Simoneaux ("Contractor"), both of which may be referred to herein singularly as "Party" or collectively as the "Parties."

The Parties hereto severally and collectively agree, and by the execution hereof are bound, to the mutual obligations herein contained and to the performance and accomplishment of the tasks hereinafter described.

I. DEFINITIONS

As used in this Agreement, the following terms shall have meanings as set out below:

"City" is defined in the preamble of this Agreement and includes its successors and assigns.

"Contractor" is defined in the preamble of this Agreement.

"City Manager" shall mean the City Manager and/or his designee.

II. TERM

2.1 Unless sooner terminated in accordance with the provisions of this Agreement, City Charter, or City Ordinance, the term of this Agreement shall commence on February 24, 2025 at 7:00 a.m. and terminate on September 30, 2025 at 5:00 p.m. This agreement may be extended upon mutual agreement by both parties.

III. SCOPE OF SERVICES

Subject to the direction and supervision of the City Manager or his designee, Contractor agrees to provide the services described in this Article III entitled Scope of Services in exchange for the compensation described in Article IV. Compensation. Scope of Services are as follows:

- FY 2024 Annual Comprehensive Financial Report preparation
- Assessment of current staff and current processes
- Assist in professional development of finance staff
- Various financial policy review and/or preparation and implementation
- Presentations to Council as needed
- Assist in Finance Director search
- FY 2026 Budget
- Other projects as mutually agreed upon

IV. COMPENSATION TO CONSULTANT

4.1 In consideration of Contractor's performance in a satisfactory and efficient manner, as determined solely by City Manager or his designee, of all services and activities set forth in this Agreement, City agrees to pay Contractor an hourly rate of \$115.00.

4.3 Contractor is a temporary employee and will be paid as such through the bi-weekly payroll process (including TMRS) in accordance with agreed upon scope of work.

4.4 The City will reimburse Contractor for any expenses incurred including meals on a per diem basis and lodging for any work that requires overnight stay (lodging will be capped at a room rate of \$100 per night, not including taxes).

4.6 Contractor shall be paid at the appropriate hourly rate for travel time to and from city hall and any other travel required by the city.

V. OWNERSHIP OF DOCUMENTS

5.1 Any and all writings, documents or information in whatsoever form and character produced by Contractor pursuant to the provisions of this Agreement are the exclusive property of City; and no such writing, document or information shall be the subject of any copyright or proprietary claim by Contractor.

5.2 Contractor understands and acknowledges that as the exclusive owner of any and all such writings, documents and information, City has the right to use all such writings, documents and information as City desires, without restriction.

VI. RECORDS RETENTION

6.1 Contractor shall properly, accurately and completely maintain all documents, papers, and records, and other evidence pertaining to the services rendered hereunder (hereafter referred to as "documents"), and shall make such materials available to the City at their respective offices, at all reasonable times and as often as City may deem necessary during the Agreement period, including any extension or renewal hereof, for purposes of audit, inspection, examination, and making excerpts or copies of same by City and any of its authorized representatives.

6.3 Contractor shall notify City, immediately, in the event Contractor receives any requests for information from a third party, which pertain to the documentation and records referenced herein. Contractor understands and agrees that City will process and handle all such requests.

VII. TERMINATION

7.1 For purposes of this Agreement, "termination" of this Agreement shall mean termination by expiration of the Agreement term as stated in Article II. Term, or earlier termination pursuant to any of the provisions hereof.

7.2 *Termination Without Cause.* This Agreement may be terminated upon 15 calendar days' written notice from the City Manager or from the contractor.

7.4 Contractor shall be entitled to payment for services which were performed to the satisfaction of the City Manager prior to termination.

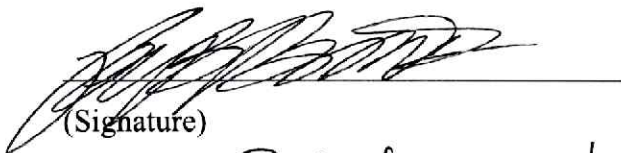
VIII. MISCELLANEOUS

8.1 This Agreement constitutes the entire understanding and agreement of the parties as to the matters set forth in this Agreement. No alteration of or amendment to this Agreement shall be effective unless given in writing and signed by the party or parties sought to be charged or bound by the alteration or amendment.

8.2 This Agreement shall be governed by and construed in accordance with the laws of the State of Texas. Venue for any action arising under this Agreement shall lie in the state district courts of Nacogdoches County, Texas.

CITY OF NACOGDOCHES

Todd Simoneaux



(Signature)

Printed Name: Richard B. Bevent

Title: City Manager

Date: 02/26/2025



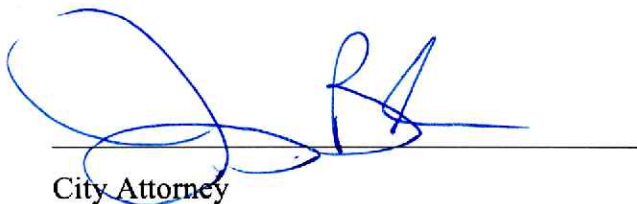
(Signature)

Printed Name: Todd Simoneaux

Title: Interim CFO

Date: 2-26-25

APPROVED AS TO FORM:



City Attorney



City Council Meeting

Date: March 4, 2025

Agenda Item: 5.D.

PRESENTER: Rick Beverlin, City Manager

ITEM/SUBJECT: Consider the approval of an agreement between the City of Nacogdoches and Bonita Hall, Consultant, for the purposes of providing Administrative Services in various areas of the City. (City Manager)

SUMMARY/BACKGROUND: This consultant services agreement is effective as of February 19, 2025, and is made and entered into by and between the City of Nacogdoches and Bonita Hall, Consultant.

FINANCIAL:

COUNCIL PRIORITIES: THIS AGENDA ITEM IS CONSISTENT WITH THE FOLLOWING CITY COUNCIL PRIORITIES

CITY CONTACT: Richard Beverlin, City Manager
beverlinr@nactx.us
(936) 559-2506

ATTACHMENTS: 1. Agreement - Administrative Consultant

CONSULTANT SERVICE AGREEMENT

This **CONSULTANT SERVICE AGREEMENT** ("**Agreement**") is to be effective as of the 19th day of February, 2025 (the "**Effective Date**"), and is hereby made and entered into by and between the **CITY OF NACOGDOCHES**, a Texas municipal corporation (the "**City**"), acting by and through its City Manager, and **BONITA HALL** ("**Consultant**"), which may be referred to herein singularly as "Party", or collectively as the "Parties."

RECITALS

A. The City has recognized the need for certain administrative services to be provided as specified herein, and seeks to assure the availability of such services in order to address such needs; and

B. Consultant desires to provide these services for and on behalf of the City pursuant to the terms of this Agreement, and the City agrees to contract with her in order to provide the services contemplated herein.

AGREEMENT

NOW, THEREFORE, for and in consideration of the premises, the mutual covenants and conditions set forth in this Agreement, and other good and valuable consideration, the receipt and sufficiency of which is hereby acknowledged, the City and Consultant hereby mutually agree as follows:

1. **SERVICES.** Consultant shall provide the City certain administrative services (the "**Services**"), as more specifically identified and described in Exhibit A, attached hereto and made a part hereof by this reference, or as may be amended.
2. **COMPENSATION.** For the Services rendered pursuant to this Agreement, the sufficiency and completeness determined solely by the City Manager and/or his designee, the City agrees to pay Consultant as follows:
 - a. Consultant shall be paid an hourly rate of \$125.00 per hour for performance of the agreed upon Services, as specified herein;
 - b. Consultant shall be paid through the City's bi-weekly payroll process; and
 - c. The City will compensate Consultant for any travel on behalf of the City, to include reimbursement for expenses incurred for meals and lodging for any Services requiring an overnight stay.
3. **REPRESENTATIONS AND WARRANTIES.** Consultant represents and warrants to City that there is no contractual obligation to which she is subject, which would prevent her from entering into this Agreement or from performing fully the Services contemplated under this Agreement.
4. **INDEMNITY.** Consultant shall indemnify and hold harmless the City, its administrators, agents, officers, and employees, from and against any and all damages, costs, expenses, losses, claims, demands, liabilities, awards, judgments, and obligations arising from, relating to, or in

any way sustained or incurred, directly or indirectly, by reason of (i) her performance of the Services provided under this Agreement; (ii) the negligence, gross negligence, recklessness, or intentional misconduct by Consultant and/or any of her agents, employees and/or contractors; (iii) the breach of any of Consultant's duties, responsibilities, covenants, or other obligations under this Agreement; and (iv) the inaccuracy in or breach of any representation or warranty by Consultant contained in this Agreement.

5. RELATIONSHIP OF THE PARTIES. In the performance of the Services under this Agreement, it is mutually understood and agreed that Consultant is, and at all times shall be, an independent contractor and is not an agent, representative, or employee of the City. The City shall neither have nor exercise any control or direction over Consultant, nor over the methods or manner by which any she performs any Services hereunder. Nothing herein is intended nor shall be construed as giving that degree of control or direction on the part of City that creates an employer-employee relationship between the City and Consultant with respect to the Services being performed. It is expressly agreed that Consultant will not for any purpose be deemed to be an ostensible or apparent agent or servant of City with respect to the provision of the Services.

6. TERM. The term of this Agreement shall be one (1) year commencing on the Effective Date, and upon agreement of the parties, shall renew for subsequent one (1) year periods thereafter, unless terminated earlier in accordance with the provisions of this Agreement.

7. TERMINATION.

a. *Termination Without Cause.* Either party may, in its sole discretion, terminate this Agreement, without cause, by giving the other party at least thirty (30) days prior written notice.

b. *Termination for Breach.* Either party may terminate this Agreement upon breach by the other party of any material provision of this Agreement, provided the breaching party is provided fifteen (15) days written notice specifying the breach and the breaching party fails to cure said breach.

c. As of the effective date of termination of this Agreement, neither party shall have any further rights or obligations hereunder except: (a) as otherwise provided herein; (b) for rights and obligations accruing prior to the effective date of termination; and (c) arising as a result of any breach of this Agreement.

d. Consultant shall be entitled to payment for Services which were performed to the satisfaction of the City Manager prior to termination.

8. OWNERSHIP OF DOCUMENTS

a. Any and all writings, documents, or other information produced by Consultant, which are related to the Services performed under this Agreement, are the exclusive property of City. Consultant understands and acknowledges that as the exclusive owner of such writings, documents, and information, the City has the right to use all such writings, documents, and other such information as City desires, without restriction;

b. Consultant shall properly, accurately and completely maintain all documents,

papers, and records, and other evidence pertaining to the Services rendered hereunder, and shall make such materials available to the City as it may deem necessary during the Term of the Agreement, including any extension or renewal hereof; and

c. Consultant shall notify City, immediately, in the event she receives any requests for information from a third party, which pertain to the documentation and records referenced herein to include any request under the Texas Public Information Act. Consultant understands and agrees that City will process and handle all such requests.

9. BINDING EFFECT. This Agreement shall be binding upon and inure to the benefit of the parties and their successors and permitted assigns. Nothing in this Agreement is intended, nor shall be deemed, to confer any benefits on any third party.

10. ASSIGNMENT. No assignment of this Agreement or the rights or obligations hereunder shall be valid without the prior written consent of the City.

11. GOVERNING LAW AND VENUE. This Agreement shall be construed and governed according to the laws of the State of Texas, without giving effect to its conflict of laws provisions. Nacogdoches County, Texas shall be the sole and exclusive venue for any litigation or other proceeding between the parties that may be brought in connection with or that arises out of this Agreement.

12. WAIVER. Waiver by either party of a breach or violation of any provision of this Agreement shall not operate as, or be construed to be, a waiver of any prior, concurrent or subsequent breach. None of the provisions of this Agreement shall be considered waived by either party except when such waiver is given in writing.

13. SEVERABILITY. If any term or provision of this Agreement is held invalid or unenforceable to any extent, the remainder of this Agreement shall not be affected thereby and each term and provision of this Agreement shall be valid and enforceable to the fullest extent permitted by law.

14. NOTICES. Notices or communications to be given under this Agreement shall be given to the respective parties in writing either by personal delivery, overnight delivery service, confirmed facsimile followed by United State mail, or registered or certified mail, postage prepaid, as follows:

To the City:	The City of Nacogdoches P.O. Box 635030 Nacogdoches, Texas 75963-5030 Attention: City Manager
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To Consultant:	Bonita Hall Bonitaj.hall@yahoo.com
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or such other addresses and to such other persons as either party may from time to time designate by notice given as herein provided. Such notices or communications shall be deemed to have been given three (3) days after deposit in the United States mail if sent by registered or certified mail, postage prepaid, one (1) day after delivery to an overnight delivery service or transmission by confirmed facsimile, or immediately if hand-delivered.

15. **ENTIRE AGREEMENT.** This Agreement, any amendments or addenda hereto, and any exhibits specifically mentioned therein, constitute the entire agreement between the parties regarding the subject matter hereof and supersede all prior or contemporaneous discussions, representations, correspondence and agreements, or whether oral or written, pertaining thereto. This Agreement may be amended or modified only by a writing duly executed by both parties. The language of this Agreement shall be construed as a whole according to its fair and common meaning and shall not be construed for or against either of the parties hereto.

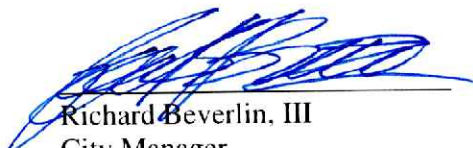
CITY:

CITY OF NACOGDOCHES

By:

Name:

Title:


Richard Beverlin, III

City Manager

CONSULTANT:

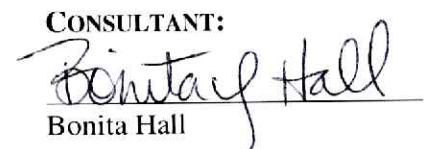

Bonita Hall

EXHIBIT A
SERVICES TO BE PROVIDED

Consultant shall provide the following services on behalf of the City of Nacogdoches:

- Assist the Human Resources department as needed;
- Assist the Finance department as needed;
- Participate in development and/or amendment of City policies and procedures, to include amending the City's Employee Handbook;
- Coordinate health plans on behalf of City staff;
- Perform special projects as may be assigned by the City Manager.



City Council Meeting

Date: March 4, 2025

Agenda Item: 5.E.

PRESENTER: Todd Simoneaux, Interim Finance Director

ITEM/SUBJECT: Review and accept the Investment Report for the quarter ended December 31, 2024. (Interim Finance Director)

SUMMARY/BACKGROUND: The investment portfolio of the City of Nacogdoches is in compliance with the Public Funds Investment Act and the Investment Policy and Strategies.

FINANCIAL:

COUNCIL PRIORITIES: THIS AGENDA ITEM IS CONSISTENT WITH THE FOLLOWING CITY COUNCIL PRIORITIES

CITY CONTACT: Todd Simoneaux, Interim Finance Director
simoneauxt@nactx.us
(936) 559-2529

ATTACHMENTS: 1. 2024 12 Nacogdoches



QUARTERLY INVESTMENT REPORT

For the Quarter Ended

December 31, 2024

Prepared by
Valley View Consulting, L.L.C.

The investment portfolio of the City of Nacogdoches is in compliance with the Public Funds Investment Act and the Investment Policy and Strategies.

Investment Officer

Investment Officer

Disclaimer: These reports were compiled using information provided by the City. No procedures were performed to test the accuracy or completeness of this information. The market values included in these reports were obtained by Valley View Consulting, L.L.C. from sources believed to be accurate and represent proprietary valuation. Due to market fluctuations these levels are not necessarily reflective of current liquidation values. Yield calculations are not determined using standard performance formulas, are not representative of total return yields and do not account for investment advisor fees.

Summary

Quarter End Results by Investment Category:

Asset Type	September 30, 2024			December 31, 2024		
	Ave. Yield	Book Value	Market Value	Ave. Yield	Book Value	Market Value
MMA/MMF/Pools	4.69%	\$ 95,243,782	\$ 95,243,782	4.27%	\$ 93,743,243	\$ 93,743,243
Certificates of Deposit	5.20%	23,294,125	23,294,125	4.95%	23,226,071	23,226,071
Totals	4.17%	\$ 118,537,907	\$ 118,537,907	4.41%	\$ 116,969,314	\$ 116,969,314

Average Yield - Current Quarter (1)

Total Portfolio	4.41%
Rolling Three Month Treasury	4.56%
Rolling Six Month Treasury	4.63%
TexPool	4.56%

Fiscal Year-to-Date Average Yield (2)

Total Portfolio	4.41%
Rolling Three Month Treasury	4.56%
Rolling Six Month Treasury	4.63%
TexPool	4.56%

Interest Income (Approximate)

Quarterly Interest Income	\$ 1,421,656
Fiscal Year-to-date Interest Income	\$ 1,421,656

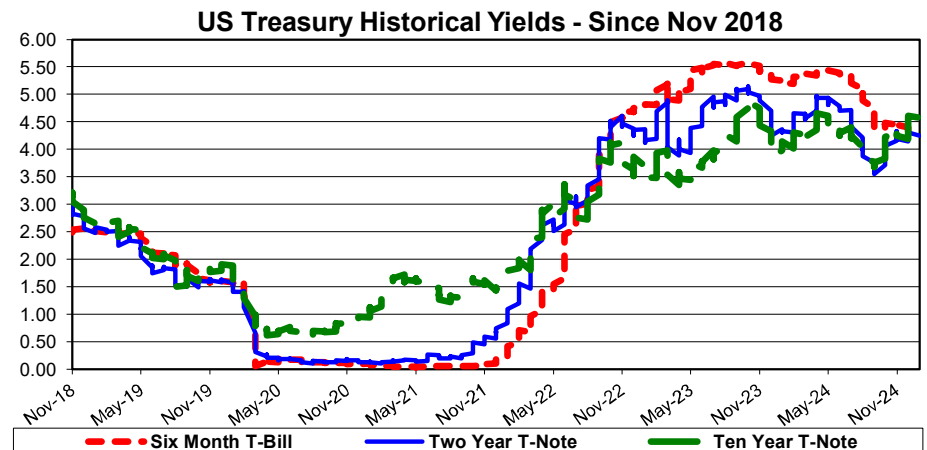
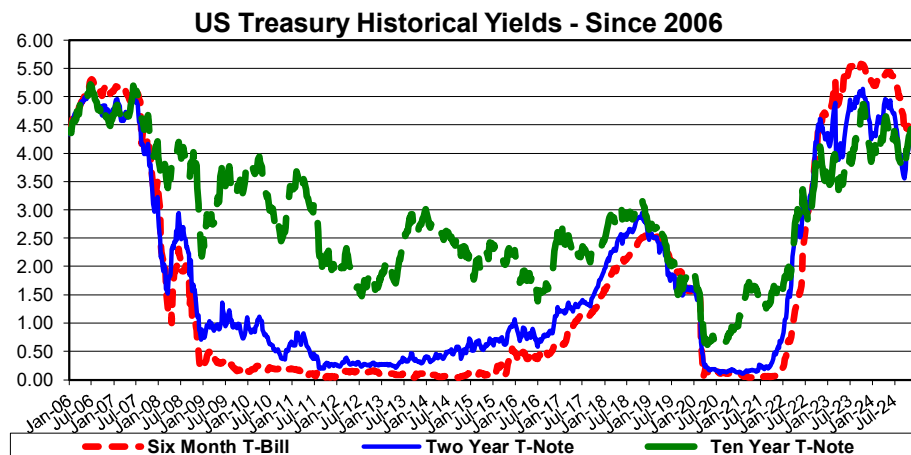
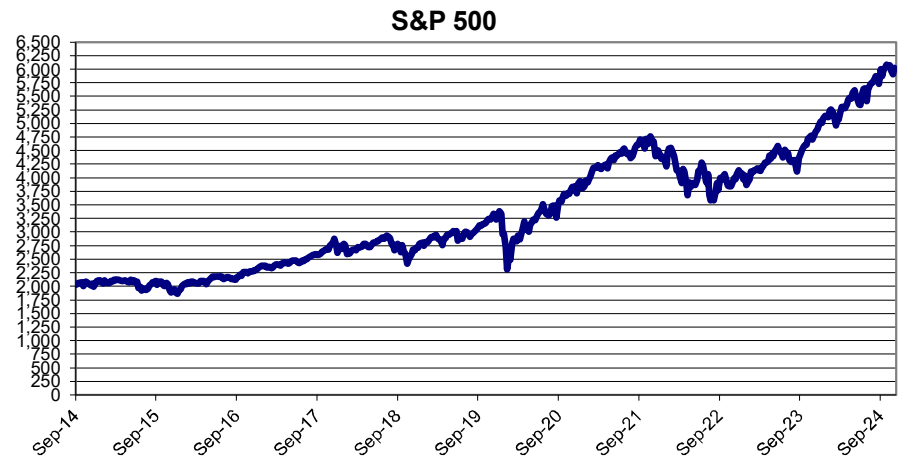
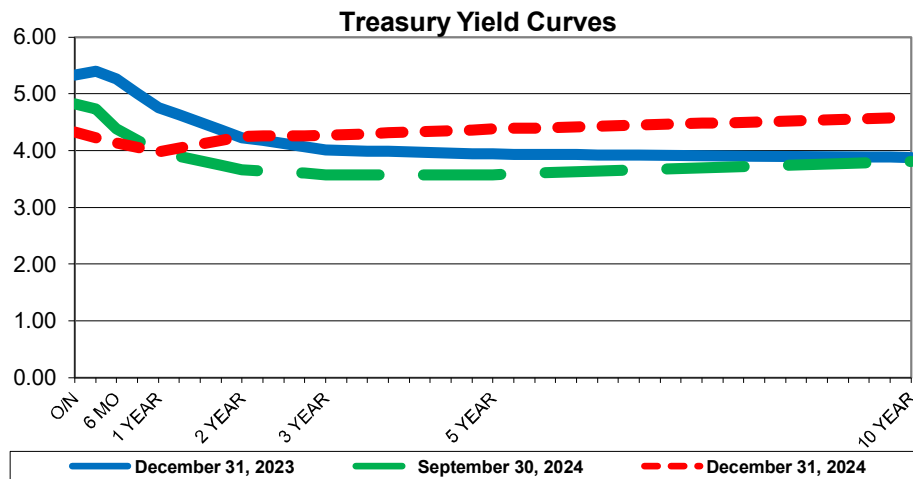
(1) **Average Yield - Current Quarter** - based on adjusted book value, realized and unrealized gains/losses and investment advisory fees are not considered. The yield for the reporting month is used for bank, pool, and money market balances.

(2) **Fiscal Year-to-Date Average Yields** - calculated using quarter end report yields and adjusted book values and does not reflect a total return analysis or account for advisory fees.

Economic Overview

12/31/2024

The Federal Open Market Committee (FOMC) reduced the Fed Funds target range to 4.25% - 4.50% (Effective Fed Funds trade +/-4.33%). Expectations for additional rate cuts have diminished with one 0.25% cut projected in March/May. The next cut might not be until October. December Non-Farm Payroll improved to +256k new jobs, with the Three Month Rolling Average falling slightly to +170k (from the previous +173k). Third Quarter 2024 GDP final number increased to +3.1. The S&P 500 Stock Index experienced some volatility but still exceeds 6,000. The yield curve adjusted to a slight checkmark shape. Crude Oil bounced +/- \$70 per barrel. Inflation remains above the FOMC 2% target (Core PCE +/-2.8% and Core CPI +/-3.3%). Declining global economic outlook and ongoing/expanding international political disruptions increases uncertainty.



Investment Holdings
December 31, 2024

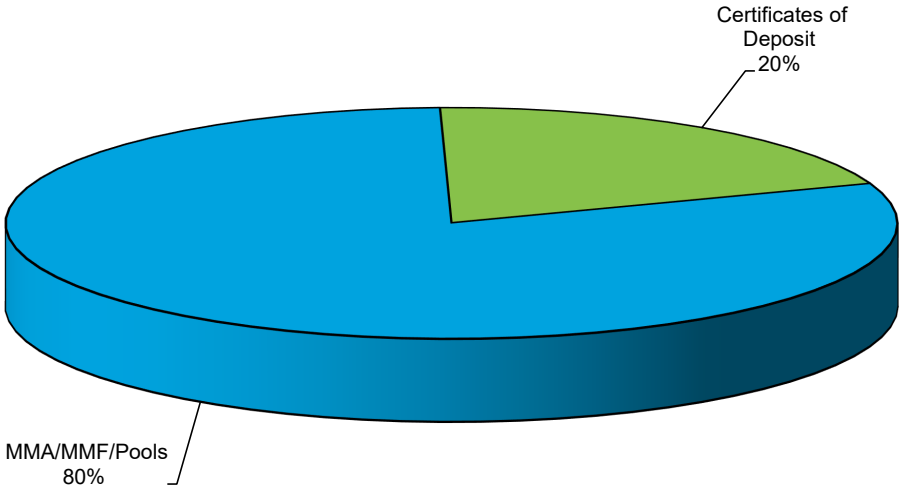
Description	Ratings	Coupon/ Discount	Maturity Date	Settlement Date	Face Amount/ Par Value	Book Value	Market Price	Market Value	Life (Day)	Yield
Southside Bank MMA (3)		1.37%	01/01/25	12/31/24	\$ 8,547,719	\$ 8,547,719	1.00	\$ 8,547,719	1	1.37%
Independent Financial Bank MMA		4.56%	01/01/25	12/31/24	5,486,842	5,486,842	1.00	5,486,842	1	4.56%
Veritex Bank MMA		4.56%	01/01/25	12/31/24	7,313,423	7,313,423	1.00	7,313,423	1	4.56%
Federated Hermes Gov't MMF		4.38%	01/01/25	12/31/24	539,032	539,032	1.00	539,032	1	4.38%
TexPool	AAAm	4.56%	01/01/25	12/31/24	66,973,876	66,973,876	1.00	66,973,876	1	4.56%
TexSTAR	AAAm	4.56%	01/01/25	12/31/24	4,882,351	4,882,351	1.00	4,882,351	1	4.56%
SUBTOTAL					\$ 93,743,243	\$ 93,743,243		\$ 93,743,243	1	4.27%
									(1)	(2)
East West Bank CD		5.26%	01/10/25	04/10/24	2,078,149	2,078,149	100.00	2,078,149	10	5.40%
East West Bank CD		5.26%	01/10/25	04/10/24	2,078,149	2,078,149	100.00	2,078,149	10	5.40%
SouthSide Bank CD		5.35%	02/05/25	08/05/24	1,013,485	1,013,485	100.00	1,013,485	36	5.46%
Bank OZK CD		5.45%	03/26/25	09/26/23	2,141,227	2,141,227	100.00	2,141,227	85	5.60%
SouthSide Bank CD		5.20%	05/05/25	08/05/24	1,013,107	1,013,107	100.00	1,013,107	125	5.30%
SouthSide Bank CD		4.35%	06/25/25	09/25/24	2,223,859	2,223,859	100.00	2,223,859	176	4.42%
Cornerstone Capital Bank CDARS		5.31%	07/03/25	07/05/24	2,053,031	2,053,031	100.00	2,053,031	184	5.45%
Citizens 1st Bank CD		2.00%	09/01/25	06/01/24	2,302	2,302	100.00	2,302	244	2.00%
SouthSide Bank CD		4.15%	09/25/25	09/25/24	2,222,762	2,222,762	100.00	2,222,762	268	4.22%
Citizens 1st Bank CD		4.44%	12/26/25	12/27/24	2,200,000	2,200,000	100.00	2,200,000	360	4.51%
UBank CD		4.50%	04/30/26	10/31/24	2,100,000	2,100,000	100.00	2,100,000	485	4.58%
UBank CD		5.00%	10/03/26	10/03/24	2,000,000	2,000,000	100.00	2,000,000	641	5.12%
UBank CD		4.42%	10/30/26	10/31/24	2,100,000	2,100,000	100.00	2,100,000	668	4.50%
SUBTOTAL					\$ 23,226,071	\$ 23,226,071		\$ 23,226,071	269	4.95%
									(1)	(2)
TOTAL					\$ 116,969,314	\$ 116,969,314		\$ 116,969,314	54	4.41%
									(1)	(2)

(1) **Weighted average life** - For purposes of calculating weighted average life, bank accounts, pools and money market funds are assumed to have an one day maturity.

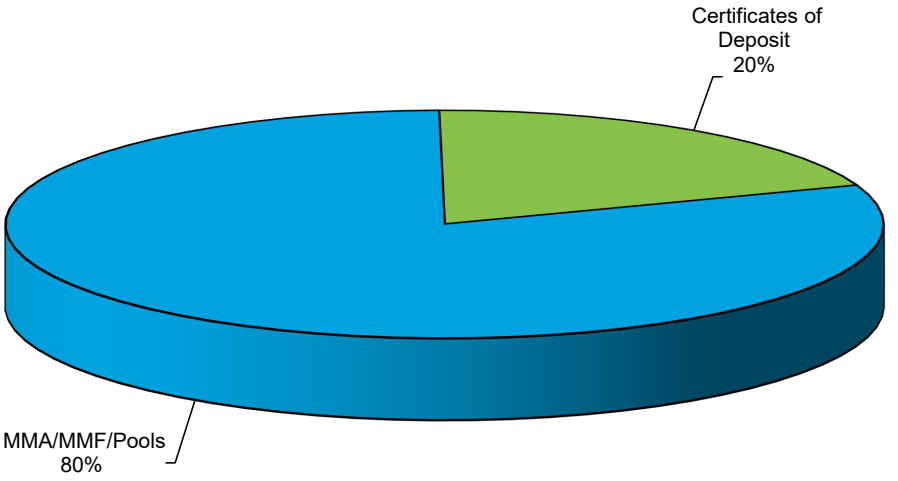
(2) **Weighted average yield to maturity** - The weighted average yield to maturity is based on adjusted book value, realized and unrealized gains/losses and investment advisory fees are not considered. The yield for the reporting month is used for bank accounts, pools, and money market funds.

(3) **Weighted Average Yield** - The City has several Southside Bank MMA accounts with differing yields. A weighted average yield of all Southside Bank MMA accounts is calculated.

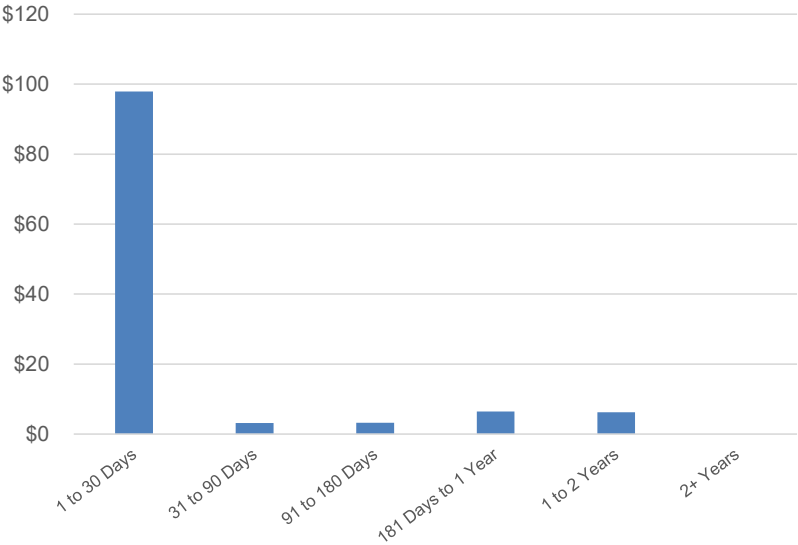
**Portfolio Composition
Current Quarter**



**Portfolio Composition
Previous Quarter**



Distribution by Maturity Range (Millions)



Book & Market Value Comparison

Issuer/Description	Yield	Maturity Date	Book Value 09/30/24	Increases	Decreases	Book Value 12/31/24	Market Value 09/30/24	Change in Market Value	Market Value 12/31/24
Southside Bank MMA	1.37%	01/01/25	\$ 9,438,826	\$ —	\$ (891,107)	\$ 8,547,719	\$ 9,438,826	\$ (891,107)	\$ 8,547,719
Independent Financial Bank MMA	4.56%	01/01/25	5,420,926	65,916	—	5,486,842	5,420,926	65,916	5,486,842
Veritex Bank MMA	4.56%	01/01/25	7,228,409	85,014	—	7,313,423	7,228,409	85,014	7,313,423
Federated Hermes Gov't MMF	4.38%	01/01/25	13,222,847	—	(12,683,815)	539,032	13,222,847	(12,683,815)	539,032
TexPool	4.56%	01/01/25	59,932,774	7,041,102	—	66,973,876	59,932,774	7,041,102	66,973,876
TexSTAR	4.56%	01/01/25	—	4,882,351	—	4,882,351	—	4,882,351	4,882,351
Citizens State Bank CD	4.60%	10/04/24	2,110,292	—	(2,110,292)	—	2,110,292	(2,110,292)	—
East West Bank CD	5.61%	10/29/24	2,201,235	—	(2,201,235)	—	2,201,235	(2,201,235)	—
East West Bank CD	5.63%	11/01/24	2,135,289	—	(2,135,289)	—	2,135,289	(2,135,289)	—
East West Bank CD	5.59%	12/27/24	2,205,373	—	(2,205,373)	—	2,205,373	(2,205,373)	—
East West Bank CD	5.40%	01/10/25	2,050,780	27,368	—	2,078,149	2,050,780	27,368	2,078,149
East West Bank CD	5.40%	01/10/25	2,050,780	27,368	—	2,078,149	2,050,780	27,368	2,078,149
SouthSide Bank CD	5.46%	02/05/25	1,000,000	13,485	—	1,013,485	1,000,000	13,485	1,013,485
Bank OZK CD	5.60%	03/26/25	2,112,332	28,895	—	2,141,227	2,112,332	28,895	2,141,227
SouthSide Bank CD	5.30%	05/05/25	1,000,000	13,107	—	1,013,107	1,000,000	13,107	1,013,107
SouthSide Bank CD	4.42%	06/25/25	2,200,000	23,859	—	2,223,859	2,200,000	23,859	2,223,859
Cornerstone Capital Bank CDARS	5.45%	07/03/25	2,025,753	27,278	—	2,053,031	2,025,753	27,278	2,053,031
Citizens 1st Bank CD	2.00%	09/01/25	2,291	12	—	2,302	2,291	12	2,302
SouthSide Bank CD	4.22%	09/25/25	2,200,000	22,762	—	2,222,762	2,200,000	22,762	2,222,762
Citizens 1st Bank CD	4.51%	12/26/25	—	2,200,000	—	2,200,000	—	2,200,000	2,200,000
UBank CD	4.58%	04/30/26	—	2,100,000	—	2,100,000	—	2,100,000	2,100,000
UBank CD	5.12%	10/03/26	—	2,000,000	—	2,000,000	—	2,000,000	2,000,000
UBank CD	4.50%	10/30/26	—	2,100,000	—	2,100,000	—	2,100,000	2,100,000
TOTAL/ AVERAGE	4.41%		\$ 118,537,907	\$ 20,658,519	\$(22,227,111)	\$ 116,969,314	\$ 118,537,907	\$ (1,568,592)	\$ 116,969,314

Allocation

December 31, 2024

Book Value and Market Value	Investment Total	Airport Operations	Capital Projects	Debt Service	Equipment Replacement	General Fund	Grants Fund
Southside Bank MMA	\$ 8,547,719	\$ 232,892	\$ 389,152	\$ 155,946	\$ 204,487	\$ 1,565,072	\$ 54,958
Independent Financial Bank MMA	5,486,842	—	—	—	—	—	—
Veritex Bank MMA	7,313,423	—	—	—	—	2,437,808	—
Federated Hermes Gov't MMF	539,032	—	—	—	—	—	—
TexPool	66,973,876	—	2,166,927	335,958	3,149,471	160,389	2,363,158
TexSTAR	4,882,351	—	—	—	—	4,882,351	—
01/10/25—East West Bank CD	2,078,149	—	—	—	—	2,078,149	—
01/10/25—East West Bank CD	2,078,149	—	—	—	—	—	—
02/05/25—SouthSide Bank CD	1,013,485	—	—	—	—	—	—
03/26/25—Bank OZK CD	2,141,227	—	—	—	—	2,141,227	—
05/05/25—SouthSide Bank CD	1,013,107	—	—	—	—	—	—
06/25/25—SouthSide Bank CD	2,223,859	—	—	—	—	1,111,930	—
07/03/25—Cornerstone Capital Bank CDARS	2,053,031	—	—	—	—	—	—
09/01/25—Citizens 1st Bank CD	2,302	—	—	—	—	2,302	—
09/25/25—SouthSide Bank CD	2,222,762	—	—	—	—	1,111,381	—
12/26/25—Citizens 1st Bank CD	2,200,000	—	—	—	—	—	—
04/30/26—UBank CD	2,100,000	—	—	—	—	—	—
10/03/26—UBank CD	2,000,000	—	—	—	—	—	—
10/30/26—UBank CD	2,100,000	—	—	—	—	—	—
Totals	\$ 116,969,314	\$ 232,892	\$ 2,556,078	\$ 491,905	\$ 3,353,958	\$ 15,490,608	\$ 2,418,116

Allocation
December 31, 2024

(Continued)

Book Value and Market Value	Internal Service Fund	Sanitation Fund	Special Revenue Fund	Utility & Sanitation Fund	Utility Fund	GO 2024 Fund
Southside Bank MMA	\$ 61,550	\$ —	\$ 452,368	\$ 878,899	\$ 4,548,166	\$ 4,230
Independent Financial Bank MMA	—	—	—	—	5,486,842	—
Veritex Bank MMA	—	2,437,808	—	—	2,437,808	—
Federated Hermes Gov't MMF	—	—	—	—	539,032	—
TexPool	2,932,605	8,272,628	2,264,293	—	29,792,988	15,535,460
TexSTAR	—	—	—	—	—	—
01/10/25—East West Bank CD	—	—	—	—	—	—
01/10/25—East West Bank CD	—	—	—	—	2,078,149	—
02/05/25—SouthSide Bank CD	—	—	—	1,013,485	—	—
03/26/25—Bank OZK CD	—	—	—	—	—	—
05/05/25—SouthSide Bank CD	—	—	—	1,013,107	—	—
06/25/25—SouthSide Bank CD	—	—	—	—	1,111,930	—
07/03/25—Cornerstone Capital Bank CDARS	—	2,053,031	—	—	—	—
09/01/25—Citizens 1st Bank CD	—	—	—	—	—	—
09/25/25—SouthSide Bank CD	—	—	—	—	1,111,381	—
12/26/25—Citizens 1st Bank CD	—	2,200,000	—	—	—	—
04/30/26—UBank CD	—	—	—	—	2,100,000	—
10/03/26—UBank CD	—	2,000,000	—	—	—	—
10/30/26—UBank CD	—	—	—	—	2,100,000	—
Totals	\$ 2,994,156	\$ 16,963,466	\$ 2,716,661	\$ 2,905,490	\$ 51,306,295	\$ 15,539,690

Allocation

September 30, 2024

Book Value and Market Value	Investment Total	Airport Operations	Capital Projects	Debt Service	Equipment Replacement	General Fund	Grants Fund
Southside Bank MMA	\$ 9,438,826	\$ 169,578	\$ 234,864	\$ 19,096	\$ 10,839	\$ 1,559,151	\$ 102,959
Independent Financial Bank MMA	5,420,926	—	—	—	—	—	—
Veritex Bank MMA	7,228,409	—	—	—	—	2,409,470	—
Federated Hermes Gov't MMF	13,222,847	—	—	—	—	—	—
TexPool	59,932,774	—	2,096,619	314,120	1,576,282	11,026,515	3,156,934
10/04/24—Citizens State Bank CD	2,110,292	—	—	—	—	—	—
10/29/24—East West Bank CD	2,201,235	—	—	—	—	—	—
11/01/24—East West Bank CD	2,135,289	—	—	—	—	—	—
12/27/24—East West Bank CD	2,205,373	—	—	—	—	—	—
01/10/25—East West Bank CD	2,050,780	—	—	—	—	2,050,780	—
01/10/25—East West Bank CD	2,050,780	—	—	—	—	—	—
02/05/25—SouthSide Bank CD	1,000,000	—	—	—	—	—	—
03/26/25—Bank OZK CD	2,112,332	—	—	—	—	2,112,332	—
05/05/25—SouthSide Bank CD	1,000,000	—	—	—	—	—	—
06/25/25—SouthSide Bank CD	2,200,000	—	—	—	—	1,100,000	—
07/03/25—Cornerstone Capital Bank CDARS	2,025,753	—	—	—	—	—	—
09/01/25—Citizens 1st Bank CD	2,291	—	—	—	—	2,291	—
09/25/25—SouthSide Bank CD	2,200,000	—	—	—	—	1,100,000	—
Totals	\$ 118,537,907	\$ 169,578	\$ 2,331,483	\$ 333,216	\$ 1,587,121	\$ 21,360,538	\$ 3,259,893

Allocation
September 30, 2024

(Continued)

Book Value and Market Value	Internal Service Fund	Sanitation Fund	Special Revenue Fund	Utility & Sanitation Fund	Utility Fund	GO 2024 Fund
Southside Bank MMA	\$ 273,482	\$ —	\$ 663,562	\$ 1,505,207	\$ 4,895,927	\$ 4,162
Independent Financial Bank MMA	—	—	—	—	5,420,926	—
Veritex Bank MMA	—	2,409,470	—	—	2,409,470	—
Federated Hermes Gov't MMF	—	—	—	—	13,222,847	—
TexPool	2,897,884	5,886,554	2,032,326	—	15,411,022	15,534,517
10/04/24—Citizens State Bank CD	—	2,110,292	—	—	—	—
10/29/24—East West Bank CD	—	—	—	—	2,201,235	—
11/01/24—East West Bank CD	—	—	—	—	2,135,289	—
12/27/24—East West Bank CD	—	2,205,373	—	—	—	—
01/10/25—East West Bank CD	—	—	—	—	—	—
01/10/25—East West Bank CD	—	—	—	—	2,050,780	—
02/05/25—SouthSide Bank CD	—	—	—	1,000,000	—	—
03/26/25—Bank OZK CD	—	—	—	—	—	—
05/05/25—SouthSide Bank CD	—	—	—	1,000,000	—	—
06/25/25—SouthSide Bank CD	—	—	—	—	1,100,000	—
07/03/25—Cornerstone Capital Bank CDARS	—	2,025,753	—	—	—	—
09/01/25—Citizens 1st Bank CD	—	—	—	—	—	—
09/25/25—SouthSide Bank CD	—	—	—	—	1,100,000	—
Totals	\$ 3,171,366	\$ 14,637,441	\$ 2,695,888	\$ 3,505,207	\$ 49,947,496	\$ 15,538,679



City Council Meeting

Date: March 4, 2025

Agenda Item: 5.F.

PRESENTER:

ITEM/SUBJECT: Consider approval of the minutes for the February 4, 2025, Regular City Council Agenda, and the February 18, 2025, Regular City Council Agenda. (City Secretary)

SUMMARY/BACKGROUND:

FINANCIAL:

COUNCIL PRIORITIES: THIS AGENDA ITEM IS CONSISTENT WITH THE FOLLOWING CITY COUNCIL PRIORITIES

CITY CONTACT: Rhonda Lewis, City Secretary
lewisr@nactx.us
(936) 559-2506

ATTACHMENTS:

1. City Council Meeting Minutes 02.04.25
2. City Council Meeting Minutes 02.18.25



**Regular Session
Nacogdoches City Council
February 4, 2025 – 5:30 p.m.**

City Council Chambers
202 E. Pilar Street, Nacogdoches, TX



City Council present: Mayor Randy Johnson; Council Members, Kathleen Belanger; Blane Williams; Brad Maule; and Chad Huckaby (appeared virtually)

1. Called to order at 5:30 p.m.
2. Pledge of Allegiance.
3. Open Forum:

Angie McKinney addressed Council with concerns about the Property Tax Valuation Process and her experience with the Nacogdoches Central Appraisal Office. She stated that she had difficulty scheduling hearings, appraisal amounts, and assessments.

4. ITEMS TO BE REMOVED FROM THE CONSENT AGENDA:

Councilman Huckaby asked to have Item 5.D. from the Consent Agenda.

5. CONSENT AGENDA:

Councilwoman Belanger moved to approve the remainder of the Consent Agenda, and Councilman Maule duly seconded the motion. The remainder of the Consent Agenda was approved unanimously.

Councilman Huckaby asked that Chief of Police, Scott Weems, present Item 5.D. as he had done in the past, on the Regular Agenda. Chief Weems stated the Racial Profiling Report is required by the Texas Commission on Law Enforcement annually, and stated the report was for the year 2024. Chief Weems explained the data in the presentation to Council.

Councilman Maule asked if the totals for the year 2024 were an increase or decrease from the previous year. Chief Weems answered, down from the previous year.

Councilwoman Belanger stated the proportionality is the same every year, as she tracks the data with Child Welfare and other data as well.

Councilman Williams asked the Chief if he expected an increase in activity and numbers in the year 2025. The Chief stated he did not foresee the numbers increasing.

Tim Garrigan, and Vicki Lunell, citizens of Nacogdoches, expressed their concerns regarding the Racial Profiling Report. Chief Weems stated that his office was open to further discussions on the matter.

6. REGULAR AGENDA:

- E. Discuss and consider a donation from the Parks Advocacy League in the amount of \$28,126.00 for park benches and picnic tables.

Jessica Sowell, Community Services Director, presented this item to Council along with the Parks Advocacy League. The League was founded in 2014 and since then, have been staunch supporters of the City of Nacogdoches. A donation was made to the City for park benches and picnic tables.

- A. Consider approval of a resolution calling the May 3, 2025, General Election of City Council Members for Northeast Ward, Northwest Ward, and Mayor at Large, in and for the City of Nacogdoches, Texas.

Mayor Johnson officially called the May 3, 2025, General Election for the City.

Councilwoman Belanger moved to approve the resolution. Councilman Williams duly seconded the motion and the motion carried unanimously.

- B. Consider approval of the January Boards and Commissions appointments, namely, the Airport Advisory Board; Building Standards Commission; Health Code Advisory Board; Industrial Development Authority; Nacogdoches Cemetery Board; and Main Street Advisory Board.

Mayor Johnson read the names and the corresponding board for the newly appointed and members of the January Boards and Commissions.

Councilwoman Belanger made a motion to approve the candidates for the January Boards and Commissions. Councilman Williams duly seconded the motion and the motion carries unanimously.

- C. Consider approval of a contract by and between the City of Nacogdoches and KSA Engineers for professional engineering services for Storm Drainage Improvement Projects in a not-to-exceed amount of \$538,300.00.

Case Opperman, City Engineer, stated that Items 6.C. and 6.D. are both related to professional engineering Services for the storm drainage improvement projects. He reminded Council that KSA Engineers and 215 Consulting were selected for the 16 locations for the improvements and the preliminary phase developed solutions for the issues. The City has received proposals from both firms.

Councilman Maule moved to approve Item 6.C. and Councilman Williams duly seconded the motion. The motion carried unanimously.

- D. Consider approval of a contract by and between the City of Nacogdoches and Two Fifteen Consulting for professional engineering services for Storm Drainage Improvement Projects in a not-to-exceed amount of \$465,990.00.

Case Opperman, City Engineer, discussed the projects for this item, including erosion damage, property damage, and street damage in the locations indicated. Two Fifteen Consulting will conduct the engineering study for these projects. A map of the locations will be featured in the City of Nacogdoches Friday Update and posted to the City's website.

Councilwoman Belanger made a motion to approve Item 6.D. as presented. Councilman Maule duly seconded the motion and the motion carried unanimously.

- F. Consider approval of proposed updates to the ordinance of the City of Nacogdoches, Texas, Amending Chapter 106 – "Utilities", Article VIII – "Extension of Water and Sanitary Sewer Systems", of the Code of Ordinances of the City of Nacogdoches, Texas; Providing a Severability Clause; Providing a Continuation Clause; Providing a Repeal Clause; and Providing an Effective Date.

Case Opperman, City Engineer, clarified the existing ordinance and explained that he expected to receive more requests from developers for expansions currently underway for Stephen F. Austin. Mr. Opperman clarified eligibility on agreements and properties within the City limits, which are the key updates to the ordinance.

Councilman Maule asked if this meant the City is growing. Mr. Opperman answered yes.

Brandi Cartwright asked if the changes were done by staff or the Zoning Ordinance Committee. Councilman Maule and Mr. Opperman clarified that the updates were made with the help of the City Attorney and driven by conversations with consultants, and also not a project of the Zoning Ordinance Committee.

Councilwoman Belanger moved to approve the proposed ordinance updates. Councilman Maule duly seconded the motion and the motion carried unanimously.

- G. Consider approval of an ordinance for the electric franchise with Oncor Electric Delivery and the City of Nacogdoches.

Mike Neu, Director of Development and Infrastructure, presented to Council that this franchise agreement between the City and Oncor has been long-standing for over 20 years and has come up for extension for this year. The standard language in the agreement is from Oncor, and is used with other cities in which Oncor operates.

Councilman Maule moved to approve the agreement between the City and Oncor. Mayor Johnson seconded the motion, and the motion carried unanimously.

- H. Discuss and consider possible action to approve a contract between the City of Nacogdoches and The Goodman Corporation for professional services related to downtown project planning, development, funding, and implementation in the total amount not to exceed \$249,724.00.

Mike Neu, Director of Development and Infrastructure, presented this item to Council stating the approval of staff to negotiate a contract to identify a consulting firm to provide professional services, passed on December 17, 2024. The Goodman Corporation was chosen to focus on Downtown implementation strategies.

Barry Goodman, of The Goodman Corporation, addressed Council stating that he and his staff are excited to provide their services to achieve successful outcomes for the City of Nacogdoches.

Brandi Cartwright stated that she is excited to see an implementation component to this plan of action. She asked if bond funds would be used to complete the plan. Rick Beverlin, City Manager, stated there may be some bond funds used in different areas.

Anne Keenan expressed her thoughts on community engagement and meetings involving citizens of Nacogdoches.

Councilman Maule stated he loves the implementation, due to the concrete projects that will start soon and follow through to completion.

Councilman Maule made a motion to approve Item 6.H. as written. Councilman Williams duly seconded the motion and the motion carried unanimously.

- I. Discuss and consider possible action to adopt a Resolution appointing an ad hoc Downtown Technical Advisory Committee to advise the City of Nacogdoches on downtown project planning, development, funding, and implementation.

Mike Neu, Director of Development and Infrastructure, presented this item to Council. The resolution would allow for an ad hoc committee to ensure that all tasks are met under The Goodman Corporation's terms, as related to Item 6.H. on this agenda.

Brandi Cartwright asked if the meetings would be open to the public. Mr. Neu stated there will be posted agendas and open to the public.

Councilwoman Belanger made a motion to approve the resolution for Item 6.I. Councilman Maule duly seconded the motion and the motion carried unanimously.

7. **ADJOURNED:** 7:14 p.m.

A full recording of the Regular City Council Meeting for February 4, 2025, may be viewed here: [Regular City Council Meeting - 20250204](#)

ATTEST:

Mayor, Randy Johnson
City Council
City of Nacogdoches

Rhonda Lewis, City Secretary



**Regular Session
Nacogdoches City Council
February 18, 2025 – 5:30 p.m.**

City Council Chambers
202 E. Pilar Street, Nacogdoches, TX



City Council present: Mayor Randy Johnson; Council Members, Kathleen Belanger; Blane Williams; Brad Maule; and Chad Huckaby

1. Called to order at 5:30 p.m.

2. Pledge of Allegiance.

3. Open Forum:

There were no comments in Open Forum.

4. ITEMS TO BE REMOVED FROM THE CONSENT AGENDA:

No items were removed from the Consent Agenda.

5. CONSENT AGENDA:

Councilman Huckaby made a motion to approve the Consent Agenda. Councilman Williams duly seconded the motion and the motion carried unanimously.

6. REGULAR AGENDA:

- A. Consider approval of a contract by and between the City of Nacogdoches and DSP Nacogdoches City Council Agenda Page 2 February 18, 2025 Development, LLC for the 2025 Curb and Valley Gutter Project in a not-to-exceed amount of \$396,294.04.

Case Opperman, City Engineer, introduced this item to Council stating that the Council previously approved bond funds for propositions, which included street paving. He stated that his staff and crews are working to get this curb and valley gutter project underway and ahead of time.

Councilman Huckaby made a motion to approve Item 6.A. Councilman Maule duly seconded the motion and the motion carried unanimously.

- B. Consider a Resolution authorizing the submission of a preliminary application to the Texas Department of Transportation for the 2025 Transportation Alternatives Set-Aside Program.

Case Opperman, City Engineer, presented this item, stating it is a pedestrian type planning effort for North Street. He stated that the City of Nacogdoches applies for the program every two years and called the Transportation Alternatives Program, a set-aside program for bike and pedestrian infrastructure.

Councilwoman Belanger moved to approve Item 6.B. Councilman Huckaby duly seconded the motion and the motion carried unanimously.

- C. Consider approval of a budget amendment for the AMR Transmitter & Meter Replacement Capital Improvement Project Acceleration.

Kevin Sardinha, Accounting Manager, presented this item to Council stating that when this plan was included in the CIP Plan it was based off of a proposal that had a timeline of expenditures split between two fiscal years.

Councilman Maule made a motion to approve Item 6.C. on the agenda. Councilwoman Belanger duly seconded the motion and the motion carried unanimously.

7. **EXECUTIVE SESSION:** The Executive Session for this meeting was cancelled.

8. **ADJOURNED:** 6:04 p.m.

A full recording of the Regular City Council Meeting for February 18, 2025, may be viewed here: [Regular City Council Meeting - 20250218](#)

ATTEST:

Mayor, Randy Johnson
City Council
City of Nacogdoches

Rhonda Lewis, City Secretary

PRESENTER: Case Opperman, Director of Public Works

ITEM/SUBJECT: Consider approval of a contract by and between the City of Nacogdoches and Duplichain Contractors, LLC for the 2025 Ridgebrook Drive Drainage Improvements Project for a not-to-exceed amount of \$263,060.00. (Director of Public Works/City Engineer)

SUMMARY/BACKGROUND: One of the drainage projects utilizing American Rescue Plan Act (ARPA) funds is the Ridgebrook Drive Drainage Improvements Project, formerly known as the Kenbrook Drainage Project. This project will install approximately 660 linear feet of new storm drain pipe and inlets in order to alleviate property flooding issues on Ridgebrook Drive.

On February 19, 2025, the City received bids for this work. Five (5) contractors submitted bids, as follows:

<i>Duplichain Contractors, LLC</i>	<i>\$ 263,060.00</i>
Crockett Construction, Inc.	\$ 324,498.00
John Wright Construction, Inc.	\$ 345,400.00
Davis Construction	\$ 368,643.00
Lakey, Inc.	\$ 397,664.96

Duplichain Contractors was found to be the lowest responsible bidder. They are an Alto-based company who have successfully completed numerous projects for the City in the past. It is recommended that the contract for this project be awarded to Duplichain Contractors, LLC in the amount of \$263,060.00. There is adequate budget available for this contract from ARPA funds.

FINANCIAL:

Item is budgeted:

Account No.: 24.75 680.31

Account Name: *Special Grant Funds – Drainage Capital*

Amount: \$ 263,060.00

COUNCIL PRIORITIES: THIS AGENDA ITEM IS CONSISTENT WITH THE FOLLOWING CITY COUNCIL PRIORITIES

Infrastructure

CITY CONTACT: Case Opperman - PE, Director of Public Works/City Engineer
oppermanc@nactx.us
(936) 559-2515

ATTACHMENTS:

1. Bid Award Recommendation Letter
2. Bid Tab
3. Contract Documents

4. PowerPoint

February 20, 2025

Mr. Casey R. Opperman
Director of Public Works
City of Nacogdoches, Texas
202 E. Pilar
Nacogdoches, Texas 75963

VIA ELECTRONIC MAIL (oppermanc@nactx.us)

Re: Ridgebrook Drive Drainage Improvements Project (Bid #: 25-10-113)
Bid Summary and Award Recommendation

Dear Mr. Opperman,

As you are aware, on Wednesday, February 19, 2025, the City of Nacogdoches received five (5) bids for the above referenced project. Enclosed is a copy of the bid summary for your review. The apparent low bidder at the public reading of the bids was Duplichain Contractors, LLC of Alto, Texas. A check of the arithmetic confirmed the as-read amount for the low bid.

We have worked with Duplichain Contractors Construction on municipal and public projects in the past. We have found them to be a qualified, competent contractor capable of completing the proposed project to the satisfaction of the City. Therefore, it is our recommendation the City accepts the low bid in the amount of **\$263,060.00** and awards the contract to Duplichain Contractors.

As always, if you should have any questions or need any additional information please do not hesitate to call.

Sincerely,

Two Fifteen Consulting (TBPE F-17461)



Geoffrey D. Sanders, PE
Design Engineer

Encl(1): Bid Tabulation

cc: Jeff Duplichain, Duplichain Contractors (jeff@duplichain.com)

**City of Nacogdoches
Ridgebrook Drive Drainage Improvements Project**

				Duplichain Contractors, LLC		Crockett Construction, Inc		John Wright Construction, Inc.		Davis Construction		Lakey Inc.	
Item	Quan	Unit	Description	Unit Price	TOTAL	Unit Price	TOTAL	Unit Price	TOTAL	Unit Price	TOTAL	Unit Price	TOTAL
1.	2	EA	48" junction box, including crushed stone, bedding and backfill, and all materials & labor; complete, in place	\$8,000.00	\$16,000.00	\$7,600.00	\$15,200.00	\$9,400.00	\$18,800.00	\$12,000.00	\$24,000.00	\$8,539.66	\$17,079.32
2.	1	EA	36" junction box, including crushed stone, bedding and backfill, and all materials & labor; complete, in place	\$8,100.00	\$8,100.00	\$7,600.00	\$7,600.00	\$9,400.00	\$9,400.00	\$10,000.00	\$10,000.00	\$8,578.42	\$8,578.42
3.	1	EA	42" open-sided inlet, including crushed stone, bedding and backfill, and all materials & labor; complete, in place	\$7,000.00	\$7,000.00	\$9,000.00	\$9,000.00	\$8,500.00	\$8,500.00	\$9,000.00	\$9,000.00	\$7,810.86	\$7,810.86
4.	2	EA	5' throat curb inlet under roadway, including crushed stone, bedding and backfill, and all materials & labor; complete, in place	\$11,000.00	\$22,000.00	\$10,000.00	\$20,000.00	\$14,100.00	\$28,200.00	\$19,000.00	\$38,000.00	\$10,455.85	\$20,911.70 *
5.	1	LS	Tie-in to existing curb inlet at Sta. 20+00, including grout installation, and all materials & labor; complete, in place	\$3,000.00	\$3,000.00	\$1,200.00	\$1,200.00	\$3,500.00	\$3,500.00	\$2,500.00	\$2,500.00	\$4,433.81	\$4,433.81
6.	429	LF	24" dual wall gasketed PP storm sewer pipe (ASTM F2881) in paved areas, including excavation, bedding, backfill, cement sand cap, all materials & labor; complete, in place	\$210.00	\$90,090.00	\$122.00	\$52,338.00	\$180.00	\$77,220.00	\$360.00	\$154,440.00	\$213.06	\$91,402.74
7.	148	LF	18" dual wall gasketed PP storm sewer pipe (ASTM F2881) in paved areas, including excavation, bedding, backfill, cement sand cap, all materials & labor; complete, in place	\$190.00	\$28,120.00	\$100.00	\$14,800.00	\$170.00	\$25,160.00	\$270.00	\$39,960.00	\$204.47	\$30,261.56
8.	48	LF	18" dual wall gasketed PP storm sewer pipe (ASTM F2881) outside paved areas, including excavation, bedding, backfill, all materials & labor; complete, in place	\$175.00	\$8,400.00	\$100.00	\$4,800.00	\$160.00	\$7,680.00	\$150.00	\$7,200.00	\$164.76	\$7,908.48
9.	34	LF	15" dual wall gasketed PP storm sewer pipe (ASTM F2881) in paved areas, including excavation, bedding, backfill, cement sand cap, all materials & labor; complete, in place	\$190.00	\$6,460.00	\$100.00	\$3,400.00	\$140.00	\$4,760.00	\$150.00	\$5,100.00	\$141.17	\$4,799.78
10.	1	LS	Water pipe relocation including pipe, thrust blocks, tracer wire, bends, fittings, adapters, and testing, all materials & labor; complete, in place	\$7,000.00	\$7,000.00	\$6,000.00	\$6,000.00	\$8,500.00	\$8,500.00	\$7,000.00	\$7,000.00	\$13,781.13	\$13,781.13
11.	288	SY	Pavement repair in asphalt streets, including saw-cuts, all materials & labor; complete, in place	\$20.00	\$5,760.00	\$175.00	\$50,400.00	\$120.00	\$34,560.00	\$55.00	\$15,840.00	\$205.92	\$59,304.96 *
12.	14	SY	Concrete drive apron replacement, including saw-cuts, all materials & labor; complete, in place	\$250.00	\$3,500.00	\$190.00	\$2,660.00	\$180.00	\$2,520.00	\$210.00	\$2,940.00	\$246.47	\$3,450.58

City of Nacogdoches
Ridgebrook Drive Drainage Improvements Project

				Duplichain Contractors, LLC		Crockett Construction, Inc		John Wright Construction, Inc.		Davis Construction		Lakey Inc.	
Item	Quan	Unit	Description	Unit Price	TOTAL	Unit Price	TOTAL	Unit Price	TOTAL	Unit Price	TOTAL	Unit Price	TOTAL
13.	188	SY	Concrete driveway replacement, including saw-cuts, all materials & labor; complete, in place	\$130.00	\$24,440.00	\$190.00	\$35,720.00	\$185.00	\$34,780.00	\$106.00	\$19,928.00	\$161.76	\$30,410.88
14.	1	LS	Concrete curb and gutter removal and replacement, including saw-cuts, all materials & labor; complete, in place	\$5,000.00	\$5,000.00	\$13,000.00	\$13,000.00	\$7,000.00	\$7,000.00	\$5,000.00	\$5,000.00	\$24,553.98	\$24,553.98
15.	1	LS	Site excavation and earthwork, including all on-site cut and fill, imported fill, rough grading, fine grading, and haul-off and disposal of excess material, all materials & labor; complete, in place	\$5,000.00	\$5,000.00	\$60,000.00	\$60,000.00	\$45,000.00	\$45,000.00	\$5,000.00	\$5,000.00	\$32,343.48	\$32,343.48
16.	146	SY	Block sod replacement, including all materials & labor; complete, in place	\$20.00	\$2,920.00	\$30.00	\$4,380.00	\$30.00	\$4,380.00	\$45.00	\$6,570.00	\$25.28	\$3,690.88
17.	6	SY	Permanent erosion control turf/slope stabilization mats, including all materials & labor; complete, in place	\$300.00	\$1,800.00	\$260.00	\$1,560.00	\$200.00	\$1,200.00	\$170.00	\$1,020.00	\$408.58	\$2,451.48
18.	147	SY	Temporary erosion control blankets, including all materials & labor; complete, in place	\$10.00	\$1,470.00	\$20.00	\$2,940.00	\$20.00	\$2,940.00	\$35.00	\$5,145.00	\$27.12	\$3,986.64
19.	1	LS	Temporary erosion controls, including sediment fencing, all materials & labor; complete, in place	\$2,000.00	\$2,000.00	\$2,500.00	\$2,500.00	\$2,800.00	\$2,800.00	\$3,000.00	\$3,000.00	\$8,080.75	\$8,080.75
20.	1	LS	Traffic controls, including all materials & labor	\$5,000.00	\$5,000.00	\$6,000.00	\$6,000.00	\$2,500.00	\$2,500.00	\$2,000.00	\$2,000.00	\$12,539.17	\$12,539.17
21.	1	LS	Trench and Excavation Safety Plan and Implementation including all materials & labor; complete, in place	\$5,000.00	\$5,000.00	\$3,000.00	\$3,000.00	\$1,000.00	\$1,000.00	\$3,000.00	\$3,000.00	\$2,307.86	\$2,307.86
22.	1	LS	Site restoration and clean-up, including hydromulch seed and fertilizer, all materials & labor; complete, in place	\$5,000.00	\$5,000.00	\$8,000.00	\$8,000.00	\$15,000.00	\$15,000.00	\$2,000.00	\$2,000.00	\$7,576.50	\$7,576.50
TOTAL					\$263,060.00		\$324,498.00		\$345,400.00		\$368,643.00		\$397,664.96 *

* Indicates an arithmetic error.



**BIDDING
and
CONTRACT DOCUMENTS**

FOR

**CONSTRUCTION SERVICES
FOR
2025 RIDGEBROOK DRIVE DRAINAGE IMPROVEMENTS
PROJECT**

Bid #: 25-10-113

**DUE DATE
FEBRUARY 19, 2025 @ 2:00 PM**

City of Nacogdoches, Texas
City Hall
202 E. Pilar
Nacogdoches, TX 75961
936-559-2516

www.nactx.us

TABLE OF CONTENTS

INSTRUCTION TO BIDDERS

CONTRACTOR'S PROPOSAL

CONTRACTOR DATA SHEET

CERTIFICATION

GENERAL AND SPECIAL CONDITIONS OF AGREEMENT

STANDARD FORM OF AGREEMENT FOR CONSTRUCTION

DRAWINGS

INSTRUCTION TO BIDDERS

INSTRUCTIONS TO BIDDERS

1.0 NOTICE

Sealed bids addressed to the City of Nacogdoches Engineering Office, 202 Pilar St., Suite 239, Nacogdoches, TX 75961, will be received for **Construction Services for 2025 Ridgebrook Drive Drainage Improvements Project** until **2:00 PM, February 19, 2025** after which time all qualified bids will be publicly opened and read aloud at **City Hall Conference Room 203**. Bids received after that time will be returned unopened. No fax or email bids will be accepted.

LOCATION AND DESCRIPTION OF PROJECT

Installation of approx. 659 linear feet of polypropylene storm pipe including pre-cast concrete curb inlets and junction boxes, tie-in to existing curb inlet, curb and gutter replacement, asphalt pavement repair, concrete driveway replacement, water line relocation, grading, erosion control and traffic control.

A Pre-bid Meeting will be held at City Hall Conference Room 203, 202 E. Pilar Street, Nacogdoches, Texas at 10:00 AM on February 5, 2025. This meeting is not mandatory, but attendance is highly recommended.

COPIES OF BIDDING DOCUMENTS

A complete set of Bidding and Contract Documents may be viewed and downloaded free of charge at www.civcastusa.com or on the City website at <https://www.nactx.us/bids.aspx>.

The successful bidder will be required to furnish a Payment Bond and Performance Bond in the amount of the contract. Bidders may not withdraw their Bid Proposal within 60 calendar days of the bid opening date.

Sealed bids shall be clearly marked with the words “Sealed Bid, 2025 Ridgebrook Drive Drainage Improvements Project” and addressed to the City of Nacogdoches. Bids shall be delivered using one of the following methods:

Hand-deliver to:
Engineering Office
202 Pilar Street, Suite 239
Nacogdoches, TX 75961

Mail to:
Attn: Engineering
PO Box 635030
Nacogdoches, Texas 75963

Ship to (FedEx, UPS, DHL, etc.):
Attn: Engineering
202 East Pilar, Suite 239
Nacogdoches, Texas 75961

A Certified Cashier's Check or an acceptable Bid Bond in an amount of not less than five (5) percent of the total amount bid shall accompany each bid proposal.

2.0 DEFINITION OF TERMS

In order to simplify the language throughout this bid, the following definitions and those defined in the Contract Documents shall apply:

BIDDER - A contractor who submits a Bid directly to the City.

BIDDING DOCUMENTS - the Advertisement, Instructions to Bidders, the Proposal, Special Provisions, Technical Specifications and the proposed Contract Documents (including all Addenda issued prior to the receipt of Bids).

CITY – Same as City of Nacogdoches.

CITY COUNCIL – The elected officials of the City of Nacogdoches, Texas given the authority to exercise such powers and jurisdiction of all City business as conferred by the State Constitution and Laws.

CONTRACT – An agreement between the City and a Supplier to furnish supplies and/or services over a designated period of time during which repeated purchases are made of the commodity specified.

CONTRACTOR – The successful Bidder(s) of this bid request.

CITY – The government of the City of Nacogdoches, Texas.

OWNER – City of Nacogdoches.

SUB-CONTRACTOR – Any contractor hired by the Contractor or Supplier to furnish materials and services specified in this bid request.

SUCCESSFUL BIDDER - the lowest, qualified, responsible and responsive Bidder to whom the City (on the basis of the City's evaluation as hereinafter provided) makes an award.

SUPPLIER – Same as Contractor.

3.0 COPIES OF BIDDING DOCUMENTS

A complete set of Bidding and Contract Documents may be viewed and downloaded free of charge at www.civcastusa.com or on the City website at <https://www.nactx.us/bids.aspx>.

Complete sets of Bidding Documents must be used in preparing Bids; the City assumes no responsibility for errors or misinterpretations resulting from the use of incomplete sets of Bidding Documents.

4.0 COMMUNICATION

The Owner's Representative for all communication regarding the Bidding and Contract Documents, including specifications and drawings is:

Case Opperman, PE – Director of Public Works/City Engineer
oppermanc@nactx.us
(936) 559-2515

No oral questions and other interpretations or clarification will be considered official or binding.

5.0 PRE-BID CONFERENCE

A Pre-bid Meeting will be held at **City Hall Conference Room 203, 202 E. Pilar Street, Nacogdoches, Texas** at **10:00 AM on February 5, 2025**. This meeting is not mandatory, but attendance is highly recommended.

Representatives of the Owner will be present to discuss the project. Bidders are highly encouraged to attend and participate in the conference. Owner's Representative will transmit to all prospective bidders of record such Addenda as he considers necessary in response to questions arising at the conference.

6.0 GENERAL BID PROVISIONS

- a. The Invitation to Bid as advertised will be considered an inclusion of the specifications and conditions.
- b. Bid proposals will be submitted on the forms provided by Owner. All figures must be written in ink or typewritten. However, mistakes may be crossed out, corrections inserted adjacent thereto and initiated in ink by the person signing the proposal. Do not use a whiteout or other cover products on mistakes.
- c. Formal advertised bids indicate date and time by which the bids must be received at the designated location. Bids received after that time will be returned unopened to the bidder.
- d. The bidder will note any exceptions to the conditions of this bid. If no exceptions are stated, it will be understood that all general and specific conditions will be complied with, without exception.
- e. Bidders may request withdrawal of a posted sealed proposal prior to the scheduled bid opening time, provided the request for withdrawal is submitted to the City of Nacogdoches in writing. Owner reserves the right to reject any and all bids by reason of this request.
- f. If it becomes necessary to revise any part of this bid, a written addendum will be provided to all bidders. Owner is not bound by any oral representations, clarifications, or changes made in the written specifications by Owner's employees, unless such clarification of change is provided to bidders in written addendum form from the City of Nacogdoches.
- g. Pursuant to Local Government Code 271.9051, if the bid is less than \$100,000 and the City Council determines that a local bidder whose principal place of business is in the City offers the City the best combination of contract price and additional economic development opportunities for the City created by the contract award, including the employment of residents of the municipality and increased tax revenues to the municipality, the city **may** award the bid to the local bidder whose bid is within 5% of the lowest bid. Otherwise, all bids will be awarded to the lowest responsible bidder. The determination of the lowest responsible bidder may involve all or some of the following factors: price, conformity to specifications, financial ability to perform the contract, previous performance, facilities and equipment, availability of repair parts, qualifications and experience, delivery promise, payment terms, compatibility as required, other costs, and other objectives and accountable factors which are reasonable.
- h. Owner may give an environmental preference to products or services that have a lesser or reduced effect on human health and the environment when compared with competing products and services that serve the same purpose. This comparison may consider raw materials acquisition, product, manufacturing, packaging, distribution, reuse, operation, maintenance, or disposal of the product or service;
- i. Bidders may be disqualified and rejection of proposals may be recommended to the Owner for any (but not limited to) of the following causes: 1) Failure to use the proposal form furnished by the Owner; 2) Lack of signature by an authorized representative on the proposal form; 3) Failure to properly complete the proposal; 4) Evidence of collusion among proposers; 5) Omission of a certified Cashier's Check or Bid Bond (if required) proposal guarantee; 6) Unauthorized alteration of bid form; 7) Lack of appropriate qualifications and experience relative to the size and scope of the work proposed; 8) Unsatisfactory

performance; 9) Failure to complete projects or 10) Loaded or unbalanced bids. Owner reserved the right to waive any minor informality or irregularity.

- j. Whenever in this invitation, any particular materials, process and/or equipment are indicated or specified by patent, proprietary or brand name, or by name of manufacture, such wording will be deemed to be used for the purpose of facilitating description of the material, process and/or equipment desired and will be deemed to be followed by the words "or equal." Contractor shall provide exactly such items in his bid as described, unless approved pursuant to Paragraph 12.0 herein.
- k. Samples of items shall be furnished, if requested by the Owner, without charge, and if not destroyed, shall be returned upon request at the bidder's expense.
- l. It is agreed that the successful bidder will not assign, transfer, convey or otherwise dispose of the contract or its right, title or interest in or to the same, or any part thereof, without previous written consent of Owner and any sureties.
- m. Contractor must provide audited financial statements, if requested, to the City.
- n. Prices in the Bid Proposal shall be presented in the format requested (Unit Price, Lump Sum, etc.)
- o. No freight or delivery charges will be accepted unless shown on bid.
- p. Owner is exempt from State Retail Tax and Federal Excise Tax. The price bid must be net, exclusive of taxes.
- q. All bidders will comply with all Federal, State, and local laws relative to conducting business in the City of Nacogdoches. The laws of the State of Texas will govern as to the interpretation, validity, and effect of this bid, its award and any contract entered into.
- r. Advanced disclosures of any information to any particular bidder which gives that particular bidder any advantage over any other interested bidder in advance of the opening of bids, whether in response to advertising or an informal request for bids, made or permitted by a member of the governing body or an employee or representative thereof, will operate to void all proposals of that particular bid solicitation or request.
- s. Minority business enterprises will be afforded full opportunity to submit bids in response to this invitation and will not be discriminated against on the grounds of race, color, creed, sex, or national origin in consideration for an award.

7.0 QUALIFICATIONS OF BIDDERS

To demonstrate qualifications to perform the Work, each Bidder must be prepared to submit within five days of City's request, written evidence, such as financial data, previous experience, present commitments and other such data as may be called for below. Each Bid must contain evidence of the Bidder's qualifications to do business in the State of Texas or covenant to obtain such qualification prior to award of the contract.

In determining a bidder's qualifications, the following factors will be considered:

- A. Work previously completed by the bidder and whether the bidder:
 - a. maintains a permanent place of business;
 - b. has adequate plant and equipment to do the work properly and expeditiously;
 - c. has paid or settled all claims for payment promptly;
 - d. has appropriate technical experience;
 - e. has job references for work of similar size and scope to the project; and
 - f. satisfactory performance and completion of public, or comparable, projects.

B. The safety record of the Bidder, of the corporation, partnership, or institution represented by the Bidder, or of any one acting for such firm, corporation, or partnership.

Each Bidder may be required to show that he has properly completed similar type work and that no claims are now pending against such work. No bid will be accepted from any bidder who is engaged in any work that would impair his ability to fully execute, perform or finance this work. The General/Subcontractors Experience Data Sheet following the proposal must be filled out and submitted with the bid for consideration. Failure to include a completed Data Sheet may result in the rejection of the bid.

8.0 EXAMINATION OF CONTRACT DOCUMENTS AND SITE

A. It is the responsibility of each Bidder before submitting a Bid to:

- a. examine the Contract Documents thoroughly;
- b. visit the site to become familiar with local conditions that may affect cost, progress, performance or furnishing of the Work;
- c. consider federal, state and local Laws and Regulations that may affect cost, progress, performance or furnishing of the Work;
- d. study and carefully correlate Bidder's observations with the Contract Documents;
- e. notify the Owner's Representative of all conflicts, errors or discrepancies in the Contract Documents; and
- f. visit with local utilities, including cable companies, and other entities that may have underground or above-ground infrastructure in the work area for infrastructure location.

B. Information and data reflected in the Contract Documents with respect to underground facilities at or contiguous to the site is based upon information and data from the Owner's files for its underground facilities and information and data furnished by owners of other underground facilities. Owner does not assume responsibility for the accuracy or completeness thereof.

C. Before submitting a Bid each Bidder will be responsible to make or obtain such explorations, at bidders expense and not to be added into cost of bid if accepted (tests and data concerning physical conditions - surface, subsurface and underground facilities - at or contiguous to the site, or otherwise) which may affect cost, progress, performance or furnishing of the Work and which Bidder deems necessary to determine its Bid for performing and furnishing the Work in accordance with the time, price and other terms and conditions of the Contract Documents.

D. The lands upon which the Work is to be performed, rights-of-way and easements for access thereto and other lands designated for use by Contractor in performing the Work are identified in the Contract Documents. All additional lands and access thereto required for temporary construction facilities or storage of materials and equipment or disposal of spoil are to be provided by the Contractor. Contractor is responsible for obtaining all permits required for any of the before mentioned purposes prior to beginning work in accordance with the Standard Form Of Agreement, Paragraph 35 Permits and Licenses.

E. The submission of a Bid will constitute an incontrovertible representation by Bidder that Bidder has complied with every requirement of this section, that without exception the Bid is premised upon performing and furnishing the Work required by the Contract Documents and

such means, methods, techniques, sequences or procedures of construction as may be indicated in or required by the Contract Documents, and that the Contract Documents are sufficient in scope and detail to indicate and convey understanding of all terms and conditions for performance and furnishing of the Work.

9.0 INTERPRETATIONS and ADDENDA

All questions about the meaning or intent of the Contract Documents are to be directed to the Owner. Interpretations or clarification considered necessary by the Owner's Representative in response to such questions will be issued by Addenda and mailed or otherwise delivered to all parties recorded by the Owner's Representative as having received the Bidding Documents. Questions received less than 48 hours prior to opening of Bids will not be answered. Only questions answered by formal written Addenda will be binding. No oral and other interpretations or clarification will be considered official or binding.

Addenda may also be issued to modify the Bidding Documents as deemed advisable by the City.

To properly qualify his bid, each Bidder shall, prior to filing his Bid, check the receipt of all Addenda or letters of clarification issued and acknowledge such receipt on the Proposal Form or on a separate attachment to the bid. Bids without such acknowledgment of all issued Addenda and letters of clarification may cause your bid to be considered non-responsive. Such Addenda and letters of clarification shall become a part of the executed contract and modify the contract documents accordingly.

10.0 BID SECURITY

Bidders must submit with their Bids a Cashier's Check or a Certified Check in the amount of five (5%) percent of the maximum amount of Bid payable without recourse to the City of Nacogdoches, Texas, or a bid bond in the same amount from a surety company holding permit from the State of Texas to act as a surety, as a guarantee that Bidder will enter into a contract and execute bond and guarantee forms within fifteen (15) days after notice of award of contract. Bids without checks, as stated above, or acceptable bid bond may not be considered.

Bid Security shall be in effect from the opening of the Bid and will be retained until a Bidder has executed the Agreement and furnished the required contract security, whereupon the Bid Security will be returned. A Bidder may withdraw its Bid at any time until the Agreement is signed. However, it will forfeit its Bid Security in doing so if no material mistake was made in the Bid.

The Bid Security of the Successful Bidder will be retained until such Bidder has executed the Agreement and furnished the required contract security, whereupon the Bid Security will be returned. If the Successful Bidder fails to execute and deliver the Agreement and furnish the required contract security within fifteen (15) days after the Notice of Award, the Owner may annul the Notice of Award and the Bid Security of that Bidder will be forfeited. The Bid Security of other Bidders whom Owner believes to have a reasonable chance of receiving the award may be retained by Owner until 5 days after the Agreement is executed whereupon Bid Security furnished by such Bidders will be returned. Bid Security with Bids which are not competitive will be returned within seven days after the Bid opening.

11.0 CONTRACT TIME

The times for Substantial Completion and Final Completion are set forth in the Special Provisions and will be included in the Agreement. It will be necessary for the Successful Bidder to satisfy the City of the Bidder's ability to achieve Substantial Completion and Final Completion within the times designated in the Special Provisions.

12.0 SUBSTITUTE OR "OR EQUAL" ITEMS

The materials and equipment described in the Bidding Documents establish a standard of required function, dimension, appearance and quality to be met by any proposed substitution. No substitution will be considered unless a written request for approval has been submitted by the Bidder and has been received by the Owner's Representative at least five (5) working days prior to the date for receipt of Bids or until after the contract for the work has been signed. Each such request shall include the name of the material or equipment for which it is to be substituted and a complete description of the proposed substitute including drawings, cuts, performance and test data and any other information necessary for an evaluation. A statement setting forth any changes in other materials, equipment or work that incorporation of the substitute would require shall be included. The burden of proof of the merit of the proposed substitute is upon the Bidder. The Owner's Representative's decision of approval or disapproval of a proposed substitution shall be final. If the Owner's Representative approves any proposed substitution before the date for receipt of bids, such approval will be set forth in an Addendum issued to all prospective Bidders. Bidders shall not rely upon approvals made in any other manner.

13.0 BID FORM

All blanks on the Bid Form must be completed in ink or by typewriter. Unfilled blanks may result in the bid being disqualified.

Any financial amounts written in words will supersede amounts written by numbers in the Bid Form.

Bids by corporations must be executed in the corporate name by the corporate officer authorized to sign for the corporation, accompanied by evidence of authority to sign. The corporate address and state of incorporation must be shown below the signature.

Bids by partnerships must be executed in the partnership name and signed by a partner, whose title must appear under the signature and accompanied by evidence of authority to sign. The fiscal address of the partnership must be shown below the signature.

All names must be typed or printed below the signature.

The Bid shall contain an acknowledgment of receipt of all Addenda. The numbers and dates of which must be filled in on the Bid Form or on a separate attachment to the Bid.

The address and telephone number(s) for communication regarding the Bid must be shown.

All of the data on the GENERAL/SUBCONTRACTORS EXPERIENCE AND DATA INFORMATION sheet must be completely filled in.

14.0 SUBMISSION OF BIDS

A Bid shall be submitted at the time and place indicated in the Advertisement. It shall be enclosed in an opaque sealed envelope, marked with the project title, name and address of the Bidder. The Bid shall be accompanied by the Bid Security and other required documents. If the

Bid is sent through the mail or other delivery system the sealed envelope shall be enclosed in a separate envelope with the notation "BID ENCLOSED" on the face of it.

Each Bidder should, prior to filing his Bid, check the receipt of all Addenda or letters of clarification issued and acknowledge such receipt on the outside of the envelope containing his Bid proposal.

15.0 MODIFICATION AND WITHDRAWAL OF BIDS

Bids may be modified or withdrawn by an appropriate document duly executed, in the described manner that a Bid must be executed and delivered to the place where Bids are to be submitted at any time prior to the opening of Bids.

If prior to the award of the contract by the City Council, any Bidder files a duly signed, written notice with Owner's Representative and promptly thereafter demonstrates to the reasonable satisfaction of Owner's Representative that there was a material mistake in the preparation of his Bid, that Bidder may withdraw his Bid and the Bid Security will be returned. Thereafter, that Bidder will be disqualified from further bidding on the Work to be provided under the Contract Documents.

16.0 OPENING OF BIDS

Properly prepared Bids will be opened publicly and read aloud. A summary of the amounts of the base Bids and major alternates (if any) will be made available to Bidders after the opening of Bids. A tabulation of the Bids which are read will be available upon request as soon as it has been assembled and verified.

Bids received after the specified time of the opening will be returned unopened.

17.0 BIDS TO REMAIN SUBJECT TO ACCEPTANCE

All bids will remain subject to acceptance, for 60 days after the date of the Bid opening, but the Owner may, in its sole discretion, release any Bid and return the Bid Security prior to that date.

18.0 AWARD OF CONTRACT

Owner reserves the right to reject any and all Bids, to waive any and all informalities and irregularities not involving price, time, or changes in the Work and to disregard all non-conforming, non-responsive, unbalanced or conditional Bids. Owner reserves the right to reject the Bid of any Bidder if Owner believes that it would not be in the best interest of the Project to make an award to that Bidder, whether because the Bid is not responsive or the Bidder is unqualified or of doubtful financial ability or fails to meet any other pertinent standard or criteria established by Owner. Discrepancies in the multiplication of units of Work and unit prices will be resolved in favor of the unit prices. Discrepancies between the indicated sum of any column of figures and the correct sum thereof will be resolved in favor of the correct sum.

In evaluating Bids, the Owner will consider the qualifications of the Bidders, whether or not the Bids comply with the prescribed requirements, time of construction, and such alternates, unit prices and other data, as may be requested in the Bid Form or prior to the Notice of Award.

Owner may consider the qualifications and experience of subcontractors, suppliers, and other persons and organizations proposed for those portions of the Work as to which the identity of

subcontractors, suppliers, and other persons and organizations must be submitted as provided. Owner may also consider the operating costs, maintenance requirements, performance data and guarantees of major items of materials and equipment proposed for incorporation in the Work when such data is required to be submitted prior to the Notice of Award.

Owner may conduct such investigations as Owner deems necessary to assist in the evaluation of any Bid and to establish the responsibility, qualifications and financial ability of Bidders, proposed subcontractors, suppliers and other persons and organizations to perform and furnish the Work in accordance with the Contract Documents to Owner's satisfaction within the prescribed time.

Pursuant to Local Government Code 271.9051, if the bid is less than \$100,000 and the City Council determines that a local bidder whose principal place of business is in the City offers the City the best combination of contract price and additional economic development opportunities for the City created by the contract award, including the employment of residents of the municipality and increased tax revenues to the municipality, the city **may** award the bid to the local bidder whose bid is within 5% of the lowest bid.

Otherwise, all bids will be awarded to the lowest responsible bidder. The determination of the lowest responsible bidder may involve all or some of the following factors: price, conformity to specifications, financial ability to perform the contract, previous performance, facilities and equipment, availability of repair parts, qualifications and experience, delivery promise, payment terms, compatibility as required, other costs, and other objectives and accountable factors which are reasonable.

If the contract is to be awarded, Owner will give the Successful Bidder a Notice of Award within 60 days after the day of the Bid opening.

Bid prices may be compared after adjusting for differences in the time designated in the Bid for Substantial Completion. The adjusting amount will be determined at the rate set forth in the Standard Form of Agreement for liquidated damages indicated for Substantial Completion for each day after the desired date appearing in the City's Standard Form of Agreement, Paragraph 23.

19.0 CONTRACT SECURITY

Paragraph 28 BOND PROVISIONS of the Standard Form of Agreement set forth Owner's requirements as to performance and payment Bonds. When the Successful Bidder delivers the executed Agreement to the Owner, it must be accompanied by the required performance and payment Bonds.

20.0 SIGNING OF AGREEMENT

The Successful Bidder shall execute the Contract and provide proof of insurance as detailed in the Standard Form of Agreement based on Staff recommendation prior to Council action. Within 15 days of Award, all required Bonds shall be delivered to the Owner. A fully executed contract will be presented to the Successful Bidder.

21.0 PERSONAL INTEREST

Bidders shall comply with all applicable ordinances and with state law pertaining to conflict of interest and required disclosures, including, but not limited to, TEXAS LOCAL GOVERNMENT CODE, Chapter 171.

22.0 DISCLOSURE OF INTERESTED PARTIES

Contracting hereunder may require compliance with §2252.908 Texas Government Code/Disclosure of Interested Parties for contracts that (1) require an action or vote by the City Council before the contract may be signed; or (2) has a value of at least \$1 million. The law provides that a governmental entity may not enter into certain contracts with a business entity unless the business entity submits a disclosure of interested parties to the governmental entity at the time the business entity submits the signed contract to the governmental entity or state agency.

For purposes of this section, the following definitions apply:

“Interested party” means a person who has a controlling interest in a business entity with whom the City contracts or who actively participates in facilitating the contract or negotiating the terms of the contract, including a broker intermediary, advisor, or attorney for the business entity.

"Controlling interest" means: (1) an ownership interest or participating interest in a business entity by virtue of units, percentage, shares, stock, or otherwise that exceeds 10 percent; (2) membership on the board of directors or other governing body of a business entity of which the board or other governing body is composed of not more than 10 members; or (3) service as an officer of a business entity that has four or fewer officers, or service as one of the four officers most highly compensated by a business entity that has more than four officers.

"Intermediary," means a person who actively participates in the facilitation of the contract or negotiating the contract, including a broker, adviser, attorney, or representative of or agent for the business entity who:

1. Receives compensation from the business entity for the person's participation;
2. Communicates directly with the City on behalf of the business entity regarding the contract; and
3. Is not an employee of the business entity.

The process as implemented by the Texas Ethics Commission (“TEC”) is as follows:

1. The disclosure of interested parties must be performed using the [Texas Ethics Commission’s electronic filing application](#) listing each interested party of which the business entity is aware of Form 1295, obtaining a certification of filing number for this form from the TEC, and printing a copy of it to submit to the City.
2. The copy of Form 1295 submitted to the City must be notarized and contain the unique certification number from the TEC. The form must be filed with the City pursuant to §2252.908 Texas Government Code, “at the time the business entity submits the signed contract” to the City.

The City, in turn, will submit a copy of the disclosure form to the TEC not later than the 30th day after the date the City receives the disclosure of interested parties from the business entity.

CONTRACTOR'S PROPOSAL

CITY OF NACOGDOCHES
Ridgebrook Drive Drainage Improvements Project

BID FORM

ITEM	QUANTITY	UNIT	DESCRIPTION	UNIT PRICE	TOTAL
1	2	EA	48" junction box, including crushed stone bedding and backfill, and all materials & labor; complete, in place <u>eight thousand</u> per EA (written in words)	\$ <u>8,000.00</u>	\$ <u>16,000.00</u>
2	1	EA	36" junction box, including crushed stone bedding and backfill, and all materials & labor; complete, in place <u>eight thousand one hundred</u> per EA (written in words)	\$ <u>8,100.00</u>	\$ <u>8,100.00</u>
3	1	EA	42" open-sided inlet, including crushed stone bedding, backfill, and all materials & labor; complete, in place <u>seven thousand</u> per EA (written in words)	\$ <u>7,000.00</u>	\$ <u>7,000.00</u>
4	2	EA	5' throat curb inlet under roadway, including crushed stone bedding and backfill, and all materials & labor; complete, in place <u>eleven thousand</u> per EA (written in words)	\$ <u>11,000.00</u>	\$ <u>22,000.00</u>
5	1	LS	Tie-in to existing curb inlet at Sta. 20+00, including grout installation, and all materials & labor; complete, in place <u>three thousand</u> per LS (written in words)	\$ <u>3,000.00</u>	\$ <u>3,000.00</u>
6	429	LF	24" dual wall gasketed PP storm sewer pipe (ASTM F2881) in paved areas, including excavation, bedding, backfill, cement sand cap, all materials and labor; complete, in place <u>two hundred ten</u> per LF (written in words)	\$ <u>210.00</u>	\$ <u>90,090.00</u>
7	148	LF	18" dual wall gasketed PP storm sewer pipe (ASTM F2881) in paved areas, including excavation, bedding, backfill, cement sand cap, all materials and labor; complete, in place <u>one hundred ninety</u> per LF (written in words)	\$ <u>190.00</u>	\$ <u>28,120.00</u>

CITY OF NACOGDOCHES
Ridgebrook Drive Drainage Improvements Project

BID FORM

ITEM	QUANTITY	UNIT	DESCRIPTION	UNIT PRICE	TOTAL
8	48	LF	18" dual wall gasketed PP storm sewer pipe (ASTM F2881) outside paved areas, including excavation, bedding, backfill, all materials and labor; complete, in place <u>one hundred seventy five</u> <u>NO</u> per LF (written in words)	\$ <u>175.00</u>	\$ <u>8,400.00</u>
9	34	LF	15" dual wall gasketed PP storm sewer pipe (ASTM F2881) in paved areas, including excavation, bedding, backfill, cement sand cap, all materials and labor; complete, in place <u>one hundred ninety</u> <u>NO</u> per LF (written in words)	\$ <u>190.00</u>	\$ <u>6,460.00</u>
10	1	LS	Water pipe relocation including pipe, thrust blocks, tracer wire, bends, fittings, adapters, and testing, all materials & labor, complete in place. <u>seven thousand</u> <u>NO</u> per LS (written in words)	\$ <u>7,000.00</u>	\$ <u>7,000.00</u>
11	288	SY	Pavement repair in asphalt streets, including saw-cuts, all materials & labor; complete, in place <u>twenty</u> <u>NO</u> per SY (written in words)	\$ <u>20.00</u>	\$ <u>5,760.00</u>
12	14	SY	Concrete drive apron replacement, including concrete to asphalt transition, all materials & labor; complete, in place <u>two hundred fifty</u> <u>NO</u> per SY (written in words)	\$ <u>250.00</u>	\$ <u>3,500.00</u>
13	188	SY	Concrete driveway pavement replacement, including saw-cuts, all materials & labor; complete, in place <u>one hundred thirty</u> <u>NO</u> per SY (written in words)	\$ <u>130.00</u>	\$ <u>24,440.00</u>
14	1	LS	Concrete curb and gutter removal and replacement, including saw-cuts, all materials & labor; complete, in place <u>five thousand</u> <u>NO</u> per LS (written in words)	\$ <u>5,000.00</u>	\$ <u>5,000.00</u>

CITY OF NACOGDOCHES
Ridgebrook Drive Drainage Improvements Project

BID FORM

ITEM	QUANTITY	UNIT	DESCRIPTION	UNIT PRICE	TOTAL
15	1	LS	Site excavation and earthwork, including all on-site cut and fill, imported fill, rough grading, fine grading, and haul-off and disposal of excess material, all materials & labor; complete, in place <u>five thousand</u> <u>NO</u> per LS (written in words)	\$ <u>5,000.00</u>	\$ <u>5,000.00</u>
16	146	SY	Block sod replacement, including all materials & labor; complete, in place <u>twenty</u> <u>NO</u> per SY (written in words)	\$ <u>20.00</u>	\$ <u>2,920.00</u>
17	6	SY	Permanent erosion control turf/slope stabilization mats, including all materials & labor; complete, in place <u>three hundred</u> <u>NO</u> per SY (written in words)	\$ <u>300.00</u>	\$ <u>1,800.00</u>
18	147	SY	Temporary erosion control blankets, including all materials & labor; complete, in place <u>ten</u> <u>NO</u> per SY (written in words)	\$ <u>10.00</u>	\$ <u>1,470.00</u>
19	1	LS	Temporary erosion controls, including sediment fencing, all materials & labor; complete, in place <u>two thousand</u> <u>NO</u> per LS (written in words)	\$ <u>2,000.00</u>	\$ <u>2,000.00</u>
20	1	LS	Traffic controls, including all materials and labor <u>five thousand</u> <u>NO</u> per LS (written in words)	\$ <u>5,000.00</u>	\$ <u>5,000.00</u>
21	1	LS	Trench and Excavation Safety Plan and Implementation, including all materials & labor; complete, in place <u>five thousand</u> <u>NO</u> per LS (written in words)	\$ <u>5,000.00</u>	\$ <u>5,000.00</u>
22	1	LS	Site restoration and clean-up, including hydromulch seed and fertilizer, all materials & labor; complete, in place <u>five thousand</u> <u>NO</u> per LS (written in words)	\$ <u>5,000.00</u>	\$ <u>5,000.00</u>

ITEM	QUANTITY	UNIT	DESCRIPTION	UNIT PRICE	TOTAL
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BID SUMMARY

TOTAL BASE BID (SUM ALL ITEMS)

\$ 263,060.00

TOTAL MATERIALS BID:

\$ 100,000.00

TOTAL LABOR BID:

\$ 163,060.00

BY:



Printed Name

Jeff Duplichain

Title

vice president

COMPANY:

Duplichain Contractors LLC

Phone No.

(936) 858-4100

100 E. Knott St.

Address

AHO

City

TX

State

75925

Zip

CONTRACTOR DATA SHEET

**GENERAL/SUB-CONTRACTOR'S EXPERIENCE
AND
DATA INFORMATION**

Name of Company: Duplicham Contractors, LLC

Company Years in Business: 54

List Municipal Projects
(Similar Projects in Size and Scope Completed in Last Five Years)

Project	Municipality	\$ Amount	Type	Date
Attached				

Superintendent & Project Manager Information

Include Superintendent proposed for the project, years of experience as superintendent,
project manager proposed for the project, and years experience as project manager

Superintendent	Years Experience	Projects
Jeff Duplicham	24	Attached

Project Manager	Years Experience	Projects
Jeff Duplicham	24	Attached

References: Name 5 projects of similar work, giving owner's name, representative's name, project engineer's name, and telephone numbers for each

1. City of Nacogdoches		City of Nac- Case Opperman
Park St. Emergency Storm		(936) 559-2515
Sewer Replacement		KSA Engineers. Danny Hays
		(936) 615-6168 - cell

2. City of Nacogdoches		City of Nac- Case Opperman
Downtown Storm Sewer		(936) 559-2515
Rehabilitation		Schaumburg & Polk - Jeremy Buechter
		(903) 595-2093

3. City of Nacogdoches		City of Nac- Case Opperman
2020 Ford St. Storm Sewer		(936) 559-2515
Rehabilitation		SP1 - Jeremy Buechter
		(903) 595-2093

4. City of Nacogdoches		City of Nacogdoches
Emergency Storm Drain		Case Opperman &
Repair - Waterford Dr.		Jason Smith
		(936) 559-2515

5. City of Palestine		City of Palestine
Downtown Rehabilitation		Jason Shelton
		Teagerty Contractors
		Chris Hooten
		(972) 562-6060

DUPLICHAIR CONTRACTORS, LLC

COMPLETED JOBS

DATE	OWNER	JOB	CONTRACT
2020	CITY OF CENTER	SANITARY SEWER IMP.	\$869,608.75
2020	CITY OF ATHENS	SEWER LINE EXT.	\$201,307.50
2020	CEFCO – MT ENTERPRISE	SITE UTILITIES	\$411,650.00
2020	ALTO ISD – NEW HS & GYM	SITE UTILITIES & DIRT WORK	\$543,395.00
2020	SHELBY CO/ SAND HILL WSC	GWT PLANT	\$199,600.00
2020	CITY OF NACOGDOCHES	DOWNTOWN SEWER REHAB	\$688,535.00
2020	ANGELINA COUNTY WMC	LIFT STATION	\$159,985.00
2020	CITY OF LOVELADY	WATER WELL NO. 4 PLANT	\$165,390.00
2021	NACOGDOCHES CO/ ETOILE WSC	WATER PLANT IMP.	\$187,220.00
2020	ETOILE WSC	TANK REPLACEMENT	\$191,955.00
2020	CITY OF PALESTINE	HIGHLAND DR. SEWER REPL.	\$88,320.00
2020	CITY OF PALESTINE	HIGHLAND DR. WATER REPL.	\$91,230.00
2020	CITY OF NACOGDOCHES	WATERLINE REPLACEMENT	\$203,932.00
2020	CITY OF PALESTINE	LAMAR ST. SEWER REPL.	\$119,850.00
2020	CITY OF PALESTINE	LAMAR ST. WATER REPL.	\$115,796.00
2020	CITY OF KILGORE	TRANSMISSION MAIN IMP	\$1,487,390.50
2020	CRAFT-TURNEY WSC	NEW WATER WELL	\$1,042,190.00
2020	LUFKIN ISD – MIDDLE SCHOOL	SITE UTILITIES	\$378,900.00
2021	CITY OF MIDWAY	BOOSTER PLANT IMP.	\$542,535.00
2021	CEFCO – PALESTINE	SITE UTILITIES	\$301,220.00
2021	CITY OF NACOGDOCHES	STORM SEWER REHAB	\$317,155.00
2021	BCY WSC	NEW GST	\$398,000.00
2021	CITY OF PALESTINE	LINK ST. WATER REPLACEMENT	\$174,800.00
2021	SODA WSC	PLANT IMPROVEMENTS	\$213,700.00
2021	TOWN OF BROADDUS	DISTRIBUTION SYSTEM IMP.	\$525,222.60
2021	WARREN CITY	WATER SYSTEM IMP	\$273,000.00
2022	CITY OF EMHOUSE	BOOSTER PLANT IMP	\$228,300.00
2022	D&M WSC	WTP CLOSURE PLAN	\$199,330.00
2022	CITY OF PALESTINE	SALTWORKS ROAD WATER REP.	\$173,100.00
2022	CITY OF SAN AUGUSTINE	WTP IMPROVEMENTS	\$242,550.00
2022	CITY OF ALTO	COLLECTION SYSTEM IMP	\$232,124.00

2022	CITY OF CARTHAGE	SABINE ST. SEWE EXT.	\$84,040.00
2022	WODEN WSC	WATER SYSTEM IMP	\$1,636,539.00
2022	POLK COUNTY	WATER PROJECT (PLANT)	\$280,150.00
2022	JASPER COUNTY	FY 2020 WATER PROJECT	\$195,250.00
2022	CITY OF MARSHALL	WATER MAIN IMP.	\$211,179.60
2022	TYLER COUNTY SUD	BORE	\$31,000.00
2022	CITY OF TRINITY	SEWER IMPROVEMENTS	\$260,930.00
2022	CITY OF CORRIGAN	WATER/SEWER RELOCATION	\$452,765.60
2022	CITY OF NEW SUMMERFIELD	WATER LINE IMPROVEMENTS	\$173,816.00
2022	CITY OF HEMPHILL	SEWER IMPROVEMENTS	\$36,800.00
2022	NUCOR STEEL JEWETT	DOMESTIC WW DELIVERY	\$664,426.00
2022	CITY OF TRINITY	WATER SYSTEM IMP.	\$282,527.00
2022	APPLEBY WSC	PLANT IMPROVEMENTS	\$88,940.00
2022	TEAGUE EDC	WATER & SEWER IMP.	\$174,164.00
2022	MACBEE SUD	LINE IMPROVEMENTS	\$611,818.00
2022	DOUGLASS ISD	UTILITIES	\$110,500.00
2022	CITY OF LUFKIN	WWTP GRAVITY BELT	\$703,210.00
2022	CITY OF ALTO	WWTF IMPROVEMENTS	\$1,529,600.00
2023	CITY OF PALESTINE	WATERLINE REPLACEMENT	\$33,900.00
2023	CITY OF KENNARD	WATER SYSTEM IMP.	\$253,129.32
2023	CITY OF PALESTINE	WATERLINE REPLACEMENT	\$195,000.00
2023	CONSOLIDATED WSC	WATER LINE IMPROVEMENTS	\$320,440.00
2023	CITY OF GROVETON	WWTP IMPROVEMENTS	\$217,660.00
2023	CITY OF OAKWOOD	WATER PROJECT	\$255,000.00
2023	CITY OF PALESTINE	WATERLINE REPLACEMENT	\$665,550.00
2023	CONSOLIDATED WSC	PLANT SITE IMPROVEMENTS	\$810,880.00
2023	CITY CUNEY	WWTP IMPROVEMENTS	\$269,400.00
2023	CITY OF RUSK	WATER WELL SITE IMP	\$378,292.00
2023	CITY OF NACOGDOCHES	STORM SEWER	\$768,769.50
2023	CITY OF BECKVILLE	SEWER IMPROVEMENTS	\$321,274.00
2023	CITY OF BUFFALO	LIFT STATION IMPROVEMENTS	\$246,290.00
2023	CITY OF DIBOLL	SANITARY SEWER IMP	\$357,438.00
2024	CITY OF MARQUEZ	GENERATORS	\$230,190.00
2024	TYLER COUNTY SUD	WATER IMPROVEMENTS	\$203,750.00
2024	NECHES WSC	PRESSURE TANK REPLACEMENT	\$77,700.00
2024	PENNINGTON WSC	PROPOSED PRESSURE TANK	\$220,500.00

JOBS IN PROGRESS

<u>DATE</u>	<u>OWNER</u>	<u>JOB</u>	<u>CONTRACT</u>
2022	WRIGHT CITY WSC	CHLORINE BUILDING	\$629,950.00
2023	CITY OF LUFKIN	WWTP IMPROVEMENTS (1A)	\$1,694,400.00
2023	CITY OF LUFKIN	WWTP IMPROVEMENTS (1B)	\$1,599,360.00
2023	LINDALE RURAL WSC	HIGH SERVICE PUMP STATION	\$932,500.00
2023	JASPER COUNTY	REHAB OF GST	\$213,320.00
2023	CITY OF PALESTINE	DOWNTOWN REVITALIZATION	\$2,316,590.00
2024	POLK COUNTY/DALLARDSVILLE	WATER PLANT IMPROVEMENTS	\$503,200.00
2024	POLK COUNTY/PROVIDENCE	WATER PLANT IMP.	\$515,927.50
2024	ALABAMA COUSHATTA TRIBE	EAST SIDE WATER LINE IMP	\$2,422,475.00
2024	CITY OF BULLARD	WATER WELL NO. 8	\$159,500.00
2024	TRI-COUNTY SUD	WATER PLANT IMPROVEMENTS	\$560,349.00
2024	CITY OF TIMPSON	SEWER SYSTEM IMPROVEMENTS	\$401,500.00
2024	ANGELINA NECHES RIVER AUTH.	REGIONALIZATION OF WWTF	\$1,945,727.50
2024	PRITCHETT WSC	PRESSURE TANK	\$118,800.00
2024	POLK COUNTY/TEMPE WSC	WATER PLANT IMPROVEMENTS	\$375,690.00
2024	CITY OF JEFFERSON	SANITARY SEWER IMP.	\$686,498.00
2024	CITY OF JEFFERSON	FORCE MAIN REPLACEMENT	\$92,000.00
2024	CITY OF CORRIGAN	WATER PLANT IMP.	\$281,200.00
2024	HENDERSON COUNTY	WATER SYSTEM GENERATORS	\$2,849,900.00
2024	JASPER COUNTY	IMHOFF TANK REHAB	\$161,900.00
2024	POLK COUNTY/ONALASKA	PLANT IMPROVEMENTS	\$91,624.00
2024	CITY OF TRINITY	WATER SYSTEM IMP	\$975,404.00



Duplichain Contractors, LLC
100 Elkhart St./P. O. Box 637
Alto, Texas 75925
(936) 858-4100 * (936) 858-4789-Fax
kara@duplichain.com

Company Profile

Company Name:

Duplichain Contractors, LLC

Officer Email Addresses:

Greg Duplichain, President – greg@duplichain.com
Jeff Duplichain, Vice President – jeff@duplichain.com
Jason Duplichain, Vice President – jason@duplichain.com
Todd Duplichain, Secretary/Treasurer – todd@duplichain.com

Physical Address:

100 Elkhart St.
Alto, TX 75925

Mailing Address:

P. O. Box 637
Alto, TX 75925

Phone Number:

(936) 858-4100

Fax Number:

(936) 858-4789

Officers & Duties:

- Greg Duplichain – bids jobs, construction manager of and inspects jobs
- Jeff Duplichain – bids jobs, billing for jobs, construction manager of and inspects jobs
- Jason Duplichain – administrative, insurance, bills, submittals, cost analysis, quarterly reports
- Todd Duplichain – in the field working on jobs

Primary Business:

Installation of water systems, water plants, wastewater systems, lift stations, & emergency generators in the East Texas area.

Company Background:

Duplichain Contractors, Inc. was formed by Herman Duplichain and his son, Greg Duplichain (SFA Class of 1970) in 1970. The primary function of the business was construction of custom homes. Herman retired in 1985 and Greg continued building custom homes until 1992. In 1992 the primary function of the business changed to utility construction. In 2001 Jeff Duplichain (SFA Class of 2001) entered the business as vice president of Duplichain Contractors, Inc. In 2003 Duplichain Contractors, Inc. changed from a corporation to a Limited Liability Partnership (LLP) becoming Duplichain Contractors, LLP. Jason Duplichain (SFA Class of 1993 and 1998) entered the business as a partner in 2004. On January 14, 2015, Duplichain Contractors converted from a LLP to a Limited Liability Company (LLC) officially becoming Duplichain Contractors, LLC. Greg Duplichain became President, Jeff Duplichain Vice President, Jason Duplichain Vice President, and Betty Duplichain Secretary/Treasurer. On October 5, 2023, Betty Duplichain transferred her ownership to Todd Duplichain. Greg remains President, Jeff Vice President, Jason Vice President, and Todd Secretary/Treasurer.

Number of Years in Business:

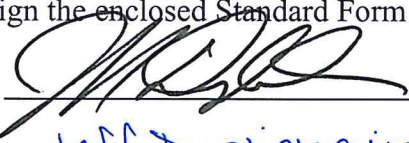
54 years

Number of Employees:

44 employees

CERTIFICATION OF BID

The undersigned affirms that they are duly authorized to execute this Contract, that this bid has not been prepared in collusion with any other Bidder, and that the contents of this bid have not been communicated to any other Bidder prior to the official opening of this bid. To the extent this Contract is considered a Contract for goods or services subject to § 2270.002 Texas Government Code, Bidder certifies that it: i) does not boycott Israel; and ii) will not boycott Israel during the term of the Agreement. Additionally, the undersigned affirms that the firm is willing to sign the enclosed Standard Form of Agreement (if applicable).

Signed By:  Title: VICE PRESIDENT

Typed Name: Jeff Duplichain Company Name: Duplichain Contractors, LLC

Phone No: (936) 858-4100 Fax No: (936) 858-4789

Email: jeff@duplichain.com

Bid Address: 100 ELKHART ST. AHO TX 75925
P.O. Box or Street City State Zip

Remit Address: P.O. Box 637 AHO TX 75925
P.O. Box or Street City State Zip

Federal Tax ID No: 75-1335955

DUNS No: 05-976-3979

Date: February 19, 2015



P.O. BOX 3967 PEORIA, IL 61612-3967
P: (800)645-2402 E: contract.surety@rlicorp.com
RLISURETY.COM

BID BOND

KNOW ALL MEN BY THESE PRESENTS,

That We, Duplichain Contractors, LLC
of Alto, Texas
as Principal, and RLI Insurance Company, of Peoria,
Illinois, as Surety, an Illinois corporation duly licensed to
do business in the State of Texas, are held and firmly bound unto
City of Nacogdoches, as Oblige, in the penal sum of
Five Percent of Greatest Amount Bid (Five (5%) pct gab),
for the payment of which the Principal and the Surety bind themselves, their heirs, executors, administrators, successors and
assigns, jointly and severally, firmly by these presents.

THE CONDITION OF THIS OBLIGATION IS SUCH, That whereas the Principal has submitted, or is about to submit, a
proposal or a bid to the Oblige on a contract for Ridgebrook Drive Drainage Improvements Project.

NOW, THEREFORE, if the aforesaid principal shall be awarded the contract, the said principal will within the period specified
therefore, or if no period be specified, within ten (10) days after the notice of such award enter into a contract and give bond for
the faithful performance of the contract, then this obligation shall be null and void, otherwise the principal and the surety will
pay unto the obligee the difference in money between the amount of the bid of said principal and the amount for which the
obligee may legally contract with another party to perform the work if the latter amount be in excess of the former, in no event
shall the liability hereunder exceed the penal sum hereof.

PROVIDED AND SUBJECT TO THE CONDITION PRECEDENT, that any suits at law or proceedings in equity brought or to
be brought against the Surety to recover any claim hereunder must be instituted and service had upon the Surety within ninety
(90) days after the acceptance of said bid of the Principal by the Oblige.

SIGNED, SEALED AND DATED this 19th day of February, 2025.



Duplichain Contractors, LLC
Principal
By: [Signature]

RLI Insurance Company
By: Robbie Doughty
Attorney in Fact

ADDRESS ALL CORRESPONDENCE TO:

RLI Insurance Company
P.O. Box 3967
Peoria, IL 61612-3967
800-645-2402

POWER OF ATTORNEY

RLI Insurance Company Contractors Bonding and Insurance Company

9025 N. Lindbergh Dr. Peoria, IL 61615
Phone: 800-645-2402

Know All Men by These Presents:

That this Power of Attorney is not valid or in effect unless attached to the bond which it authorizes executed, but may be detached by the approving officer if desired.

That **RLI Insurance Company** and/or **Contractors Bonding and Insurance Company**, each an Illinois corporation, (separately and together, the "Company") do hereby make, constitute and appoint:

Don Jones, Robert Stovall, Robbie Doughty, Amanda Goff, jointly or severally

in the City of Rusk, State of Texas its true and lawful Agent(s) and Attorney(s) in Fact, with full power and authority hereby conferred, to sign, execute, acknowledge and deliver for and on its behalf as Surety, in general, any and all bonds and undertakings in an amount not to exceed Twenty Five Million Dollars (\$25,000,000.00) for any single obligation.

The acknowledgment and execution of such bond by the said Attorney in Fact shall be as binding upon the Company as if such bond had been executed and acknowledged by the regularly elected officers of the Company.

RLI Insurance Company and/or **Contractors Bonding and Insurance Company**, as applicable, have each further certified that the following is a true and exact copy of a Resolution adopted by the Board of Directors of each such corporation, and is now in force, to-wit:

"All bonds, policies, undertakings, Powers of Attorney or other obligations of the corporation shall be executed in the corporate name of the Company by the President, Secretary, any Assistant Secretary, Treasurer, or any Vice President, or by such other officers as the Board of Directors may authorize. The President, any Vice President, Secretary, any Assistant Secretary, or the Treasurer may appoint Attorneys in Fact or Agents who shall have authority to issue bonds, policies or undertakings in the name of the Company. The corporate seal is not necessary for the validity of any bonds, policies, undertakings, Powers of Attorney or other obligations of the corporation. The signature of any such officer and the corporate seal may be printed by facsimile."

IN WITNESS WHEREOF, the **RLI Insurance Company** and/or **Contractors Bonding and Insurance Company**, as applicable, have caused these presents to be executed by its respective Vice President with its corporate seal affixed this 8th day of November, 2021.



RLI Insurance Company
Contractors Bonding and Insurance Company

By: Barton W. Davis
Barton W. Davis Vice President

State of Illinois }
County of Peoria } SS

CERTIFICATE

On this 8th day of November, 2021, before me, a Notary Public, personally appeared Barton W. Davis, who being by me duly sworn, acknowledged that he signed the above Power of Attorney as the aforesaid officer of the **RLI Insurance Company** and/or **Contractors Bonding and Insurance Company** and acknowledged said instrument to be the voluntary act and deed of said corporation.

I, the undersigned officer of **RLI Insurance Company** and/or **Contractors Bonding and Insurance Company**, do hereby certify that the attached Power of Attorney is in full force and effect and is irrevocable; and furthermore, that the Resolution of the Company as set forth in the Power of Attorney, is now in force. In testimony whereof, I have hereunto set my hand and the seal of the **RLI Insurance Company** and/or **Contractors Bonding and Insurance Company** this 19th day of February, 2025.

By: Catherine D. Glover
Catherine D. Glover Notary Public

RLI Insurance Company
Contractors Bonding and Insurance Company

By: Jeffrey D. Fick
Jeffrey D. Fick Corporate Secretary





RLI Insurance Company
P.O. Box 3967 Peoria, IL 61612-3967
Phone: 309-692-1000 Fax: 309-683-1610

TEXAS COMPLAINT NOTICE

IMPORTANT NOTICE

To obtain information or make a complaint:

You may call **RLI Insurance Company's** toll free telephone number for information or to make a complaint at 800-645-2402.

You may also write to **RLI Insurance Company** at:

9025 N. Lindbergh Drive
Peoria, IL 61615
FAX # 309-683-1610

You may contact the Texas Department of Insurance to obtain information on companies, coverages, rights or complaints at 1-800-252-3439.

You may write the Texas Department of Insurance:

P.O. Box 149104
Austin, TX 78714-9104
FAX # (512) 475-1771
Web: <http://www.tdi.state.tx.us>
E-mail: ConsumerProtection@tdi.state.tx.us

PREMIUM OR CLAIM DISPUTES:

Should you have a dispute concerning your premium or about a claim, you should contact **RLI Insurance Company** first. If the dispute is not resolved, you may contact the Texas Department of Insurance.

ATTACH THIS NOTICE TO YOUR POLICY:

This notice is for information only and does not become a part or condition of the attached document.

CONDITIONS OF AGREEMENT

CONDITIONS OF AGREEMENT

CONTRACT DOCUMENTS

STANDARD SPECIFICATIONS FOR CONSTRUCTION--CITY OF NACOGDOCHES

FACILITIES: All building construction and related installations shall conform to the City's latest adopted editions of the International Building Code, National Electric Code, and the Uniform Plumbing Code and the Nacogdoches Standards for the Design and Construction of Public Improvements. All other City of Nacogdoches codes and ordinances shall also apply.

CIVIL CONSTRUCTION: These specifications shall be used in conjunction with the City of Nacogdoches' Standard Specifications of Water and Sewer Construction and Street Construction and is hereby incorporated by reference. All City of Nacogdoches codes and ordinances shall apply.

Any discrepancies between the City standards and these specifications shall be clarified per the instructions in Paragraph 9.0, "INTERPRETATIONS AND ADDENDA" in the instructions to Bidders.

GENERAL CONDITIONS OF AGREEMENT

The Standard Form of Agreement between Owner and Contractor shall be governing conditions of this contract.

SPECIAL PROVISIONS OF AGREEMENT

- A. **MEASUREMENTS:** All work not specifically set forth as a pay item in the Proposal shall be considered a subsidiary obligation of the Contractor and all costs in connection therewith shall be included in the various unit prices listed in the Proposal.
- B. **QUANTITIES:** Where unit quantities are shown on each bid item of the Proposal, they shall be construed to represent approximate quantities of Work to be completed. Final quantities will be determined by measurement on the site of the completed Work. Work performed outside of specified limits will not be included in final measurement. Bidders are hereby notified that no incidental items of the Work will be paid for unless it is listed in the Proposal form as a pay item.
- C. **EXPLOSION, COLLAPSE AND UNDERGROUND HAZARDS (XCU):** Contracts where trenching depths exceed twelve (12) feet shall require additional coverage for the following General Liability hazards:

Explosion
Collapse

Applies to blasting operations
Applies to excavation and grading work adjacent to structure

Underground

Applies to excavation, burrowing, trenching, tunneling, etc. For example, severing an electrical line during excavation operations.

An additional premium may be assessed by contractor's insurance provider. Successful contractor is responsible for assessing depth based on plans and specifications contained herein.

- D. **TRAFFIC CONTROL:** When work is performed in or immediately adjacent to a public street right-of-way, the Contractor shall submit to the City Engineer a traffic control plan for each public right-of-way he enters prior to the pre-construction meeting. This plan shall be in conformance to the Texas Manual on Uniform Traffic Control Devices. Once reviewed, the plans will be returned to the Contractor with comments.

Approved Traffic Control Plans shall be in the possession of the contractor on site during all work within the designated right of way.

- E. **MATERIAL STAGING:** Contractor is responsible for identifying and securing a suitable site for the storage of materials and other construction related items unless such a site is specifically identified in the plans.
- F. **PERMITS:** Contractor will be required to get permits pursuant to contract documents; however, the city will waive the fees.
- G. **STORM WATER PERMIT:** For construction areas disturbing more than one (1) acre of land, Contractor shall provide a Storm Water Pollution Prevention Plan and all related inspections, rain gages, signage, subsidiary to the contract.
- H. **SURVEY:** The Owner will provide a one-time survey staking of key construction points, bench marks, horizontal controls, building corners, or utility appurtenances as deemed necessary by the City Engineer. Additional construction staking, or replacement staking, will be at the contractor's expense.
- I. **CONTRACTOR PARKING and BATHROOMS:** Unless noted otherwise in the bid documents and plans, the installation of temporary bathroom facilities on the site will not be allowed. Parking for construction related vehicles, worker vehicles, and other equipment may be limited at the construction site. The Contractor should anticipate the need to provide an off-site parking subsidiary to the bid price in the contract.
- J. **FIELD OFFICES:** The Contractor will not be required to maintain a field office at the construction site. In the event that the Contractor wishes to have a temporary project office, approval will be required by the Owner. The cost for the installation of all utilities will be paid by the Contractor.
- K. **DRAINAGE AND EROSION CONTROLS:** The contractor will be responsible for designing, installing and maintaining interim drainage and erosion controls for the

construction site. Surface drainage channels, culverts, or other features will be maintained by the contractor in such a way to minimize the impacts from storm water to offsite properties.

- L. CONTRACT FORMS, BONDS AND CERTIFICATES: The Standard Form of Agreement bond forms listed below will be made a part of the executed contract documents and are made a part of these specifications:

CITY OF NACOGDOCHES STANDARD FORM OF AGREEMENT BETWEEN THE
OWNER AND THE CONTRACTOR

PERFORMANCE BOND

PAYMENT BOND

These forms are not to be filled in by the bidder at the time of submitting his proposal.

STANDARD FORM OF AGREEMENT FOR CONSTRUCTION

CITY OF NACOGDOCHES CONSTRUCTION AGREEMENT

This Agreement is entered into by and between the **City of Nacogdoches**, a Texas home-rule municipal corporation (the "City") and **Duplichain Contractors, LLC**, a limited liability corporation (the "Contractor"), for **Construction Services for 2025 Ridgebrook Drive Drainage Improvements Project** located in Nacogdoches, Texas (the "Project").

1. DEFINITIONS

1.01. Calendar Day. A "calendar day" is any day of the week or month, no days being excepted.

1.02. City. Whenever the word "City" is used, it shall mean and be understood as referring to the City of Nacogdoches, Texas.

1.03. City's Representative. Whenever the words "City's Representative" or "Representative" are used, it shall mean and be understood as referring to the City Manager or his delegate, who shall act as City's agent. The City's Representative may inspect and issue instructions but shall not directly supervise the Contractor.

1.04. Contract Amount. The term "Contract Amount" shall mean the amount of Contractor's lump sum base bid proposal, together with all alternates, as accepted by the City in accordance with the Contractor's Proposal. In the case of a unit price contract, Contract Amount shall mean the sum of the product of all unit prices times the respective estimated final quantities of work, for all base bid and alternates, as accepted by the City.

1.05. Contract Documents. The term "Contract Documents" shall mean those documents listed in Paragraph 2.01.

1.06. Contractor. Whenever the word "Contractor" is used, it shall mean the person(s), partnership, or corporation who has agreed to perform the work embraced in this Agreement and the other Contract Documents.

1.07. Extra Work. The term "Extra Work" shall mean and include work that is **not** covered or contemplated by the Contract Documents but that may be required by City's Representative and approved by the City in writing **prior** to the work being done by the Contractor.

1.08. Final Completion. The term "Final Completion" shall mean that all the work has been completed, all final punch list items have been inspected and satisfactorily completed, all payments to materialmen and subcontractors have been made, all documentation and warranties have been submitted, and all closeout documents have been executed and approved by the City.

1.09. Interpretation of Phrases. Whenever the words "directed", "permitted", "designated", "required", "considered necessary", "prescribed", or words of like import are used, it is understood that the direction, requirement, permission, order, designation, or prescription of City's Representative is intended. Similarly, the words "approved", "acceptable", "satisfactory", or words of like import shall mean approved by, accepted by, or satisfactory to City's Representative.

1.10. Nonconforming work. The term "nonconforming work" shall mean work or any part thereof that is rejected by City's Representative as not conforming with the Contract Documents.

1.11. Parties. The "parties" are the City and the Contractor.

1.12. Project. The term "Project" shall mean and include all that is required to obtain a final product that is acceptable to the City. The term "work" shall have like meaning.

1.13. Subcontractor. The term "subcontractor" shall mean and include only those hired by and having a direct contact with Contractor for performance of work on the Project. The City shall have no responsibility to any subcontractor employed by a Contractor for performance of work on the Project, and all subcontractors shall look exclusively to the Contractor for any payments due.

1.14. Substantially Completed. The term "Substantially Completed" means that in the opinion of the City's Representative the Project, including all systems and improvements, is in a condition to serve its intended purpose but still may require minor miscellaneous work and adjustment. Final payment of the Agreement Price, including retainage, however, shall be withheld until Final Completion and acceptance of the work by the City. Acceptance by the City shall not impair or waive any warranty obligation of Contractor.

1.15. Work. The term "work" as used in this Agreement shall mean and include all that is required herein to obtain a final product that is acceptable to the City. The term "Project" shall have like meaning. This Project includes the following: **Construction Services for 2025 Ridgebrook Drive Drainage Improvements Project** located in Nacogdoches, Texas.

1.16. Working Day. A "working day" means any day not including Saturdays, Sundays, or legal holidays.

2. CONTRACT DOCUMENTS

2.01. The Contract Documents and their priority shall be as follows:

- 2.01.01. This signed Agreement
- 2.01.02. Addendum to this Agreement
- 2.01.03. General Conditions
- 2.01.04. Special Conditions
- 2.01.05. Technical specifications
- 2.01.06. Drawings
- 2.01.07. Instructions to Bidders and any other notices to Bidders or Contractor
- 2.01.08. Performance bond, Payment bonds, Bid bonds and Special bonds
- 2.01.09. Contractor's Proposal

2.02. Where applicable, the Contractor will be furnished three (3) sets of plans, drawings, specifications, and related Contract Documents for its use during construction. Plans and specifications provided for use during construction shall be furnished directly to the Contractor only.

2.03. The Contractor shall distribute copies of the plans and specifications to suppliers and subcontractors as necessary. The Contractor shall keep one (1) copy of the plans and specifications accessible at the work

site with the latest revisions noted thereon. For proper execution of the work contemplated by this Agreement, additional sets of drawings, plans and specifications may be purchased by the Contractor.

2.04. All drawings, specifications, and copies thereof furnished by the City shall not be re-used on other work, and with the exception of one (1) copy of the signed Contract Documents, all documents, including sets of the plans and specifications and “as built” drawings, are to be returned to the City on request at the completion of the work. All Contract Documents, models, mockups, or other representations are the property of the City. In the event of inconsistencies within or between parts of the Contract Documents, the Contractor shall (1) provide the better quality or greater quantity of Work, or (2) comply with the more stringent requirement, either or both in accordance with the City’s interpretation. The terms and conditions of this Clause 2.04, however, shall not relieve the Contractor of any of the obligations set forth in Paragraphs 8.01. and 8.02.

3. AWARD OF CONTRACT

3.01. Upon the award of the contract by the City Council, the parties shall execute this Agreement, and the Contractor shall deliver to City's Representative all documents, bonds, and certificates of insurance required herein.

3.02. **Time is of the essence in this Agreement.** Accordingly, the Contractor shall be prepared to perform the work in the most expedient and efficient possible manner in order to complete the work by the times specified in this Agreement for Substantial Completion and Final Completion. In addition, the Contractor's work on the Project shall be commenced on the date to be specified in the notice to proceed. The notice to proceed may be given by oral notification or set by City's Representative at the post-contract award conference. **The notice to proceed may not be given, nor may any work be commenced, until this Agreement is fully executed and complete, including all required exhibits and other attachments, particularly those required under Paragraphs 27 and 28 (Insurance & Bonds).**

3.03. **Contract Amount.** Except in the event of a duly authorized change order approved by the City as provided in this Contract, and in consideration of the Contractor’s final completion of all work in conformity with this Contract, the City shall pay the Contractor an amount not to exceed **Two Hundred Sixty-Three Thousand Sixty and 00/100 Dollars (\$ 263,060.00).**

4. CITY'S REPRESENTATIVE

4.01. The Contractor shall forward all communications, written or oral, to the City through the City's Representative.

4.02. The City's Representative may periodically review and inspect the work of the Contractor.

4.03. The City's Representative shall appoint, from time to time, such subordinate supervisors or inspectors as City's Representative may deem proper to inspect the work performed under this Agreement and ensure that said work is performed in accordance with the plans and specifications.

4.04. The Contractor shall regard and obey the directions and instructions of City's Representative, any subordinate supervisors or inspectors appointed by the City provided such directions and instructions are consistent with the obligations of this Agreement.

4.05. Should the Contractor object to any orders by any subordinate supervisor or inspector, the Contractor may, within two (2) days from receipt of such order, make written appeal to City's Representative for his decision.

5. INDEPENDENT CONTRACTOR

5.01. In all activities or services performed hereunder, the Contractor is an independent contractor and not an agent or employee of the City. The Contractor, as an independent contractor, shall be responsible for the final product contemplated under this Agreement. Except for materials furnished by the City, the Contractor shall supply all materials, equipment and labor required for the execution of the work on the Project. The Contractor shall have ultimate control over the execution of the work under this Agreement. The Contractor shall have the sole obligation to employ, direct, control, supervise, manage, discharge, and compensate all of its employees and subcontractors, and the City shall have no control of or supervision over the employees of the Contractor or any of the Contractor's subcontractors except to the limited extent provided for in this Agreement.

5.02. The Contractor shall retain personal control and shall give its personal attention to the faithful prosecution and completion of the work and fulfillment of this Agreement. The subletting of any portion or feature of the work or materials required in the performance of this Agreement shall not relieve the Contractor from its obligations to the City under this Agreement. The Contractor shall appoint and keep on the Project during the progress of the work a competent Project Manager and any necessary assistants, all satisfactory to City's Representative, to act as the Contractor's representative and to supervise its employees and subcontractors. All directions given to the Project Manager shall be binding as if given to the Contractor. Adequate supervision by competent and reasonable representatives of the Contractor is essential to the proper performance of the work, and lack of such supervision shall be grounds for suspending the operations of the Contractor and is a breach of this Agreement.

5.03. Unless otherwise stipulated, the Contractor shall provide and pay for all labor, materials, tools, equipment, transportation, facilities, and drawings, including engineering, and any other services necessary or reasonably incidental to the performance of the work by the Contractor. It shall be the responsibility of the Contractor to furnish a completed work product that meets the requirements of the City. Any additional work, material, or equipment needed to meet the intent of this specification shall be supplied by the Contractor **without** claim for additional payment, even though not specifically mentioned herein.

5.04. Any injury or damage to the Contractor or the Project caused by an act of God, natural cause, a party or entity not privy to this Agreement, or other force majeure shall be assumed and borne by the Contractor.

6. DISORDERLY EMPLOYEES

The Contractor agrees to employ only orderly and competent employees skillful in the performance of the type of work required, and agrees that whenever City's Representative shall inform the Contractor in writing that any person or persons on the work are, in his opinion, incompetent, unfaithful, or disorderly, such person or person shall be discharged from the work and shall not again be re-employed on the site or the Project without City's Representative's written permission.

7. HOURS OF WORK

The Contractor may work Monday through Friday from 7 a.m. to 6 p.m., exclusive of Saturdays, Sundays, or legal holidays. The Contractor may work overtime, weekends, and holidays only when approved in advance by the City's Representative. The time for Substantial Completion shall not be affected in any way by inclusion of this section or by the City's consent or lack of consent to work outside of the times specified in this Agreement.

8. NATURE OF THE WORK

8.01. It is understood and agreed that the Contractor has, by careful examination, studied and compared the various Drawings and other Contract Documents, satisfied itself as to the nature and location of the work, the conditions of the ground and soil, the nature of any structures, the character, quality, and quantity of the material to be utilized, the character of equipment and facilities needed for and during the prosecution of the work, the time needed to complete the work, Contractor's ability to meet all deadlines and schedules required by this Agreement, the general and local conditions, including but not limited to weather, and all other matters that in any way affect the work under this Agreement. These obligations are for the purpose of facilitating construction by the Contractor and are not for the purpose of discovering errors, omissions, or inconsistencies in the Contract Documents; however, any errors, inconsistencies or omissions discovered, or which reasonably should have been discovered by the Contractor shall be reported promptly to the City as a request for information in such form as the City may require. However, the Contractor shall not perform any act or do any work on the Project that places the safety of persons at risk or potentially damages materials or equipment used in the Project, and the Contractor shall do nothing that would render any test or tests erroneous.

8.02. Any design errors or omissions noted by the Contractor during this review shall be reported promptly to the City, but it is recognized that the Contractor's review is made in the Contractor's capacity as a contractor and not as a licensed design professional unless otherwise specifically provided in the Contract Documents. The Contractor is not required to ascertain that the Contract Documents are in accordance with applicable laws, statutes, ordinances, building codes, and rules and regulations, but any nonconformity discovered by or which reasonably should have been discovered or made known to the Contractor shall be reported promptly to the City.

8.03. If the Contractor fails to perform the obligations of Paragraphs 8.01. and 8.02., the Contractor shall pay such costs and damages to the City as would have been avoided if the Contractor had performed such obligations. The Contractor shall not be liable to the City for damages resulting from errors, inconsistencies or omissions in the Contract Documents or for differences between field measurements or conditions and the Contract Documents unless the Contractor recognized or reasonably should have recognized such error, inconsistency, omission or difference and knowingly failed to report it to the City.

9. POST-AGREEMENT AWARD MEETINGS

9.01. Prior to the commencement of the work, the parties shall meet and attend a post-agreement award meeting at the time and place determined by City's Representative. At the post-agreement award meeting, the parties shall meet, discuss, and finalize all schedules, including commencement date, and/or specifications submitted for review. No later than ten (10) days prior to the post-agreement award meeting, the Contractor shall submit to City's Representative the following documents:

- (a) Schedules of work contemplated, including the starting and ending date, as well as an indication of the completion of stages of work hereunder.
- (b) The names and addresses of all proposed subcontractors in writing.
- (c) Schedules of the starting and ending dates of subcontractors and the scope of work contemplated for subcontractors.
- (d) Name, local office, phone number and addresses and, home phone numbers for the Contractor and its Project Superintendent/Manager.
- (e) For construction projects, four (4) copies of all shop and/or setting drawings or schedules for the submission thereof.
- (f) Where applicable, materials procurement schedules and material supplier names, addresses and phone numbers.

9.02. The City's Representative, within five (5) working days after the initial post-agreement award conference or any other meetings, may submit minutes of the meeting to the Contractor. The Contractor shall thereafter have five (5) working days to review the minutes and make its objections, changes, or reductions thereto in writing. The Contractor shall thereafter sign the minutes and promptly return them to City's Representative. Where there is disagreement, City's Representative will make the final determination.

10. PROGRESS OF WORK

10.01. Unless otherwise specifically provided, the Contractor shall prosecute its work at such time and sessions, in such order of precedence, and in such manner as shall be most conducive to the economy of the Project; provided, however, that the order and time of prosecution shall be such that the Project shall be Substantially Completed in accordance with this Agreement, the plans and specifications, and within the time of completion designated in the schedules agreed upon by the parties.

10.02. Further, the parties shall be subject to the following:

- (a) The Contractor shall submit a progress schedule and payment schedule of the work contemplated by this Agreement at the initial post-agreement award meeting and subsequent meetings.
- (b) City's Representative shall be entitled to make objections to the Contractor's schedule submitted herein. The Contractor shall promptly resubmit a revised schedule to City's Representative.
- (c) The Project Superintendent/Manager shall coordinate its activities with City's Representative. If required by the City, the Contractor shall provide a weekly schedule of planned activities, which may be reviewed on a daily basis.
- (d) The Contractor shall submit, at such time as may reasonably be requested by City's Representative, additional schedules that shall list the order in which the Contractor proposes to carry on the work with dates at which the Contractor will start the several parts of the work and the estimated dates of completion of the several parts.

(e) The Contractor shall attend additional meetings called by City's Representative upon twenty-four (24) hours written notice unless otherwise agreed in writing by the parties.

(f) When the City is having other work done, either by agreement or by its own force, City's Representative may direct the time and manner of work done under this Agreement so that conflicts will be avoided and the various work being done by and for the City shall be coordinated.

(g) In the event that it is determined by the City that the progress of the work is not in accordance with the approved progress and payment schedule, the City may so inform the Contractor and require the Contractor to take such action as is necessary to insure completion of the Project within the time specified.

10.03. The process of approving Contractor's schedules and updates to Contractor's schedules shall not constitute a warranty by the City that any non-Contractor milestones or activities will occur as set out in the Contractor's schedules. Approval of a contractor's schedules does not constitute a commitment by the City to furnish any City-furnished information or material any earlier than the City would otherwise be obligated to furnish that information or material under the Contract Documents. Failure of the Work to proceed in the sequence scheduled by Contractor shall not alone serve as the basis for a Claim for additional compensation or time. In the event there is interference with the Work which is beyond its control, Contractor shall attempt to reschedule the Work in a manner that will hold the additional time and costs beyond its control to a minimum. The Contractor shall monitor the progress of the Work for conformance with the requirements of the construction schedules and shall promptly advise the City of any delays or potential delays. In the event any schedule indicates any delays, the Contractor shall propose an affirmative plan to correct the delay. In no event shall any schedule constitute an adjustment in the Contract Time, any Milestone Date or the Contract Sum unless any such adjustment is agreed to by the City and authorized pursuant to Change Order.

10.04. **Work Stoppage.** If in the judgment of either the City or City's Representative any of the work or materials furnished is not in strict accordance with this Agreement or any portion of the work is being performed so as to create a hazardous condition, they may, in their sole discretion, order the work of the Contractor or any sub contractor wholly or partially stopped until any objectionable person, work, or material is removed from the premises. Such stoppage or suspension shall neither invalidate any of the Contractor's performance obligations under this Agreement, including the time of performance and deadlines therefore, nor will any extra charge be allowed the Contractor by reason of such stoppage or suspension.

11. SITE CONDITIONS AND MANAGEMENT

11.01. Where the Contractor is working around or in existing structures, it shall verify conditions at the site, including but not limited to, door openings and passages. Any items constructed or manufactured off-site or outside of buildings shall be done so that they are not too bulky for existing facilities. The Contractor shall provide special apparatus as required to handle any such items. All special handling equipment charges shall be at the Contractor's expense. Further, Contractor shall include in its price for the Work, all labor, materials, equipment and/or engineering services required to protect the adjacent properties and/or structures from damage due to performance of the Work.

11.02. The Contractor shall be responsible for all power, light, and water required to perform the work.

11.03. Throughout the progress of the work, the Contractor shall keep the working area free from debris of all types, and remove from premises all rubbish, resulting from any work being done by him. At the completion of the work, the Contractor shall leave the premises in a clean and finished condition. Any failure to do so may be remedied and charged back to the Contractor.

11.04. **Layout of Work.** Except as specifically provided herein, the Contractor shall lay out all work in a manner acceptable to City's Representative in accordance with applicable City of Nacogdoches codes and ordinances. City's Representative will review the Contractor's layout of all structures and any other layout work done by the Contractor at the construction meeting, or at the Contractor's request, but this review does not relieve the Contractor of the responsibility of accurately locating all work in accordance with the plans and specifications.

11.05. **Lines and Grades.** All lines and grades shall be furnished by the Contractor. Benchmarks and control stakes have been provided by the City's Representative. All benchmarks and control stakes shall be carefully preserved by the Contractor. In case of destruction or removal of the same by the Contractor, its subcontractors, or employees, such stakes, marks, etc. shall be replaced by the Contractor at the Contractor's expense. If the Contractor fails to do so, the City may do so and charge back the Contractor. Additional construction staking as needed for the work, including lines and grades, shall be the sole responsibility of the Contractor, and the Contractor shall receive no extra time or compensation therefor.

11.06. **Contractor's Structures.** The building or locating of structures for housing men or the erection of tents or other forms of protection will be permitted only at such places as City's Representative shall permit. The Contractor shall not damage the property where such structures are allowed and shall at all times maintain sanitary conditions in and about such structures in a manner satisfactory to the City. The City may charge the Contractor for any damage or injury to the City, its property, or third persons as a result of the location or use of such structures.

11.07. The Contractor and any entity over whom the Contractor has control shall not erect any sign on the Project site without the prior written consent of the City.

11.08. City may have other work related to the Project performed at the Project site during the time the Work is performed. Contractor should schedule its Work to coordinate with the work of other contractors and utilities with the understanding that some of that work may be performed at times other than as set out in the Contract Documents or as otherwise anticipated. City will endeavor to have such other work performed so as not to unduly interfere with Contractor's performance when Contractor notifies City of specific reasonable needs well in advance of those needs and where it is possible to do so. Although Contractor should anticipate some delays and interference to its sequence of Work because of work by other contractors and utilities, and will not be entitled to either an extension of time or additional compensation because of them, in the event of substantial delay caused by another contractor or a utility, after advance notice of its needs by Contractor, Contractor will be entitled to make a claim for an extension of time as provided herein.

11.09. When two or more contractors, including Contractor, are employed on related or adjacent work or obtain materials from the same material source, or when work must be completed by one contractor before another can begin, each shall conduct his operations in such a manner as not to cause any unnecessary delay or hindrance to the other. Each contractor, including Contractor if applicable, shall be responsible to the other for all damage to work, to persons, or to property caused to the other by his operations, and for loss caused the other due to unreasonable or unjustified delays or failure to finish the work or portions thereof, or furnish materials within the time requested. Should Contractor cause damage to the work or property of any

separate contractor at the Project site, or should any claim arising out of Contractor's separate contractor at the Project site, or should any claim arising out of Contractor's performance of the Work at the Project site be made by any separate contractor against Contractor, City or other consultants, or any other person, Contractor shall promptly attempt to settle with such other contractor by agreement, or to otherwise resolve the dispute. **Contractor shall, to the fullest extent permitted by applicable laws, indemnify and hold City harmless from and against all claims, damages, losses and expenses (including, but not limited to, fees of architects, attorneys and other professionals and court costs) arising directly, indirectly or consequentially out of any action, legal or equitable, brought by any separate contractor against City to the extent based on a claim arising out of Contractor's negligence.**

12. MATERIALS

12.01. Materials or work described in words that when so applied have well-known technical or trade meaning shall be held to refer to such recognized standards. All work shall be done and all materials furnished in strict conformity with this Agreement, the other Contract Documents, and recognized industry standards. When specific products, systems or items of equipment are referred to in the Contract Documents, any ancillary devices necessary for connecting the products, systems or items of equipment shall also be provided. When standards, codes, manufacturer's instructions and guarantees are required by the Contract Documents, the current edition at the time of Contract execution shall apply, unless another edition is specified in the Contract Documents. References to standards, codes, manufacturer's instructions and guarantees shall apply in full, except (1) they do not supersede more stringent standards set out in the Contract Documents, and (2) any exclusions or waivers that are inconsistent with the Contract Documents do not apply.

12.02. All materials shall be approved by the City prior to purchase by the Contractor. Unless otherwise specified herein, the Contractor shall purchase all materials and equipment outright and shall not subject the materials and equipment utilized in the Project to any conditional sales agreement, bailment, lease, or other agreement reserving unto seller any right, title, or interest therein. Title to all materials, but not risk of loss, shall pass to the City upon delivery to the Project.

12.03. Where the City deems it necessary to supply materials, it may furnish to the Contractor the list of materials set forth in the attached "List of City Furnished Materials". Upon receipt of said materials, the Contractor shall immediately furnish to the City a written receipt. Moreover, the Contractor shall, on behalf of the City, accept delivery of the materials set forth in the attached "List of Materials Ordered by the City". Under such circumstances, the Contractor shall promptly forward to the City for payment the supplier's invoice together with the Contractor's receipt in writing for such materials.

- (a) Upon acceptance of the materials furnished or ordered by the City, the Contractor warrants that it shall properly handle, transport, store and safeguard the materials.
- (b) Further, the Contractor shall repair, repaint or replace any and all materials or any part thereof damaged or stolen while in its possession. Such materials are considered to be in the Contractor's possession from the moment the Contractor either accepts delivery of the materials or signs a receipt accepting delivery of said materials until the Project is accepted by the City's Representative.
- (c) Before transporting any of the materials furnished or ordered by the City, the Contractor shall establish to the City's satisfaction that it has obtained insurance against losses, theft, damage, equal to or greater than the amounts spent by the City in securing said materials. It shall be incumbent upon the Contractor to verify the cost of materials.

(d) The City shall not be obligated to furnish materials in excess of the quantities, size, kind, and type set forth in the attached List of City Furnished Materials and List of Materials Ordered by the City. If the City furnishes, and the Contractor accepts, materials in excess thereof, the values of such excess materials shall be their actual cost as stated by the City.

(e) Upon delivery, the Contractor shall promptly receive, unload, transport, and handle all materials and equipment on the List of Materials Ordered by the City at its expense and shall be responsible for all shipping costs.

12.04. Materials and supplies shall be new and of good quality. Upon request, the Contractor shall supply proof of quality and manufacturer. No refurbished, reconditioned, or other previously utilized materials or supplies will be used without the prior signed authorization of City's Representative. The Contractor may utilize substitutes of equal quality and function only upon the prior written authorization of the City's Representative. The City's Representative may require documentation as to quality and function, including manufacturer's specifications, to insure that the proposed substitute is equal to the required material or supply. The City's Representative shall have sole discretion over the use of substitute materials and supplies. Contractor shall bear the risk of any delay in performance caused by submitting substitutions.

12.05. Only materials and equipment which are to be used directly in the Work shall be brought to and stored on the Project site by the Contractor. After equipment is no longer required for the Work, it shall be promptly removed from the Project site. Protection of construction material and equipment stored at the Project site from weather, theft, damage and all other perils is solely the responsibility of the Contractor.

13. ENTRY, OBSERVATION, TESTING & POSSESSION

13.01. The City reserves the right to enter the Project site or sites by such employee(s) or agent(s) as it may elect for the purpose of inspecting the work. The City further reserves the right to enter the Project site or sites for the purpose of performing such collateral work as the City may desire.

13.02. The City's Representative shall have the right, at all reasonable times, to observe and test the work. The Contractor shall make necessary arrangements and provide proper facilities and access for such observation and testing at any location where the work or any part thereof is in preparation or progress. The Contractor shall ascertain the scope of any observation that may be contemplated by City's Representative and shall give ample notice as to the time each part of the work will be ready for observation.

13.03. The City's Representative may require Contractor to remove, dismantle, or uncover completed work. If the work is not in accordance with the plans, specifications, or other Contract Documents, the Contractor shall pay the costs of repair and restoration of the work required to be removed, dismantled, or uncovered. Unless Contractor is obligated to provide advance notice of inspection, prior to covering up the work, and fails to do so, if the work is in accordance with the plans, specifications, and other Contract Documents, the City shall pay the costs of repair and restoration of the work.

13.04. City shall have the right to take possession of and use any completed or partially completed portions of the Project prior to the time for completing the entire Project or such portions which may not have expired. The parties agree and understand that possession and use shall not constitute an acceptance of any work not completed in accordance with this Agreement. Further, insurance changes required to keep Contractor's insurance in effect shall be the responsibility of Contractor.

14. REJECTED WORK

14.01. All work deemed not in conformity with this Agreement as determined by the City in its sole discretion, may be rejected by the City. City's Representative may reject any work found to be defective or not in accordance with the Contract Documents, regardless of the stage of the work's completion or the time or place of discovery of such defects or inconsistencies and regardless of whether City's Representative has previously accepted the work through oversight or otherwise. Neither observations nor inspections, tests, or approvals made by City's Representative, or other persons authorized under this Agreement to make such observations, inspections, tests, or approvals, shall relieve the Contractor from the obligation to perform the work in accordance with the requirements of this Agreement and the other Contract Documents.

14.02. If the work or any part thereof is rejected by the City, it shall be deemed by City's Representative as not in conformity with this Agreement. Any remedial action required, as set forth herein, shall be at the Contractor's expense, as follows:

- (a) The Contractor may be required, at the City's option, after notice from City's Representative, to remedy such work so that it shall be in full compliance with this Agreement. All rejected work or materials shall be immediately replaced in order to conform with this Agreement.
- (b) If the City deems it inexpedient to correct work damaged or not done in accordance with this Agreement, an equitable deduction from the agreed sum may be made by the City at the City's sole discretion.

15. SUBCONTRACTING & SUBCONTRACTORS

15.01. The Contractor agrees that it will retain personal control and will give its personal attention to the fulfillment of this Agreement. The Contractor further agrees that subletting of any portion or feature of the work or materials required in the performance of this Agreement shall not relieve the Contractor from its full obligation to the City as provided by this Agreement.

15.02. Subcontractors must be approved by City's Representative prior to hiring or beginning any work on the Project. If City's Representative judges any subcontractor to be failing to perform the work in strict accordance with the drawings and specifications, the Contractor, after due notice, shall discharge the same, but this shall in no way release the Contractor from its obligations and responsibility under this Agreement. Every subcontractor shall be bound by the terms and provisions of this Agreement and the Contract Documents as far as applicable to their work. The Contractor shall be fully responsible to the City for the acts and omissions of its subcontractors. Nothing contained herein shall create any contractual or employment relations between any subcontractor and the City.

16. PAYMENT

16.01. The City stipulates that it is an exempt organization as defined by the Limited Sales, Excise and Use Tax Act and, as such, is exempt from the payment of the sales tax on materials and supplies used in the performance of this Contract. The Contractor shall issue exemption certificates to its suppliers and Subcontractors in lieu of said sales tax for all such materials and supplies, and said exemption certificates must comply with the State Comptroller's Ruling No. 95-0.07 and shall be subject to the provision of the State Comptroller's Ruling No. 95-0.09, effective October 1, 1969.

16.02. Progress Payment Applications. The Contractor shall submit applications for payment as provided for herein. Applications for payment will be processed by the City's Representative. Before the first Application for Payment, the Contractor shall submit to the City a schedule of values allocated to various portions of the Work, prepared in such form and supported by such data to substantiate its accuracy as the City may require. This schedule, unless objected to by the City, shall be used as a basis for reviewing the Contractor's Applications for Payment. On or before the 15th day of each month, the Contractor shall submit to City's Representative, for approval or modification, a statement showing as completely as practicable the total value of the actual work performed by the Contractor and accepted by the City up to and including the last day of the *preceding* month. The statement shall also include the value of all materials not previously submitted for payment which have been delivered to the site but have not yet been incorporated into the work.

16.03. Progress Payments. On or before the **30th** calendar day following the City's receipt of a progress payment application made in conformity with Paragraph 16.02, the City shall pay to the Contractor the approved amount of the progress payment based on the Contractor's applications for payment, and the recommendation and approval of City's Representative. Prior to Substantial Completion, progress payments will be made in an amount equal to the percentage of work completed by the Contractor and approved by the City, but in each case less the aggregate of payments previously made, less retainage, and less amounts as City's Representative shall determine and the City may withhold in accordance with this Agreement. Upon Final Completion, including the delivery of all close out documents, such as "as built" drawings, warranties, guarantees, required additional materials, releases, operation and maintenance manuals, and acceptance of the work in accordance with this Agreement, the City shall pay the remainder of the balance due under this Agreement, less any sums withheld under other terms of this Agreement and less the retainage, which shall be retained for a period of thirty (30) calendar days from the date of Final Completion. Acceptance of retainage by Contractor shall constitute a Waiver and Release of all claims by Contractor.

16.04. Retainage. From each approved statement, the City shall retain until final payment, ten percent (10%), where the full contract amount is less than \$400,000.00, and five percent (5%), where the full contract amount is \$400,000.00 or more. The City may also retain from each approved statement any other sums authorized under the terms of this Agreement.

16.05. If the actual amount of work to be done and the materials to be furnished differ from estimates and where the basis for payment is the unit price method, then payment shall be for the actual amount of accepted work done and materials furnished on the Project.

16.06. Reduction in the scope or quantity of work on unit price items shall merely reduce the number of units. In the event that materials have been delivered prior to notice of such reduction, the City will have the option either to pay freight & transportation costs and any re-stocking charges actually incurred by the Contractor or to purchase the materials. The Contractor shall never be entitled to anticipated or lost profits on the deleted or reduced portion of a job, whether bid on a unit price or lump sum basis.

16.07. The Contractor shall have the sole obligation to pay any and all charges or fees and give all notices necessary to and incidental to the lawful prosecution of the work hereunder. The Contractor shall not and shall have no authority whatsoever to obligate the City to make any payments to another party nor make any promises or representation of any nature on behalf of the City, without the specific written approval of the City.

16.08. The Contractor shall include in the Contract Sum all allowances stated in the Contract Documents. Items covered by allowances shall be supplied for such amounts and by such persons or entities as the City may direct, but the Contractor shall not be required to employ persons or entities to whom the Contractor has reasonable objection.

16.09. Unless otherwise provided in the Contract Documents:

- (a) allowances shall cover the cost to the Contractor of materials and equipment delivered at the site and all required taxes, less applicable trade discounts;
- (b) Contractor's costs for unloading and handling at the site, labor, installation costs, overhead, profit and other expenses contemplated for stated allowance amounts shall be included in the Contract Amount but not in the allowances;
- (c) whenever costs are more than or less than allowances, the Contract Amount shall be adjusted accordingly by Change Order. The amount of the Change Order shall reflect (1) the difference between actual costs and the allowances under Paragraph 16.9(a) and (2) changes in the Contractor's costs under Paragraph 16.9(b).

16.10. **Suspension of Payments.** The City, at any time, may suspend monthly progress payments on the work if it determines that the projected liquidated damages may exceed retainage. The City, at any time, may suspend monthly progress payments if it believes that the Contractor will not complete the work due to actual default or that the Contractor has represented or done some act that indicates that it will not complete the work in accordance with this Agreement or within the time period submitted in its bid. Provided, however, City is in no way obligated to Contractor's surety to withhold payment pursuant to the provisions of this Paragraph.

16.11. **Withhold Funds.** Regardless of any bond, the City may, on account of subsequently discovered evidence and in addition to the retainage withheld under Paragraph 16.04, withhold funds or nullify all or part of any acceptance or certificate to such extent as may be necessary to protect itself from loss on account of any of the following, or as otherwise provided in this Agreement:

- (a) Defective work.
- (b) Claims made or reasonable evidence indicating probable filing of claims by unpaid vendors or other third parties.
- (c) Failure of the Contractor to make prompt payments to subcontractors for labor or material or materialmen.
- (d) Claims made or reasonable evidence indicating claims will be made for damage to another by the Contractor.
- (e) Claims made or reasonable evidence indicating claims will be made for damage to third parties, including adjacent property owners.
- (f) Claims made or reasonable evidence indicating claims will be made for unremedied damage to property owned by the City.
- (g) City's determination of an amount of liquidated damages.
- (h) Charges made for repairs to the Contractor's defective work or repairs made by the City to correct damage to other property.
- (i) Other amounts authorized under this Agreement or under any other agreement made between City and Contractor.

Provided, however, City is in no way obligated to Contractor's surety to withhold payment pursuant to the provisions of this Paragraph.

16.12. The Parties agree that the City or the state auditor, if state funds are used to fund this contract, may conduct an audit or investigation of any entity receiving funds from the City directly or indirectly through a subcontract under the contract. The acceptance of funds under the contract or subcontract acts as acceptance of the authority of the City or the state auditor to conduct an audit or investigation in connection with those funds. An entity that is the subject of an audit or investigation must provide the City or the state auditor with access to any information the City or the auditor considers relevant to the investigation.

17. EXTRA WORK CHARGES

17.01. No changes shall be made, nor will bills for changes, alterations, modifications, deviations, and extra orders be recognized or paid for except upon the written order from authorized personnel of the City.

17.02. For "Extra Work", as defined in Paragraph 1.07 and authorized through written change orders, and pursuant to Section 252.048(d) of the Texas Local Government Code, the original contract price may not be increased by more than **twenty-five percent (25%)**. Written change orders that do not exceed **twenty-five percent (25%)** of the original contract amount may be made or approved by the City Manager or his delegate if the change order is less than **Fifty Thousand Dollars (\$50,000.00)**. Changes in excess of **Fifty Thousand Dollars (\$50,000.00)** must be approved by the City Council prior to commencement of the services or work. **Any requests by the Contractor for a change to the Contract Amount shall be made prior to the beginning of the work covered by the proposed change or the right to payment for Extra Work shall be waived.** No course of conduct or dealings between the parties, nor implied acceptance of alterations or additions to the Work or changes to the Contract schedule shall be the basis for any claim for an increase in compensation or change in time. Any cost incurred by Contractor in connection with any Extra Work shall be included in Contractor's requested change order and Contractor's failure to include any such cost shall act to Waive and Release any claim for such non included cost.

17.03. The Contractor shall complete all work as specified or indicated in the Contract Documents. The Contractor shall complete all Extra Work in connection therewith. All work and materials shall be in strict conformity with the specifications. The Substantial Completion of the work shall not excuse the Contractor from performing all the work undertaken, whether of a minor or major nature, and thereby completing the Project in accordance with the Contract Documents. In the event that the Contractor fails to perform the work as required for Substantial Completion or Final Completion, the City may contract with a third party to complete the work and the Contractor shall assume and pay the costs of the performance of the work as contracted.

(a) It is agreed that the Contractor shall perform all Extra Work under the direction of City's Representative when presented with a written work order signed by City.

(b) **No claim for Extra Work of any kind will be allowed unless ordered in writing by the City.** In case any orders or instructions appear to the Contractor to involve Extra Work for which it should receive compensation or an adjustment in the construction time, it shall make written request to City's Representative for a written order from City authorizing such Extra Work.

(c) Should a difference of opinion arise as to what does or does not constitute Extra Work, or as to the payment therefor, and the City insists upon its performance, then the Contractor shall proceed with the work after making written requests for written orders in a change order and shall keep adequate and accurate account of the actual field costs therefor, as provided under Method C.

(d) It is also agreed that the compensation to be paid to the Contractor for performing Extra Work shall be determined by one or more of the following methods:

Method A - By agreed unit prices, or

Method B - By agreed lump sum, or

Method C - If neither Method A nor Method B is agreed upon before the Extra Work is commenced, then the Contractor shall be paid the actual field cost of the work.

(e) **Method A - Unit Prices.** The Contractor agrees to perform Extra Work for the unit prices in the Contractor's Proposal. The Contractor also agrees and warrants that when it is necessary to construct units not shown in the Contract Documents, it shall construct such units for a price arrived at as follows:

(1) The cost of materials shall be determined by the invoices;

(2) The cost of labor shall be the reasonable cost thereof, as determined by the City, but in no event shall it exceed an amount determined by calculating the ratio of the total labor costs to the total costs to the total material costs in the section of the Proposal involved, and multiplying the cost of materials for the unit in question by this ratio. Provided, however, that the ratio shall be calculated for only those units that are similar to the new unit for which a price is to be determined.

(f) **Method B - Lump Sum.** The lump sum shall be reasonably close to the amount for similar work previously done or combinations of similar units. Invoices for materials used shall be provided in support of the agreed lump sum.

(g) **Method C - Actual Field Costs.** The actual field cost is hereby defined to include the cost of all applicable workmen and laborers, as well as materials, supplies, teams, trucks, rentals on machinery and equipment, for the time actually employed or used for such Extra Work, plus actual transportation charges necessarily incurred, together with other costs reasonably incurred directly on account of such Extra Work, including social security, old age benefits, maintenance bonds, public liability, property damage, worker's compensation, and all other insurance as may be required by law or ordinances or required and agreed to by the City or City's Representative. City's Representative may direct the form in which accounts of the actual field costs shall be kept and records of these accounts shall be made available to City's Representative. Unless otherwise agreed upon, the prices for the use of machinery and equipment shall be determined by using one hundred percent (100%), unless otherwise specified, of the latest schedule of equipment and ownership expenses adopted by the Associated General Contractors of America. Where practical, the terms and prices for the use of machinery and equipment shall be incorporated in the written Extra Work order. Actual field costs shall not exceed the prevailing market price therefor within reasonable tolerances as determined by City's Representative. The amount due to Contractor for costs other than actual field costs shall be calculated in accordance with the following standards:

(1) No indirect or consequential damages will be allowed.

(2) All costs must be directly and specifically shown to be caused by a proven wrong. No recovery shall be based on a comparison by planned expenditures to total actual expenditures or on estimated losses of labor efficiency, or on a comparison of planned

manloading to actual manloading, or any other analysis that is used to show damages indirectly.

- (3) Damages are limited to extra costs specifically shown to have been directly caused by a proven wrong.
- (4) The maximum daily limit on any recovery for delay shall be the amount established by the Contractor for job overhead costs, defined in the pay applications, divided by the total number of days specified for completion called for in the original Contract. Absent an overhead amount in the Schedule of Values, the amount estimated by Contractor for job overhead cost shall be used.

18. TIME OF COMPLETION

18.01. The date of beginning, the time for Substantial Completion and Final Completion of work as specified in this Agreement are of the essence in this Agreement.

18.02. The work embraced by this Agreement shall be commenced on the date specified in the notice to proceed. Said notice to proceed will be given in written form or set by the City's Representative at the post-award conference.

18.03. The work shall be Substantially Completed within the time bid, which shall run from the date when the notice to proceed is given by City's Representative. The Contractor has bid **90 calendar days** for the time within which it shall reach Substantial Completion of the Project.

18.04. The work shall reach Final Completion and be ready for final payment within **thirty (30) calendar days** from the date of Substantial Completion.

19. SUBSTANTIAL COMPLETION

19.01. The Contractor shall notify City's Representative when, in the Contractor's opinion, the contract is Substantially Completed. Within ten (10) calendar days after the Contractor has given City's Representative written notice that the work has been Substantially Completed, City's Representative shall inspect the work for the preparation of a final punch list.

(a) If City's Representative and the City find that the work is not Substantially Completed, then they shall so notify the Contractor who shall then complete the work. City's Representative shall not be required to provide a list of unfinished work.

(b) If the City Representative and City find that the work is Substantially Completed, the City shall issue to the Contractor its certificate of Substantial Completion.

19.02. The Substantial Completion of the work shall not excuse the Contractor from performing all of the work undertaken, whether of a minor or major nature, and thereby completing the Project in accordance with the Contract Documents.

20. FINAL COMPLETION

20.01. Contractor shall notify the City's Representative when it believes that the work has reached Final Completion as defined in Paragraph 1.08. If the City's Representative and the City accept and deems such work Finally Complete, then Contractor shall be so notified and certificates of completion and acceptance, as provided herein, shall be issued. A complete itemized statement of this Agreement account, certified by the City's Representative as correct, shall then be prepared and delivered to Contractor. Contractor or City, as the case may be, shall pay the balance due as reflected by said statement within thirty (30) calendar days.

20.02. The Contractor shall procure all required certificates of acceptance or completions issued by state, municipal, or other authorities and submit the same to the City. The City may withhold any payments due under this Agreement until the necessary certificates are procured and delivered.

20.03. Neither the final payment nor any acceptance nor certificate nor any provision of this Agreement shall relieve the Contractor of any responsibility for faulty workmanship or materials. At the option of the City, the Contractor shall remedy any defects and pay for any damage to other work which may appear after final acceptance of the work.

21. DELAYS

21.01. The Contractor, in undertaking to complete the work within the times herein fixed, has taken into consideration and made allowance for all hindrances and delays incident to such work, whether growing out of delays in securing material or workmen or delays arising from inclement weather or otherwise.

21.02. The City may, in its sole discretion, delay the work during inclement weather in order to preserve the Project, insure safety of work forces, and the preservation of materials and equipment. In such event and upon a written request from the Contractor, the City may grant an extension of time pursuant to Paragraph 22 to offset for such stoppage of the work.

21.03. In the event of delays resulting from changes ordered in the work by the City or other delays caused by the City or for the City's convenience, the Contractor may apply to the City for recovery of incidental expenses resulting from increased storage costs or other costs necessary to protect the value of the work. In no event shall any consequential or other damages be allowed or any other charges or claims be made by the Contractor for hindrances or delays resulting from any other cause.

22. EXTENSIONS OF TIME

The Contractor has submitted its proposal in full recognition of the time required for the completion of this Project, taking into consideration all factors including, but not limited to the average climatic range and industrial conditions. The Contractor has considered the liquidated damage provision of this Agreement and understands and agrees that it shall not be entitled to, nor will it request, an extension of time for either Substantial Completion or Final Completion, except when the work has been delayed by one or more of the following:

- (1) an act or neglect of the City, the City's Representative, employees of the City, or other contractors employed by the City;
- (2) by changes ordered in the work, or reductions thereto approved in writing;

- (3) by "rain days" (days with rainfall in excess of one-tenth of an inch) during the term of this Agreement that exceed the average number of rain days for such term for this locality, both as determined by the Texas A&M University weather service; or
- (4) by other causes that the City and the Contractor agree may reasonably justify delay and that were beyond the Contractor's reasonable control and ability to estimate, predict, or avoid, such as delays caused by unforeseen labor disputes, fire, natural disasters, acts of war, and other rare and unpredictable events. This term does **not** include normal delays incident to the delivery of materials, tools, or labor that reasonably could have been predicted and/or accounted for in the Contractor's proposal or decision to bid.

If one or more of the foregoing conditions is present, the Contractor may apply in writing for an extension of time, within thirty (30) days of the occurrence of the event causing the delay, submitting therewith all written justification as may be required by the City's Representative. Within ten (10) calendar days after receipt of a written request for an extension of time, which is supported by all requested documentation, the City shall, in writing and in its sole discretion, grant or deny the request. Under no circumstances shall any extension of time by the City be valid and binding unless it is in writing and in conformity with the other terms of this Agreement.

23. LIQUIDATED DAMAGES

23.01. The time for the Substantial and Final Completion of the work described herein are reasonable times for the completion of each, taking into consideration all conditions, including but not limited to the average climatic conditions and usual industrial conditions prevailing in this locality. The amount of liquidated damages for the Contractor's failure to meet the deadlines for Substantial and/or Final Completion are fixed and agreed on by the Contractor because of the impracticability and extreme difficulty in fixing and ascertaining the actual damages that the City would in such an event sustain. The amounts to be charged are agreed to be damages the City would sustain and shall be retained by the City from current periodic estimates for payment or from final payment.

23.02. As a result of the difficulty in estimation, calculation and ascertainment of City's damages due to a failure of Contractor to achieve timely completion of the Work, if the Contractor should neglect, fail, or refuse to either Substantially Complete or Finally Complete the work within the time herein specified, or any proper extension thereof granted by the City's Representative pursuant to the terms of Paragraph 22 of this Agreement, then the Contractor does hereby agree as part of the consideration for the awarding of this Agreement that the City may permanently withhold from the Contractor's total compensation the sum of **Five Hundred and no/100 DOLLARS (\$500.00)** for each and every calendar day that the Contractor shall be in default after the time stipulated for Substantial Completion and/or Final Completion, not as a penalty, but as liquidated damages for the breach of this Agreement. It being specifically understood that the assessment of liquidated damages may be made for any failure to meet either or both of the deadlines specified for Substantial Completion and/or Final Completion.

24. CHARGES FOR INJURY OR REPAIR

24.01. The Contractor shall be liable for any damages incurred or repairs made necessary by reason of its work and/or caused by it. Repairs of any kind required by the City will be made and charged to the Contractor by the City.

24.02. The Contractor shall take the necessary precautions to protect any areas adjacent to its work.

24.03. The work specified consists of all work, materials, and labor required by the City to repair any damage to the property of the City, including but not limited to structures, roadways, curbs, parking areas, and sidewalks.

25. WARRANTY

25.01. Upon issuance of a certificate of Final Completion, the Contractor warrants for a period of one (1) year as follows:

The Contractor warrants that all labor and materials provided to the City under this Agreement shall be new unless otherwise approved in advance by City's Representative and that all work will be of good quality, free from faults and defects, and in conformance with this Agreement, the other Contract Documents, and recognized industry standards.

25.02. All work not conforming to these requirements, including but not limited to unapproved substitutions, may be considered defective.

25.03. This warranty is in addition to any rights or warranties expressed or implied by law and in addition to any consumer protection claims arising from misrepresentations by the Contractor.

25.04. Where more than a one (1) year warranty is specified for individual products, work, or materials, the longer warranty shall govern.

25.05. This warranty obligation shall be covered by any performance or payment bonds tendered in compliance with this Agreement.

25.06. **Defective Work Discovered During Warranty Period.** If any of the work is found or determined to be either defective, including obvious defects, or otherwise not in accordance with this Agreement within one (1) year after the date of the issuance of a certificate of Final Completion of the Work or a designated portion of the Work, whichever is longer, or within one (1) year after acceptance by the City of designated equipment, or within such longer period of time as may be prescribed by law or by the terms of any applicable special warranty required by this Agreement, the Contractor shall promptly correct the defective work at no cost to the City.

25.07. After receipt of written notice from the City to begin corrective work, the Contractor shall promptly begin the corrective work. The obligation to correct any defective work shall survive the termination of this Agreement. The guarantee to correct the defective work shall not constitute the exclusive remedy of City, nor shall other remedies be limited to the terms of either the warranty or the guarantee.

25.08. If within ten (10) calendar days after the City has notified the Contractor of a defect, failure, or abnormality in the work, the Contractor has not started to make the necessary corrections or adjustments, the City is hereby authorized to make the corrections or adjustments, or to order the work to be done by a third party. The cost of the work shall be paid by the Contractor or its surety.

25.09. The cost of all materials, parts, labor, transportation, supervision, special instruments, and supplies required for the replacement or repair of parts and for correction of defects shall be paid by the Contractor or by the surety.

25.10. The guarantee shall be extended to cover all repairs and replacements furnished, and the term of the guarantee for each repair or replacement shall be one (1) year after the installation or completion. The one (1) year warranty shall cover all work, equipment, and materials that are part of this Project, whether or not a warranty is specified in the individual section of the Contract Documents that prescribe that particular aspect of the work.

26. PAYMENT OF EMPLOYEES, SUBCONTRACTORS & SUPPLIERS

26.01. **Wage Rates.** Pursuant to Section 2258.023(a) of the Texas Government Code, wage rates paid by the Contractor and any subcontractor on this Project shall be not less than the general prevailing rate of per diem wages for work of a similar character in this locality as specified in the schedule of general prevailing rates of per diem wages attached hereto as Exhibit A.

26.02. **Statutory Penalty.** Pursuant to Section 2258.023(b) of the Texas Government Code, if the Contractor or any subcontractor violates the requirements of Paragraph 26.01, the Contractor or subcontractor as the case may be shall pay the City **Sixty Dollars (\$60.00)** for each worker employed for each calendar day or part of the day that the worker is paid less than the stipulated wage rates.

26.03. The Contractor and each subcontractor shall pay all of their employees engaged in work on the Project in full (less mandatory legal deductions) in cash or by check readily cashable, without discount, no less than once each week.

26.04. No later than the seventh (7th) calendar day following the payment of wages, the Contractor must file with City's Representative a certified, sworn, legible copy of such payroll. This shall contain the name of each employee, their classification, the number of hours worked on each day, rate of pay, and net pay. The affidavit shall state that the copy is a true and correct copy of such payroll and that no rebates or deductions (except as shown) have been made or will be made in the future from the wages therein shown.

26.05. **Payment of Subcontractors.** The Contractor shall be solely and exclusively responsible for compensating any of the Contractor's employees, subcontractors, materialmen and/or suppliers of any type or nature whatsoever and for insuring that no claims or liens of any type arising out of or incidental to the performance of any services performed pursuant to this Agreement are filed against any property owned by the City. In the event a statutory lien notice is sent to the City, the Contractor shall, where no payment bond covers the work, upon written notice from the City, immediately obtain a bond at its expense and hold the City harmless from any losses that may result from the filing or enforcement of any said lien notice. In the event that the Contractor defaults in the provision of the bond, the City may withhold such funds as are necessary to assure the payment of such claim until litigation determines to whom payment shall be made.

26.06. **Affidavit of Bills Paid.** Prior to Final Acceptance of the Project, the Contractor shall provide a notarized affidavit, attached as Exhibit E, stating that all bills for labor, materials, and incidentals incurred have been paid in full, that any claims from manufacturers, materialmen, and subcontractors have been released, and that there are no claims pending of which the Contractor has been notified.

27. INSURANCE

27.01. The Contractor shall procure and maintain at its sole cost and expense for the duration of this Agreement insurance against claims for injuries to persons or damages to property that may arise from or in connection with the performance of the work hereunder by the Contractor, its agents, representatives, volunteers, employees or subcontractors. The policies, coverages, limits and endorsements required are as set forth in Exhibit B.

28. BOND PROVISIONS

28.01. Pursuant to Section 2253.021 of the Texas Government Code, for all public works contracts with governmental entities, a payment bond is required if the Contract Amount exceeds \$50,000, and a performance bond is required if the Contract Amount exceeds \$100,000. Below those amounts, the City *may* require payment and/or performance bonds. In the event a performance or payment bond or both is required either by law or in the City's discretion, such bonds shall be executed in accordance with all requirements of Article 7.19-1 of the Texas Insurance Code, all other applicable law, and the following:

- (a) The Contractor shall execute performance and payment bonds for the full Contract Amount.
- (b) The bond surety shall be authorized under the laws of the State of Texas to provide a performance and payment bond and shall have attached proof of authorization of the surety to act in the performance and payment of bonds.
- (c) The Contractor shall provide original, sealed, and complete counterparts of the executed bonds in the forms required by the Contract Documents, which are attached as Exhibit C, together with valid original powers of attorney, **at the time of execution of this Agreement and prior** to the commencement of work. Copies of the executed bonds shall be attached hereto as **Exhibit C**.
- (d) The performance and payment bonds shall remain in effect for a period of one (1) year after Final Completion of the work and shall be extended for any warranty work to cover the warranty period.
- (e) If at any time during the execution of this Agreement in the required period thereafter, the bond or bonds become invalid or ineffective for any reason, the Contractor shall promptly supply within ten (10) days such other bond or bonds, which bond or bonds shall assure performance or payment as required.

28.02. The Contractor may make such changes and alterations as the City may require in the work or any part thereof without affecting the validity of this Agreement and any accompanying bond. If such changes or alterations diminish the quantity of the work to be done, they shall not constitute the basis for any claim for damages or anticipated profits. If the City makes changes or alterations that render useless any work already done or material already used in said work, then the City shall compensate the Contractor for any material or labor so used, and for any actual loss occasioned by such change due to actual expenses incurred in preparation for the work as originally planned, in accordance with the provisions of Article 17.

29. SURETY

29.01. If the Contractor has abandoned the Project or the City has terminated the contract for cause and the Contractor's Surety, after notice demanding completion is sent, fails to commence the completion of the work

in compliance with this Agreement, then the City at its option may provide for completion of the work in either of the following manners:

29.01.01. The City may employ such force of men and use of instruments, machinery, equipment, tools, materials, and supplies as said the City may deem necessary to complete the work and charge the expense of such labor, machinery, equipment, tools, materials, and supplies to said the Contractor, and the expense so charged shall be deducted and paid by the City out of such monies as may be due or that may thereafter at any time become due to the Contractor and Surety.

29.01.02. The City may, after notice published as required by law, accept sealed bids and let this Agreement for the completion of the work under substantially the same terms and conditions that are provided in this Agreement. In case of any increase in cost to the City under the new agreement as compared to what would have been the cost under this Agreement, such increase together with all of the City's damages due to Contractor's abandonment and/or default, including liquidated damages, as provided pursuant to Paragraph 38, entitled "TERMINATION FOR CAUSE" shall be charged to the Contractor and the surety shall be and remain bound therefor. However, should the cost to complete such new agreement prove to be less than that which would have been the cost to complete the work under this Agreement, the Contractor shall be credited therewith after all deductions are made in accordance with this Agreement.

29.02. Should the cost to complete the work exceed the Contract Amount and the Contractor fails to pay the amount due to the City within the time designated and there remains any machinery, equipment, tools, materials, or supplies on the site of the work, notice thereof, together with an itemized list of such equipment and materials, shall be mailed to the Contractor at its respective address designated in this Agreement; provided, however, that actual written notice given in any manner shall satisfy this condition. After mailing, or otherwise giving such notice, such property shall be held at the risk of the Contractor subject only to the duty of City's Representative to exercise ordinary care to protect such property. After fifteen (15) calendar days from the date of said notice, City's Representative may sell such machinery, equipment, tools, materials, or supplies and apply the net sum derived from such sale to the credit of the Contractor. Such sale may be made at either public or private sale, with or without notice, as City's Representative may elect. City's Representative shall release any machinery, equipment, tools, materials, or supplies which remain on the job site and belong to persons other than the Contractor to their proper owners.

29.03. In the event the account shows that the cost to complete the work is less than that which would have been the cost to City had the work been completed by the Contractor under the terms of this Agreement, or when the Contractor shall pay the balance shown to be due by them to the City, then all machinery, equipment, tools, materials, or supplies left on the site of the work shall be turned over to the Contractor.

30. COMPLIANCE WITH LAW

30.01. The Contractor's work and materials shall comply with all state and federal laws, municipal ordinances, regulations, codes, and directions of inspectors appointed by proper authorities having jurisdiction.

30.02. The Contractor shall perform and require all subcontractors to perform the work in accordance with applicable laws, codes, ordinances, and regulations of the State of Texas and the United States and in compliance with OSHA and other laws as they apply to its employees. In the event any of the conditions of the specifications violate the code for any industry, then such code conditions shall prevail.

30.03. The Contractor shall follow all applicable state and federal laws, municipal ordinances, and guidelines concerning soil erosion and sediment control throughout the Project and warranty term.

30.04 The Immigration Reform and Control Act (IRCA). The Contractor may not knowingly obtain the labor or services of an undocumented worker. The Contractor, not the City, must verify eligibility for employment as required by IRCA;

30.05 In accordance with Section 2155.4441 of the Texas Government Code, Contractor agrees that during the performance of this contract it shall purchase products and materials produced in Texas when they are available at a price and time comparable to products and materials produced outside this state;

31. SAFETY PRECAUTIONS

31.01. All safety measures, policies and precautions at the site are a part of the construction techniques and processes for which the Contractor shall be solely responsible. The Contractor is solely responsible for handling and use of hazardous materials or waste, and informing employees of any such hazardous materials or waste. The Contractor shall provide copies of all hazardous materials and waste data sheets to the Nacogdoches Fire Department marked "Attn.: Assistant Chief".

31.02. The Contractor has the sole obligation to protect or warn any individual of potential hazards created by the performance of the work set forth herein. The Contractor shall, at its own expense, take such precautionary measures for the protection of persons, property, and the work as may be necessary.

31.03. The Contractor shall be held responsible for all damages to property, personal injuries and/or death due to failure of safety devices of any type or nature that may be required to protect or warn any individual of potential hazards created by the performance of the work set forth herein; and when any property damage is incurred, the damaged portion shall immediately be replaced or compensated for by the Contractor at its own cost and expense.

31.04. Contractor agrees that it shall not transport to, use, generate, dispose of, or install at the Project site any Hazardous Substance (as defined in Paragraph 31.07, except in accordance with applicable Environmental Laws. Further, in performing the Work, Contractor shall not cause any release of Hazardous Substances into, or contamination of, the environment, including the soil, the atmosphere, any water course or ground water, except in accordance with applicable Environmental Laws (as hereafter defined at Paragraph 31.07). **In the event Contractor engages in any of the activities prohibited in this Paragraph 31.04 to the fullest extent permitted by law, Contractor hereby indemnifies and holds City and all of its respective officials, agents and employees harmless from and against any and all claims, damages, losses, causes of action, suits and liabilities of every kind, including, but not limited to, expenses of litigation, court costs, punitive damages and attorneys' fees, arising out of, incidental to or resulting from the activities prohibited in this Paragraph 31.04.**

31.05. In the event Contractor encounters on the Project site any Hazardous Substance, or what Contractor may reasonably believe to be a Hazardous Substance, and which is being introduced to the Work, or exists on the Project site, in a manner violative of any applicable Environmental Laws, Contractor shall immediately stop work in the area affected and report the condition to City in writing. The Work in the affected area shall not thereafter be resumed except by written authorization of City if in fact a Hazardous Substance has been encountered and has not been rendered harmless. In the event Contractor fails to stop the Work upon

encountering a Hazardous Substance at the Project site, **to the fullest extent permitted by law, Contractor hereby indemnifies and holds City and all of its officials, agents and employees harmless from and against any and all claims, damages, losses, causes of action, suits and liabilities of every kind, including, but not limited to, expenses of litigation, court costs, punitive damages and attorneys' fees, arising out of, incidental to or resulting from Contractor's failure to stop the Work.**

31.06. City and Contractor may enter into a separate agreement and/or Change Order for Contractor to remediate and/or render harmless the Hazardous Substance, but Contractor shall not be required to remediate and/or render harmless the Hazardous Substance absent such agreement. Contractor shall not be required to resume work in any area affected by the Hazardous Substance until such time as the Hazardous Substance has been remediated and/or rendered harmless.

31.07. For purposes of this Agreement, the term "Hazardous Substance" shall mean and include any element, constituent, chemical, substance, compound, or mixture, which are defined as a hazardous substance by any local, state or federal law, rule, ordinance, by-law, or regulation pertaining to environmental regulation, contamination, clean-up or disclosure, including, without limitation, The Comprehensive Environmental Response, Compensation and Liability Act of 1980 ("CERCLA"), The Resource Conservation and Recovery Act ("RCRA"), The Toxic Substances Control Act ("TSCA"), The Clean Water Act ("CWA"), The Clean Air Act ("CAA"), and the Marine Protection Research and Sanctuaries Act ("MPRSA"), The Occupational Safety and Health Act ("OSHA"), The Superfund Amendments and Reauthorization Act of 1986 ("SARA"), or other state superlien or environmental clean-up or disclosure statutes including all state and local counterparts of such laws (all such laws, rules and regulations being referred to collectively as "Environmental Laws"). It is the Contractor's responsibility to comply with this Paragraph 31.07 based on the law in effect at the time its services are rendered and to comply with any amendments to those laws for all services rendered after the effective date of any such amendments.

32. TRENCH SAFETY

The Contractor must comply with Texas law regarding trench excavation exceeding five feet in depth and in accordance with the following items:

32.01 The Contractor must comply with the requirements of Tex. Health & Safety Code Ann. §756.022-023 (Vernon 1992), as amended, and the requirements of 29 C.F.R., Sections 1926.650 through 1926.653 inclusive, "Excavation, Trenching and Shoring," of the Occupational Safety and Health Administration Standards, as amended.

32.02 The Contractor must include a separate pay item for trench safety complying with trench safety requirements, stating a unit price per linear foot of trench safety systems, as measured along the centerline of trench including manholes and other line structures.

32.03 Before beginning work on this project, the Contractor must submit to the City a complete trench safety program that complies with state and federal regulations. It is the sole duty, responsibility and prerogative of the Contractor, not the City, to determine the specific applicability of the designed trench safety systems to each field condition encountered on the project.

32.04 The Contractor must provide the City the name of the "competent person" required by OSHA standards to perform the trench safety inspections. The Contractor must make daily inspections to ensure

that the systems comply with all applicable laws and regulations, and must maintain a permanent record of daily inspections available for examination by the City or other government authority.

32.05 If evidence of possible cave-ins or slides is apparent, the Contractor must cease all work in the trench and surrounding area until the necessary precautions have been taken by the Contractor to safeguard personnel entering the trench.

33. INDEMNITY

33.01. CONTRACTOR SHALL PROTECT, DEFEND, HOLD HARMLESS AND INDEMNIFY THE CITY AND/OR ITS OFFICERS, AGENTS, EMPLOYEES, REPRESENTATIVES, CONTRACTORS, ASSIGNEES, AND OR/OR DESIGNEES FROM ANY AND ALL CLAIMS, DEMANDS, EXPENSES, LIABILITY, SUITS OR CAUSES OF ACTION, AND ALL RELATED COSTS, ATTORNEY FEES, AND EXPENSES FOR INJURY TO ANY PERSON, INCLUDING DEATH, AND FOR DAMAGE TO ANY PROPERTY, TANGIBLE OR INTANGIBLE, OR FOR ANY BREACH OF CONTRACT ARISING OUT OF OR IN ANY MANNER CONNECTED WITH THE WORK DONE BY ANY PERSON UNDER THIS CONTRACT. IT IS THE INTENT OF THE PARTIES THAT THIS PROVISION SHALL EXTEND TO, AND INCLUDE, ANY AND ALL CLAIMS, CAUSES OF ACTION OR LIABILITY CAUSED BY THE CONCURRENT, JOINT AND/OR CONTRIBUTORY NEGLIGENCE OF THE CITY, AN ALLEGED BREACH OF AN EXPRESS OR IMPLIED WARRANTY BY THE CITY OR WHICH ARISES OUT OF ANY THEORY OF STRICT OR PRODUCTS LIABILITY.

33.02 The defense of any claim shall be coordinated by Contractor with the City Attorney of the City of Nacogdoches, Texas when the City is named Defendant in any lawsuit and Contractor may not agree to any settlement without first obtaining the concurrence from the City Attorney. The Parties agree to furnish timely written notice to each other of any such claim.

33.03. The indemnifications contained in paragraphs 33.01 shall include but not be limited to the following specific instances:

(a) In the event the City is damaged due to the act, omission, mistake, fault or default of the Contractor, then the Contractor shall indemnify and hold harmless and defend the City for such damage.

(b) The Contractor shall indemnify and hold harmless and defend the City from any claims for payment for goods or services brought by any material suppliers, mechanics, laborers, or other subcontractors.

(c) The Contractor shall indemnify and hold harmless and defend the City from any and all injuries to or claims of adjacent property owners caused by the Contractor, its agents, employees, and representatives.

(d) The Contractor shall be responsible for any damage to the floor, walls, etc., caused by the Contractor's personnel or equipment during installation.

- (e) The Contractor shall also be responsible for the removal of all related debris.
- (f) The Contractor shall also be responsible for subcontractors hired by it.
- (g) The Contractor shall indemnify, hold harmless, and defend the City from any liability caused by the Contractor's failure to comply with applicable federal, state, or local regulations, that touch upon or concern the maintenance of a safe and protected working environment and the safe use and operation of machinery and equipment in that working environment, no matter where fault or responsibility lies.

33.04. The indemnification obligations of the Contractor under this section shall not extend to include the liability of any professional engineer, the architect, their consultants, and agents or employees of any of them arising out of (1) the preparation or approval of maps, drawings, opinions, reports, surveys, Change Orders, designs or specifications, or (2) the giving of or the failure to give directions or instructions by the professional engineer, the architect, their consultants, and agents and employees of any of them, provided such giving or failure to give is the primary cause of the injury or damage.

33.05. It is agreed with respect to any legal limitations now or hereafter in effect and affecting the validity or enforceability of the indemnification obligation under Paragraph 33.01, such legal limitations are made a part of the indemnification obligation and shall operate to amend the indemnification obligation to the minimum extent necessary to bring the provision into conformity with the requirements of such limitations, and as so modified, the indemnification obligation shall continue in full force and effect.

34. RELEASE

The Contractor assumes full responsibility for the work to be performed hereunder, and hereby releases, relinquishes, and discharges the City, its officers, agents, and employees from all claims, demands, and causes of action of every kind and character, including the cost of defense thereof, for any injury to or death of any person (whether employees of either party or other third parties) and any loss of or damage to any property (whether property of either of the parties hereto, their employees, or of third parties) that is caused by or alleged to be caused by, arising out of, or in connection with the Contractor's work to be performed hereunder. This release shall apply regardless of whether said claims, demands, and causes of action are covered in whole or in part by insurance, and in the event of injury, death, property damage, or loss suffered by the Contractor, any subcontractor, or any person or organization directly or indirectly employed by any of them to perform or furnish work on the Project, this release shall apply regardless of whether such injury, death, loss, or damage was caused in whole or in part by the negligence of the City.

35. PERMITS AND LICENSES

The Contractor shall secure and pay for all necessary permits and licenses, governmental fees, and inspections necessary for the proper execution and completion of the work. During this Agreement term and/or period during which the Contractor is working, it shall give all notices and comply with all laws, ordinances, rules, regulations, and lawful orders of any public authority bearing on the performance of the work.

36. ROYALTIES AND LICENSING FEES

The Contractor shall pay all royalties and licensing fees. The Contractor shall hold the City harmless and indemnify the City from the payment of any royalties, damages, losses or expenses including attorney's fees for suits, claims or otherwise, growing out of infringement or alleged infringement of patents, materials and methods used in the Project. It shall defend all suits or claims for infringement of any patent rights. Further, if the Contractor has reason to believe that the design, service, process, or product specified is an infringement of a patent, it shall promptly give such information to City's Representative.

37. BREACH OF CONTRACT & DAMAGES

37.01. The City shall have the right to declare the Contractor in breach of this Agreement for cause when the City determines that this Agreement is not being performed according to its understanding of the intent and meaning of this Agreement. Such breach shall not in any way invalidate, abrogate, or terminate the Contractor's obligations under this Agreement.

37.02. Without prejudice to any other legal or equitable right or remedy that the City would otherwise possess hereunder or as a matter of law, the City upon giving the Contractor five (5) calendar days prior written notice shall be entitled to damages for breach of contract, upon but not limited to the following occurrences:

- (a) If the Contractor shall fail to remedy any default after written notice thereof from City's Representative, as City's Representative shall direct; or
- (b) If the Contractor shall fail for any reason other than the failure by City's Representative to make payments called upon when due; or
- (c) If the Contractor commits a substantial default under any of the terms, provisions, conditions, or covenants contained in this Agreement.

38. TERMINATION FOR CAUSE

Without prejudice to any other legal or equitable right or remedy that the City would otherwise possess hereunder or as a matter of law, the City upon giving the Contractor five (5) calendar days prior written notice shall be entitled to terminate this Agreement in its entirety at any time for any of the following:

38.01. If the Contractor becomes insolvent, commits any act of bankruptcy, makes a general assignment for the benefit of creditors, or becomes the subject of any proceeding commenced under any statute or law for the relief of debtors and, after notice, fails to provide adequate assurance that it can remedy all of its defaults; or

38.02. If a receiver, trustee, or liquidator of any of the property or income of the Contractor shall be appointed; or

38.03. If the Contractor shall fail to prosecute the work or any part thereof with diligence necessary to insure its progress and completion as prescribed by the time schedules; or

38.04. If the Contractor shall fail to remedy any default within ten (10) calendar days after written notice thereof from City's Representative, as City's Representative shall direct; or

38.05. If the Contractor shall fail for any reason other than the failure by City's Representative to make payments called upon when due; or

38.06. If the Contractor abandons the Work.

38.07. If the Contractor commits a substantial default under any of the terms, provisions, conditions, or covenants contained in this Agreement.

39. TERMINATION FOR CONVENIENCE

39.01. The performance of the work may be terminated at any time in whole or, from time to time, in part, by the City for its convenience. Any such termination shall be effected by delivery to the Contractor of a written notice (notice of termination) specifying the extent to which performance of the work is terminated, and the date upon which termination becomes effective.

39.02. In the event of termination for convenience, the Contractor shall only be paid the reasonable value of the Work performed prior to the effective date of the termination notice and shall be further subject to any claim the City may have against the Contractor under other provisions of this Agreement or as a matter of law. In the event of termination for convenience, Contractor Waives and Releases any claim for lost profit, other than profit on Work performed prior to the effective date of such termination.

40. RIGHT TO COMPLETE

If this Agreement is terminated for cause, the City shall have the right but shall not be obligated to complete the work itself or by others; and to this end, the City shall be entitled to take possession of and use such equipment, without rental obligation therefor, and materials as may be on the job site, and to exercise all rights, options, and privileges of the Contractor under its subcontracts, purchase orders, or otherwise; and the Contractor shall promptly assign such rights, options, and privileges to City. If the City elects to complete the work itself or by others, pursuant to the foregoing, then the Contractor and/or Contractor's surety will reimburse City for all costs incurred by the City (including, without limitation, applicable, general, administrative expenses, field overhead, the cost of necessary equipment, materials, field labor, additional fees paid to architects, engineers, attorneys or others to assist the City in connection with the termination and liquidated damages) in completing and/or correcting work by the Contractor that fails to meet any requirement of this Agreement or the other Contract Documents.

41. CLOSE OUT

41.01. After receipt of a notice of termination, whether for cause or convenience, unless otherwise directed by City's Representative, the Contractor shall, in good faith and to the best of its ability, do all things necessary in the light of such notice to assure the efficient and proper closeout of the terminated work (including the protection of City's property). Among other things, the Contractor shall, except as otherwise directed or approved by City's Representative, do the following:

- (a) Stop the work on the date and to the extent specified in the notice of termination;
- (b) Place no further orders or subcontracts for services, equipment, or materials, except as may be necessary for completion of such portion of the work as is not terminated;

(c) Terminate all orders and subcontracts to the extent that they relate to the performance of the work terminated by the notice of termination;

(d) Assign to City's Representative, in the manner and to the extent directed by it, all of the right, title, and interest of the Contractor under the orders or subcontracts so terminated; in which case, City's Representative shall have the right to settle or pay any or all claims arising out of the termination of such orders and subcontracts;

(e) With the approval of City's Representative, settle all outstanding liabilities and all claims arising out of such termination, orders, and subcontracts;

(f) Deliver to City's Representative, when directed by City's Representative, all documents and all property, which if the work had been completed, Contractor would have been required to account for or deliver to City's Representative, and transfer title to such property to City's Representative to the extent not already transferred.

42. TERMINATION CONVERSION

Upon determination of Court of competent jurisdiction that termination of the Contractor pursuant to Paragraph 38 was wrongful and/or otherwise improper, such termination will be deemed converted to a termination for convenience pursuant to Paragraph 39 and Contractor's remedy for such termination shall be limited to the recovery of the payments permitted for termination for convenience as set forth in Paragraph 39.

43. HIRING

During the term of this Agreement and for a period of one (1) year thereafter, the Contractor agrees not to solicit for hire any employee or employees of the City that were associated with work specified under this Agreement. In the event that this provision is breached by the Contractor, the Contractor agrees to pay the City damages in the amount equal to twelve (12) months of the employee's total compensation plus any legal expenses associated with enforcement of this provision.

44. ASSIGNMENT

This Agreement and the rights and obligations contained herein may not be assigned by the Contractor without the prior written approval of the City.

45. EFFECTIVE DATE

The effective date of this contract shall be the date of award of the contract.

46. OTHER TERMS

46.01. **Invalidity.** If any provision of this Agreement shall be held to be invalid, illegal or unenforceable by a court or other tribunal of competent jurisdiction, the validity, legality, and enforceability of the remaining provisions shall not in any way be affected or impaired thereby. The parties shall use their best efforts to

replace the respective provision or provisions of this Agreement with legal terms and conditions approximating the original intent of the parties.

46.02. **Written Notice.** Unless otherwise specified, written notice shall be deemed to have been duly served if delivered in person to the individual or to a member of the firm or to any officer of the corporation for whom it is intended or if it is delivered or sent certified mail to the last business address as listed herein. Each party will have the right to change its business address by at least thirty (30) calendar days written notice to the other parties in writing of such change.

46.03. **Entire Agreement.** It is understood that this Agreement contains the entire agreement between the parties and supersedes any and all prior agreements, arrangements, or understandings between the parties relating to the subject matter. No oral understandings, statements, promises or inducements contrary to the terms of this Agreement exist. This Agreement cannot be changed or terminated orally. No verbal agreement or conversation with any officer, agent or employee of the City, either before or after the execution of this Agreement, shall affect or modify any of the terms or obligations hereunder.

46.04. **Amendment.** No amendment to this Agreement shall be effective and binding unless and until it is reduced to writing and signed by duly authorized representatives of both parties.

46.05. **Mediation.** After receipt of a Notice of Claim, the City may elect to refer the matter to the Architect, City's Representative or another party for review. Contractor will attend meetings called to review and discuss the Claims and mitigation of the problem, and shall furnish any reasonable factual backup for the Claim requested. The City may also elect to defer consideration of the Claim until the Work is completed, in which case the same review options shall be available to the City at the completion of the Work. At any stage, the City, at its sole discretion, is entitled to refer a Claim to mediation under the Construction Industry Mediation Rules of the American Arbitration Association, and, if this referral is made, Contractor will take part in the mediation process. The filing, mediation or rejection of a Claim does not entitle Contractor to stop performance of the Work. The Contractor shall proceed diligently with performance of the Contract during the pendency of any claim, excepting termination or under City's direction to stop the Work. Agreements reached in mediation shall be enforceable as settlement agreements in any court having jurisdiction thereof. The parties shall share the Mediator's fee and any filing fees equally and the Mediation shall be held in Nagadoches, Texas.

46.06. **Arbitration.** In the event of a dispute and upon the mutual written consent of both parties, the parties may agree to arbitration without waiving any of their other rights hereunder.

46.07. **Choice of Law and Place of Performance.** This Agreement has been made under and shall be governed by the laws of the State of Texas. Performance and all matters related thereto shall be in Nagadoches County, Texas, United States of America.

46.08. **Authority to do business.** The Contractor represents that it has a certificate of authority, authorizing it to do business in the State of Texas, a registered agent and registered office during the duration of this contract.

46.09. **Authority to Contract.** Each party has the full power and authority to enter into and perform this Agreement, and the person signing this Agreement on behalf of each party has been properly authorized and empowered to enter into this Agreement. The persons executing this Agreement hereby represent that they have authorization to sign on behalf of their respective corporations.

46.10. Contractor Affirmations: If this contract is funded in whole or in part by money from the State of Texas, State law requires the following certifications, representations and/or warranties. Regardless of funding by the State, by signature hereon affixed, the Contractor hereby certifies that:

- (a) Contractor has not given, offered to give, nor intends to give at any time hereafter any economic opportunity, future employment, gift, loan, gratuity, special discount, trip, favor, or service to a public servant in connection with this Contract
- (b) Contractor represents and warrants that it has no actual or potential conflicts of interest in the goods and or services described in the scope of work to this contract.
- (c) **Antitrust.** Pursuant to 15 U.S.C. §1, et seq. and Tex. Bus. & Comm. Code §15.01, et seq. neither the contractor nor the firm, corporation, partnership, or institution represented by the contractor, or anyone acting for such a firm, corporation or institution has violated the antitrust laws of this state, federal antitrust laws, nor communicated directly or indirectly the bid made to any competitor or any other person engaged in such line of business.
- (d) **Child Support.** Pursuant to §231.006(d), Texas Family Code, regarding child support, the Contractor certifies that the individual or business entity named in this Contract is not ineligible to receive the specified payment and acknowledges that the contract may be terminated, and payment may be withheld if this certification is inaccurate. Furthermore, any Contractor subject to §231.006, Gov't Code, must include names and Social Security numbers of each person with at least 25% ownership of the business entity submitting the bid. This information must be provided prior to award. Enter the Name & Social Security Numbers for each person below:

Name:	Social Security Number:
Name:	Social Security Number:
Name:	Social Security Number:

- (e) **Debarment.** Contractor certifies that Contractor and its principals are eligible to participate in this transaction and have not been subjected to suspension, debarment, or similar ineligibility determined by any federal, state or local governmental entity and that Contractor is in compliance with the State of Texas statutes and rules relating to procurement. Entities ineligible for state procurement are listed on the State of Texas Debarred Vendor List maintained by the Texas Comptroller of Public Accounts and the System for Award Management (SAM) maintained by the General Services Administration. Entities ineligible for federal procurement are listed at <http://www.sam.gov/content/exclusions>.
- (f) **Terrorism Watch List.** Contractor represents and warrants that it does not do business with Iran, Sudan or a foreign terrorist organization as prohibited by Texas Government Code 2252.152. Contractor certifies that it is not listed on the federal government's terrorism watch list as described in Executive Order 13224.
- (g) **Critical Infrastructure.** If Contractor will be granted direct or indirect access to a communication infrastructure system, cybersecurity system, electric grid, hazardous waste treatment system, or water treatment facility, Contractor certifies that neither it or its parent company, is (1) majority owned by

citizens or governmental entities of China, North Korea, Russia or any other country designated by the Governor under Government Code 2274.0103, or (2) headquartered in any of those countries.

- (h) **Convictions.** Under Sections 2155.006, 23155.0061 and 2261.053 of the Texas Government Code, Contractor certifies that it is not ineligible to receive the specified contract and may be terminated and payment withheld if this certification is inaccurate. These sections prohibit contracts that include proposed financial participation by an individual or business entity who has been convicted in the past five years of (a) violating a federal law or assessed a penalty in connection with a contract involving relief for Hurricane Rita, Hurricane Katrina, or any other disaster, as defined by §418.004, Gov't Code, occurring after September 24, 2005; and (b) of any offense related to the direct support or promotion of human trafficking.
- (i) **COVID Vaccinations.** Contractor certifies that it does not require its customers to provide any documentation certifying the Customer's COVID-19 vaccination or post-transmission recovery on entry to, or to receive service from the Contractor's business.
- (j) **Boycotts.** (1) To the extent this Contract is considered a Contract for goods or services subject to § 2270.002 Texas Government Code, Contractor verifies that it: (i) does not boycott Israel; and (ii) will not boycott Israel during the term of this Contract. (2) To the extent this Contract has a value of \$100,000 or more and Contractor is an organization, association, corporation, partnership, joint venture, limited partnership, limited liability partnership, or limited liability company, including a wholly owned subsidiary, majority-owned subsidiary, parent company, or affiliate of those entities or business associations, that exists to make a profit that employs 10 or more full time employees, Contractor certifies that it: (i) does not and will not boycott energy companies during the term of the contract (*See Texas Government Code 2274.002, et seq.*); and (ii) does not and will not discriminate against a firearm entity or firearm trade association (*See Texas Government Code 2274.002, et seq.*).

46.11. **Waiver.** Failure of any party, at any time, to enforce a provision of this Agreement shall in no way constitute a waiver of that provision nor in any way affect the validity of this Agreement, any part hereof, or the right of the City thereafter to enforce each and every provision hereof. No term of this Agreement shall be deemed waived or breach excused unless the waiver shall be in writing and signed by the party claimed to have waived. Furthermore, any consent to or waiver of a breach will not constitute consent to or waiver of or excuse of any other different or subsequent breach.

46.12. **Headings, Gender, Number.** The article headings are used in this Agreement for convenience and reference purposes only and are not intended to define, limit, or describe the scope or intent of any provision of this Agreement and shall have no meaning or effect upon its interpretation. Words of any gender used in this Agreement shall be held and construed to include any other gender, and words in the singular number shall be held to include the plural, and vice versa, unless the context requires otherwise.

46.13. **Agreement Read.** The parties acknowledge that they have had opportunity to consult with counsel of their choice, have read, understand and intend to be bound by the terms and conditions of this Agreement.

46.14. **Multiple Originals.** It is understood and agreed that this Agreement may be executed in a number of identical counterparts, each of which shall be deemed an original for all purposes.

46.15. **Notice of Indemnification.** City and Contractor hereby acknowledge and agree that this Agreement contains certain indemnification obligations and covenants.

DUPLICHAİN CONTRACTORS, LLC

By: _____
Printed Name: _____
Title: _____
Date: _____

CITY OF NACOGDOCHES

By: _____
City Manager
Date: _____

APPROVED AS TO FORM:

City Attorney
Date: _____

Exhibit A
DAVIS BACON WAGE RATES

General Decision Number: TX20250084 01/03/2025

Superseded General Decision Number: TX20240084

State: Texas

Construction Type: Heavy

Counties: Cass, Cherokee, Erath, Fannin, Franklin, Hood, Hopkins, Marion, Montague, Morris, Nacogdoches, Navarro, Palo Pinto, Panola, Rains, Red River, Somervell, Titus, Van Zandt and Wood Counties in Texas.

HEAVY CONSTRUCTION PROJECTS

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)(1).

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 \$17.75 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 2025.
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 \$13.30 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 2025.

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 <http://www.dol.gov/whd/govcontracts>.

Modification Number	Publication Date
0	01/03/2025

SUTX2009-129 04/21/2009

	Rates	Fringes
CEMENT MASON/CONCRETE FINISHER...	\$ 13.00 **	0.00
LABORER: Common or General.....	\$ 8.61 **	0.00
LABORER: Pipelayer.....	\$ 9.94 **	0.00
OPERATOR: Backhoe/Trackhoe.....	\$ 11.75 **	0.00
OPERATOR: Bulldozer.....	\$ 14.25 **	0.00
OPERATOR: Loader (Front End)....	\$ 11.52 **	0.00
TRUCK DRIVER.....	\$ 10.80 **	0.26

WELDERS - Receive rate prescribed for craft performing operation to which welding is incidental.

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** Workers in this classification may be entitled to a higher minimum wage under Executive Order 14026 (\$17.75) or 13658 (\$13.30). Please see the Note at the top of the wage determination for more information. Please also note that the minimum wage requirements of Executive Order 14026 are not currently being enforced as to any contract or subcontract to which the states of Texas, Louisiana, or Mississippi, including their agencies, are a party.

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 <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) (iii)).

The body of each wage determination lists the classifications and wage rates that have been found to be prevailing for the type(s) of construction and geographic area covered by the wage determination. The classifications are listed in alphabetical order under rate identifiers indicating whether the particular rate is a union rate (current union negotiated rate), a survey rate, a weighted union average rate, a state adopted rate, or a supplemental classification rate.

Union Rate Identifiers

A four-letter identifier beginning with characters other than "SU", "UAVG", "SA?", or "SC?" denotes that a union rate was prevailing for that classification in the survey. Example: PLUM0198-005 07/01/2024. PLUM is an identifier of the union whose collectively bargained rate 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. The date, 07/01/2024 in the example, is the effective date of the most current negotiated rate.

Union prevailing wage rates are updated to reflect all changes

over time that are reported to WHD in the rates in the collective bargaining agreement (CBA) governing the classification.

Union Average Rate Identifiers

The UAVG identifier indicates that no single rate prevailed for those classifications, but that 100% of the data reported for the classifications reflected union rates. EXAMPLE: UAVG-OH-0010 01/01/2024. UAVG indicates that the rate is a weighted union average rate. OH indicates the State of Ohio. The next number, 0010 in the example, is an internal number used in producing the wage determination. The date, 01/01/2024 in the example, indicates the date the wage determination was updated to reflect the most current union average rate.

A UAVG rate will be updated once a year, usually in January, to reflect a weighted average of the current rates in the collective bargaining agreements on which the rate is based.

Survey Rate Identifiers

The "SU" identifier indicates that either a single non-union rate prevailed (as defined in 29 CFR 1.2) for this classification in the survey or that the rate was derived by computing a weighted average rate based on all the rates reported in the survey for that classification. As a weighted average rate includes all rates reported in the survey, it may include both union and non-union rates. Example: SUFL2022-007 6/27/2024. SU indicates the rate is a single non-union prevailing rate or a weighted average of survey data for that classification. FL indicates the State of Florida. 2022 is the year of the 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. The date, 6/27/2024 in the example, indicates the survey completion date for the classifications and rates under that identifier.

?SU? wage rates typically remain in effect until a new survey is conducted. However, the Wage and Hour Division (WHD) has the discretion to update such rates under 29 CFR 1.6(c)(1).

State Adopted Rate Identifiers

The "SA" identifier indicates that the classifications and prevailing wage rates set by a state (or local) government were adopted under 29 C.F.R 1.3(g)-(h). Example: SAME2023-007 01/03/2024. SA reflects that the rates are state adopted. ME refers to the State of Maine. 2023 is the year during which the state completed the survey on which the listed classifications and rates are based. The next number, 007 in the example, is an internal number used in producing the wage determination.

The date, 01/03/2024 in the example, reflects the date on which the classifications and rates under the ?SA? identifier took effect under state law in the state from which the rates were adopted.

WAGE DETERMINATION APPEALS PROCESS

1) Has there been an initial decision in the matter? This can be:

- a) a survey underlying a wage determination
- b) an existing published wage determination
- c) an initial WHD letter setting forth a position on a wage determination matter
- d) an initial conformance (additional classification and rate) determination

On survey related matters, initial contact, including requests for summaries of surveys, should be directed to the WHD Branch of Wage Surveys. Requests can be submitted via email to davisbaconinfo@dol.gov or by mail to:

Branch of Wage Surveys
Wage and Hour Division
U.S. Department of Labor
200 Constitution Avenue, N.W.
Washington, DC 20210

Regarding any other wage determination matter such as conformance decisions, requests for initial decisions should be directed to the WHD Branch of Construction Wage Determinations. Requests can be submitted via email to BCWD-Office@dol.gov or by mail 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 an initial decision has been issued, then any interested party (those affected by the action) that disagrees with the decision can request review and reconsideration from the Wage and Hour Administrator (See 29 CFR Part 1.8 and 29 CFR Part 7). Requests for review and reconsideration can be submitted via email to dba.reconsideration@dol.gov or by mail 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 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.

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END OF GENERAL DECISION

Exhibit B
INSURANCE REQUIREMENTS

During the term of this Agreement Contractor's insurance policies shall meet the following requirements:

I. Standard Insurance Policies Required:

- A. Commercial General Liability
- B. Business Automobile Liability
- C. Umbrella / Excess Liability – required for contract amounts exceeding \$1,000,000
- D. Workers' Compensation
- E. Builder's Risk – provides coverage for contractor's labor and materials for a project during construction that involves a structure such as a building or garage. builder's risk policy shall be written on "all risks" form.

II. General Requirements Applicable to All Policies:

- A. Only Insurance Carriers licensed and admitted to do business in the State of Texas will be accepted.
- B. Deductibles shall be listed on the Certificate of Insurance and are acceptable only on a per occurrence basis for property damage only.
- C. "Claims Made" policies are not accepted.
- D. Each insurance policy shall be endorsed to state that coverage shall not be suspended, voided, canceled, reduced in coverage or in limits except after thirty (30) days prior written notice by certified mail, return receipt requested, has been given to the City of Nacogdoches.
- E. Upon request, certified copies of all insurance policies shall be furnished to the City of Nacogdoches.
- F. The City of Nacogdoches, its officials, employees and volunteers, are to be named as "Additional Insured" to the Commercial General, Umbrella and Business Automobile Liability policies. The coverage shall contain no special limitations on the scope of protection afforded to the City, its officials, employees or volunteers.
- G. Waiver of subrogation in a form at least as broad as ISO form 2404 shall be provided in favor of the City on all policies obtained by the Contractor in compliance with the terms of this Agreement.

III. Commercial General Liability

- A. General Liability insurance shall be written by a carrier with a "A:VIII" or better rating in accordance with the current Best Key Rating Guide.
- B. Limit of \$500,000.00 per occurrence for bodily injury and property damage with an annual

aggregate limit of \$1,000,000.00 which limits shall be endorsed to be per Project.

- C. Coverage shall be at least as broad as ISO form GC 00 01.
- D. No coverage shall be excluded from the standard policy without notification of individual exclusions being attached for review and acceptance.
- E. The coverage shall include but not be limited to the following: premises/operations with separate aggregate; independent contracts; products/completed operations; contractual liability (insuring the indemnity provided herein) Host Liquor Liability, Personal & Advertising Liability; and Explosion, Collapse, and Underground coverage.

IV. Business Automobile Liability

- A. Business Automobile Liability insurance shall be written by a carrier with a “A:VIII” or better rating in accordance with the current Best Key Rating Guide.
- B. Minimum Combined Single Limit of \$1,000,000.00 per occurrence for bodily injury and property damage.
- C. Coverage shall be at least as broad as Insurance Service’s Office Number CA 00 01.
- D. The Business Auto Policy must show Symbol 1 in the Covered Autos Portion of the liability section in Item 2 of the declarations page.
- E. The coverage shall include owned autos, leased or rented autos, non-owned autos, any autos and hired autos.
- F. Pollution Liability coverage shall be provided by endorsement MCS-90, with a limit of \$1,000,000.00.

V. Excess Liability

Umbrella form excess liability coverage following the form of the underlying coverage with a minimum limit of \$5,000,000.00 or the total value of the contract, whichever is greater, per occurrence/aggregate when combined with the lowest primary liability coverage, is required for contracts exceeding \$1,000,000 in total value.

- VI. Those policies set forth in Paragraphs III, IV, and V shall contain an endorsement naming the City as Additional Insured and further providing that the Contractor’s policies are primary to any self-insurance or insurance policies procured by the City. The additional insured endorsement shall be in a form at least as broad as ISO form GC 2026. Waiver of subrogation in a form at least as broad as ISO form 2404 shall be provided in favor of the City on all policies obtained by the Contractor in compliance with the terms of this Agreement. Contractor shall be responsible for all deductibles which may exist on any policies obtained in compliance with the terms of this Agreement. All coverage for subcontractors shall be subject to the requirements stated herein. All Certificates of Insurance and endorsements shall be

furnished to the City's Representative at the time of execution of this Agreement, attached hereto as Exhibit D, and approved by the City before work commences.

VII. Workers Compensation Insurance

- A. Pursuant to the requirements set forth in Title 28, Section 110.110 of the Texas Administrative Code, all employees of the Contractor, all employees of any and all subcontractors, and all other persons providing services on the Project must be covered by a workers compensation insurance policy: either directly through their employer's policy (the Contractor's or subcontractor's policy) or through an executed coverage agreement on an approved Texas Department of Insurance Division of Workers Compensation (DWC) form. Accordingly, if a subcontractor does not have his or her own policy and a coverage agreement is used, contractors and subcontractors must use that portion of the form whereby the hiring contractor agrees to provide coverage to the employees of the subcontractor. The portion of the form that would otherwise allow them not to provide coverage for the employees of an independent contractor may not be used.
- B. Workers compensation insurance shall include the following terms:
1. Employer's Liability minimum limits of \$1,000,000.00 for each accident/each disease/each employee are required.
 2. "Texas Waiver of Our Right to Recover From Others Endorsement, WC 42 03 04" shall be included in this policy.
 3. Texas must appear in Item 3A of the Workers Compensation coverage or Item 3C must contain the following: All States except those listed in Item 3A and the States of NV, ND, OH, WA, WV, and WY.
- C. Pursuant to the explicit terms of Title 28, Section 110.110(c) (7) of the Texas Administrative Code, the bid specifications, this Agreement, and all subcontracts on this Project must include the following terms and conditions in the following language, without any additional words or changes, except those required to accommodate the specific document in which they are contained or to impose stricter standards of documentation:

"A. Definitions:

Certificate of coverage ("certificate") – An original certificate of insurance, a certificate of authority to self-insure issued by the Division of Workers Compensation, or a coverage agreement (DWC-81, DWC-83, or DWC-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.

Duration of the 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.

Persons providing services on the project ("subcontractors" in § 406.096 [of the Texas Labor Code]) - 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. The Contractor shall provide coverage, based on proper reporting of classification codes and payroll amounts and filing of any coverage agreements, that meets the statutory requirements of Texas Labor Code, Section 401.011(44) for all employees of the Contractor providing services on the project, for the duration of the project.*
- C. The Contractor must provide a certificate of coverage to the governmental entity prior to being awarded the contract.*
- D. If the coverage period shown on the Contractor's current certificate of coverage ends during the duration of the project, the Contractor must, prior to the end of the coverage period, file a new certificate of coverage with the governmental entity showing that coverage has been extended.*
- E. The Contractor shall obtain from each person providing services on a project, and provide to the governmental entity:*
 - (1) a certificate of coverage, prior to that person beginning work on the project, so the governmental entity will have on file certificates of coverage showing coverage for all persons providing services on the project; and*
 - (2) no later than seven calendar days after receipt by the Contractor, a new certificate of coverage showing extension of coverage, if the coverage period shown on the current certificate of coverage ends during the duration of the project.*
- F. The Contractor shall retain all required certificates of coverage for the duration of the project and for one year thereafter.*
- G. The Contractor shall notify the governmental entity in writing by certified mail or personal delivery, within 10 calendar days after the Contractor knew or should have known, or any change that materially affects the provision of coverage of any person providing services on the project.*
- H. The Contractor shall post on each project site a notice, in the text, form and manner prescribed by the Division of Workers Compensation, informing all persons providing services on the project that they are required to be covered, and stating how a person may verify coverage and report lack of coverage.*

- I. *The Contractor shall contractually require each person with whom it contracts to provide services on a project, to:*
- (1) *provide coverage, based on proper reporting of classification codes and payroll amounts and filing of any coverage agreements, that meets the statutory requirements of Texas Labor Code, Section 401.011(44) for all of its employees providing services on the project, for the duration of the project;*
 - (2) *provide to the Contractor, prior to that person beginning work on the project, a certificate of coverage showing that coverage is being provided for all employees of the person providing services on the project, for the duration of the project;*
 - (3) *provide the Contractor, prior to the end of the coverage period, a new certificate of coverage showing extension of coverage, if the coverage period shown on the current certificate of coverage ends during the duration of the project;*
 - (4) *obtain from each other person with whom it contracts, and provide to the Contractor:*
 - (a) *A certificate of coverage, prior to the other person beginning work on the project; and*
 - (b) *A new certificate of coverage showing extension of coverage, prior to the end of the coverage period, if the coverage period shown on the current certificate of coverage ends during the duration of the project;*
 - (5) *retain all required certificates of coverage on file for the duration of the project and for one year thereafter;*
 - (6) *notify the governmental entity in writing by certified mail or personal delivery, within 10 calendar days after the person knew or should have known, of any change that materially affects the provision of coverage of any person providing services on the project; and*
 - (7) *Contractually require each person with whom it contracts to perform as required by paragraphs (a) - (g), with the certificates of coverage to be provided to the person for whom they are providing services.*
- J. *By signing this contract, or providing, or causing to be provided a certificate of coverage, the Contractor is representing to the governmental entity that all employees of the Contractor who will provide services on the project will be covered by workers' compensation coverage for the duration of the project; that the coverage will be based on proper reporting of classification codes and payroll amounts; and that all coverage agreements will be filed with the appropriate insurance carrier or, in the case of a self-insured, with the Commission's Division of Self-Insurance Regulation. Providing false or misleading information may subject the Contractor to administrative penalties, criminal penalties, civil penalties, or other civil actions.*
- K. *The Contractor's failure to comply with any of these provisions is a breach of contract by the*

Contractor that entitles the governmental entity to declare the contract void if the Contractor does not remedy the breach within ten calendar days after receipt of notice of breach from the governmental entity.”

- VIII. Certificates of Insurance shall be prepared and executed by the insurance company or its authorized agent, and shall contain the following provisions and warranties:
- A. The company is licensed and admitted to do business in the State of Texas.
 - B. The insurance policies provided by the insurance company are underwritten on forms that have been provided by the Texas State Board of Insurance or ISO.
 - C. All endorsements and insurance coverages according to requirements and instructions contained herein.
 - D. The form of the notice of cancellation, termination, or change in coverage provisions to the City of Nacogdoches.
 - E. Original endorsements affecting coverage required by this section shall be furnished with the certificates of insurance.

Exhibit C
PERFORMANCE AND PAYMENT BONDS

PERFORMANCE BOND

Project No. _____

THE STATE OF TEXAS

§
§

KNOW ALL MEN BY THESE PRESENTS:

THE COUNTY OF NACOGDOCHES

§

THAT WE, _____, as Principal, hereinafter called "Contractor" and the other subscriber hereto _____, as Surety, do hereby acknowledge ourselves to be held and firmly bound to the City of Nacogdoches, a municipal corporation, in the sum of **Two Hundred Sixty-Three Thousand Sixty and 00/100 Dollars (\$ 263,060.00)** for the payment of which sum, well and truly to be made to the City of Nacogdoches and its successors, the said Contractor and Surety do bind themselves, their heirs, executors, administrators, successors, and assigns, jointly and severally.

THE CONDITIONS OF THIS OBLIGATION ARE SUCH THAT:

WHEREAS, the Contractor has on or about this day executed a Contract in writing with the City of Nacogdoches for **Construction Services for 2025 Ridgebrook Drive Drainage Improvements Project** all of such work to be done as set out in full in said Contract Documents therein referred to and adopted by the City Council, all of which are made a part of this instrument as fully and completely as if set out in full herein.

NOW THEREFORE, if the said Contractor shall faithfully and strictly perform Contract in all its terms, provisions, and stipulations in accordance with its true meaning and effect, and in accordance with the Contract Documents referred to therein and shall comply strictly with each and every provision of the Contract, including all warranties and indemnities therein and with this bond, then this obligation shall become null and void and shall have no further force and effect; otherwise the same is to remain in full force and effect.

It is further understood and agreed that the Surety does hereby relieve the City of Nacogdoches or its representatives from the exercise of any diligence whatever in securing compliance on the part of the Contractor with the terms of the Contract, including the making of payments thereunder and, having fully considered its Principal's competence to perform the Contract in the underwriting of this Performance Bond, the Surety hereby waives any notice to it of any default, or delay by the Contractor in the performance of his Contract and agrees that it, the Surety, shall be bound to take notice of and shall be held to have knowledge of all acts or omissions of the Contractor in all matters pertaining to the Contract. The Surety understands and agrees that the provision in the Contract that the City of Nacogdoches shall retain certain amounts due the Contractor until the expiration of thirty days from the acceptance of the Work is intended for the City's benefit, and the City of Nacogdoches shall have the right to pay or withhold such retained amounts or any other amount owing under the Contract without changing or affecting the liability of the Surety hereon in any degree.

It is further expressly agreed by Surety that the City of Nacogdoches or its representatives are at liberty at any time, without notice to the Surety, to make any change in the Contract Documents and in the Work to be done thereunder, as provided in the Contract, and in the terms and conditions thereof, or to make any change in, addition to, or deduction from the work to be done thereunder; and that such changes, if made, shall not in any way vitiate the obligation in this bond and undertaking or release the Surety therefrom.

It is further expressly agreed and understood that the Contractor and Surety will fully indemnify and hold harmless the City of Nacogdoches from any liability, loss, cost, expense, or damage arising out of or in connection with the work done by the Contractor under the Contract. In the event that the City of Nacogdoches shall bring any

TEXAS STATUTORY PAYMENT BOND

Project No. _____

THE STATE OF TEXAS

§
§

KNOW ALL MEN BY THESE PRESENTS:

THE COUNTY OF NACOGDOCHES

§

THAT WE, _____, as Principal, hereinafter called “Principal” and the other subscriber hereto _____, a corporation organized and existing under the laws of the State of _____, licensed to business in the State of Texas and admitted to write bonds, as Surety, herein after called “Surety”, do hereby acknowledge ourselves to be held and firmly bound to the City of Nacogdoches, a municipal corporation, in the sum of **Two Hundred Sixty-Three Thousand Sixty and 00/100 Dollars (\$ 263,060.00)** for payment whereof, the said Principal and Surety bind themselves, and their heirs, administrators, executors, successors and assigns jointly and severally.

THE CONDITIONS OF THIS OBLIGATION ARE SUCH THAT:

WHEREAS, Principal has entered into a certain contract with the City of Nacogdoches, dated the ____ day of _____, 20____, for **Construction Services for 2025 Ridgebrook Drive Drainage Improvements Project** which contract is hereby referred to and made a part hereof as fully and to the same extent as if copied at length herein.

NOW THEREFORE, the condition of this obligation is such that if 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 to remain in full force and effect;

PROVIDED, HOWEVER, that this bond is executed pursuant to the provisions of Chapter 2253 of the Texas Government Code and all liabilities on this bond shall be determined in accordance with the provisions, conditions and limitations of said Code to the same extent as if it were copied at length herein.

IN WITNESS THEREOF, the said Principal and Surety have signed and sealed this instrument on the respective dates written below their signatures.

ATTEST and SEAL: (if a corporation) (SEAL)
WITNESS: (if not a corporation)

(Name of Contractor)

By: _____
Name:
Title:

By: _____
Name:
Title:
Date:

ATTEST/WITNESS (SEAL)

(Full Name of Surety)

By: _____
Name:
Title:
Date:

(Address of Surety for Notice)

By: _____
Name:
Title:
Date:

REVIEWED:

THE FOREGOING BOND IS ACCEPTED
ON BEHALF OF
THE CITY OF NACOGDOCHES, TEXAS:

City Attorney's Office

City Manager

NOTE: Date of bonds must be equal to or after the date of execution by City.

Exhibit D
CERTIFICATES OF INSURANCE AND ENDORSEMENTS

Exhibit E
FINAL AFFIDAVIT OF ALL BILLS PAID

FINAL BILLS PAID AFFIDAVIT
BY CONTRACTOR

BEFORE ME, the undersigned authority, personally appeared as _____,
(Name), known to me to be a credible person, and after
being by me duly sworn, upon oath stated and affirmed that: "My name is
_____ and I am the _____
(Name) (Title)
of _____", hereafter referred to in this affidavit as
(Firm)
"Contractor". Contractor's business address is _____,
(Address)
Texas, _____. The undersigned Contractor has personal knowledge of the facts
(Zip)
stated herein and has full authority to make the agreements in this affidavit on behalf of
Contractor.
Pursuant to and in accordance with a written contract between Contractor and
_____, collectively referred to as Owner, Contractor furnished
(Owner)
materials and labor for the construction, renovation, installation or repair of certain
improvements (the "Improvements"), being City of Nacogdoches contract for
_____.
(Project Name)

All work provided for under said written construction contract, together with all changes and supplements thereto, has been fully completed in accordance with the terms and provisions of said contract.

Contractor has paid each of its subcontractors, laborers, suppliers and materialmen in full for all labor and materials provided to Contractor for or in connection with the construction, renovation or repair of the Improvements.

Contractor is not aware of any unpaid bills, claims, demands or causes of action by any of its subcontractors, laborers, manufacturers, suppliers or materialmen for or in connection with the furnishing of labor materials, or both, for the construction, renovation or repair of the Improvements.

Contractor further understands that this Final Bills Paid Affidavit is being given pursuant to and in accordance with Section 53.085 of the Texas Property Code and that the

intentional, knowing or reckless making of a false or misleading statement in this Affidavit constitutes an offense under said Section and is a Class A misdemeanor.

Contractor hereby indemnifies and holds harmless the City of Nacogdoches from any and all claims, demands or causes of action, and any costs, expenses and attorney’s fees incurred in connection therewith, arising from or connected with, the statements and representations contained herein.

EXECUTED this ____ day of _____ , 20____.

CONTRACTOR:

By: _____

Name: _____

Title: _____

Notary’s Acknowledgement

Before me, the undersigned authority, on this day personally appeared _____, who first being duly sworn by me to be the person whose name is subscribed to the foregoing Final Bills Paid Affidavit, acknowledged that he/she has the authority to make this Final Bills Paid Affidavit, and further acknowledged to me that he/she executed the same for the purpose and consideration therein expressed.

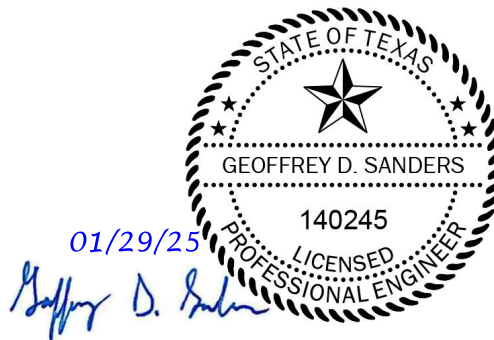
GIVEN UNDER MY HAND AND SEAL OF OFFICE on this the _____ day of _____, 20____.

Exhibit F
PLANS, SPECIFICATIONS AND DRAWINGS

TECHNICAL SPECIFICATIONS

CITY OF NACOGDOCHES

RIDGEBROOK DRIVE DRAINAGE IMPROVEMENTS PROJECT



TWO FIFTEEN CONSULTING

412 NORTH STREET

NACOGDOCHES, TX 75961

936-569-0505

TBPE FIRM NO. F-17461

TBPLS FIRM #10194339

TABLE OF CONTENTS - SPECIFICATIONS

1. 010 – Shop Drawings Submittals
2. 122 – Flex Base Cr. Limestone
3. 146 – Hot Mix Asphalt Concrete Pavement
4. 165 – Concrete Pavement
5. 175 – Concrete Curb and Gutter
6. 180 – Sidewalks and Driveways
7. 230 – Reinforced Concrete Pipe
8. 235 – Storm Sewer Polypropylene Pipe
9. 240 – Storm Sewer Polyvinyl Chloride Pipe
10. 260 – Manholes and Inlets
11. 270 – Excavation Trench Backfill Utilities
12. 300 – Structural Concrete
13. 320 – Excavation and Backfill for Structures
14. 400 – Potable Water Line & Fittings
15. 910 – Clearing and Grubbing
16. 912 – Removal of Structures and Obstructions
17. 915 – Restoration Cleanup
18. 917 – Sodding
19. 918 – Seeding
20. 921 – Trench Safety System

ITEM 010

SHOP DRAWINGS, PRODUCT DATA AND SAMPLES

1.0 GENERAL

1.1 GENERAL - Submit four (4) copies of shop drawings, product data, operation and maintenance literature and one (1) set of samples required by specification sections. Shop drawings, product data and samples are not considered a part of contract documents. Schedule submissions at least 10 days before reviewed submittals will be needed.

1.2 CONTRACTOR RESPONSIBILITIES - Review shop drawings, product data and samples prior to submission. Verify:

- A. Field measurements.
- B. Field construction criteria.
- C. Catalog numbers and other data.
- D. Conformance with submission requirements.

Coordinate each submittal with contract document and work schedules to prevent any delay in the work. Contractor's responsibility for errors and omissions is not relieved by the Engineer's review of submittals. At time of submission and in writing, notify the Engineer of any deviations from contract documents in the submittals. The Engineer's review of submittals and subsequent general approval is not to be construed as approval for any deviations included in the submittals unless the Engineer gives specific written acceptance of these deviations.

Begin no work related to submittals until return of submittals with the Engineer's stamp and initials or signature indicating review. Distribute copies after the Engineer's review.

1.3 ENGINEER'S DUTIES - Review submittals with reasonable promptness to prevent any delay in the work. Review for conformance with:

- A. Design concept of project.
- B. Contract documents.

Review of a separate item does not constitute review of an assembly in which the item functions. Return to Contractor those submittals which do not meet the requirements and require correction and resubmission. Affix stamp and initials or signature certifying review of submittal. Return reviewed submittals to Contractor for distribution.

2.0 PRODUCTS

2.1 PRODUCT DATA-CONTRACTOR'S RESPONSIBILITIES

2.1.1 Modify the manufacturer's standard schematic drawings to delete or supplement information as applicable.

2.1.2 For manufacturer's catalog sheets, brochures, diagrams, schedules, performance charts, illustrations and other descriptive data:

- A. Clearly mark each copy to identify pertinent materials, products or models.
- B. Show dimensions and clearances required.
- C. Show performance characteristics and capacities.
- D. Show wiring diagrams and controls.

2.1.3 Include on the data all information required for submission or submit transmittal letter containing required information.

2.1.4 Contractor shall supply the Engineer with operation and maintenance literature from the

manufacturer for all equipment and systems installed on the project. This literature shall be suitable for use by the Owner's personnel.

- 2.1.5** Prepare the number of copies which the Contractor requires for distribution plus four copies to be retained by the Engineer.

3.0 EXECUTION

3.1 IDENTIFICATION

- 3.1.1 General** - Consecutively number all submittals. Accompany each submittal with a letter of transmittal containing all pertinent information required for identification and checking of submittals.
- 3.1.2 Internal Identification** - On at least the first page of each copy of each submittal, and elsewhere as required for positive identification, clearly indicate the submittal number in which the item was included.
- 3.1.3 Resubmittals** - When material is resubmitted for any reason, transmit under a new letter of transmittal and with a new submittal number.
- 3.1.4 Submittal Log** - Maintain an accurate submittal log for the duration of the Contract, showing current status of all submittals at all times. Make the submittal log available for the Engineer's review upon request.

3.2 PREPARATION REQUIREMENTS

3.2.1 Shop Drawings

- A. Preparation by a qualified detailer is required.
- B. For Mechanical and Electrical work use the same sheet size as contract drawings.
- C. Where necessary for clarity, identify details by reference to sheet and detail number on contract drawings.
- D. Include on the drawing all information required for submission or submit transmittal letter containing required information
- E. Prepare number of copies which the Contractor required for the distribution plus four copies to be distributed by the Engineer.

3.2.2 Samples

- A. Submit office samples of sufficient size and quantity to clearly illustrate:
 - 1. Functional characteristics of product or materials with integrally related parts and attachment devices.
 - 2. Full range of color samples.
- B. Erect field samples and mock-ups in an acceptable location. Construct each sample complete, including work of all trades required in finished work.
- C. Include in transmittal letter all information required for submission.
- D. Prepare the number of samples specified.

3.2.3 Mill Certificates - Submit mill certificate on the following items:

- A. Reinforcing Steel
- B. Bulk Cement
- C. Structural Steel
- D. HDPE pipe/fittings

3.3 SUBMISSION REQUIREMENTS - Accompany submittals with a transmittal letter in duplicate. Include the following information for each submittal.

- A. Date and revision dates.
- B. Project title and number.
- C. The names of:
 - 1. Engineer
 - 2. Contractor
 - 3. Subcontractor
 - 4. Supplier
 - 5. Manufacturer
- D. Identification of product or material.
- E. Relation to adjacent structure or materials.
- F. Field dimensions clearly identified as such.
- G. Specification section number.
- H. Applicable standards, such as ASTM number of Federal Specification.
- I. A blank space on each shop drawing, approximately 5" x 5", for the Engineer's stamp.
- J. Identification of deviations from contract documents.
- K. Contractor's stamp, initialed or signed, certifying review of submittal, verification of field measurements and compliance with contract documents.

3.3.1 Submit all required shop drawings, product data and samples for the following work at one time. Suitably organize an index 8 ½" x 11", 11" x 17" and other compatibly sized material in a 3-ring binder. Larger shop drawings may be submitted together either rolled or folded. Include an index.

3.4 RESUBMISSION REQUIREMENTS

3.4.1 Shop Drawings

- A. Revise initial drawings as required and resubmit as specified for initial submittal.
- B. Indicate on drawings any changes which have been made other than those requested by the Engineer.

3.4.2 Product data and samples - Submit new data and samples as required for initial submission.

3.5 DISTRIBUTION AFTER REVIEW - Distribute copies of shop drawings and product data which carry the Engineer's stamp to:

- A. Contractor's file
- B. Job site file
- C. Record document file
- D. Other prime Contractors
- E. Subcontractors
- F. Supplier
- G. Fabricator

ITEM 122

FLEXIBLE BASE - CRUSHED LIMESTONE

122.1 DESCRIPTION

Work Included: This item specifies the furnishing and installing of a compacted base course of crusher-run, broken aggregate. The base shall be constructed in conformity with typical sections and to lines, grades and thickness as shown on the plans.

122.2 MATERIALS

122.2.1 The flexible base material shall meet all of the requirements of Item 247 Flexible Base of the Texas Department of Transportation Standard Specifications For Construction Of Highways, Streets and Bridges, latest edition, and shall be Type A, Grade 2.

122.2.2 The material shall only be from a source approved by the Owner.

122.3 EXECUTION

122.3.1 Subgrade: Shape subgrade to lines and grades shown on the plans. Subgrade shall be compacted to 95 percent Standard Proctor Density, ASTM D-698. Repair all soft areas before base material is placed on the subgrade.

122.3.2 Density: After being properly placed and shaped in accordance with the plans, flexible base shall be compacted to 95 percent Modified Proctor Density, ASTM D-1557. Maintain moisture content between optimum and 2 percent above optimum moisture.

122.3.3 Protection: The Contractor shall be responsible for the protection of the subgrade and flexible base during the construction.

122.3.4 Testing: The Contractor shall, at his expense, utilize the services of a certified geotechnical testing laboratory to provide test results from the material source to assure conformance with these specifications prior to delivery of the material to the construction site.

122.4 MEASUREMENT

Crushed limestone flexible base will be measured by square yards of covered area where listed as a separate item on the bid form.

122.5 PAYMENT

The work performed and materials furnished in accordance with this item and measured as provided under MEASUREMENT will be paid for at the unit price bid for "crushed limestone flexible base" of the depth specified, labor, and incidentals necessary to complete the work.

ITEM 146

HOT MIX ASPHALTIC CONCRETE PAVEMENT

146.1 DESCRIPTION

This item shall govern for the furnishing of materials, equipment, transporting and placement of Hot Mix Asphaltic Concrete (HMAC) Pavement in accordance with specifications contained herein.

146.2 MATERIALS

Materials shall be Type D (unless shown otherwise in the plans) Hot Mix Asphaltic Concrete in accordance with *TxDOT Standard Specifications for Construction of Highways, Streets and Bridges*, Item 340, latest edition. A HMAC design shall be submitted to Owner for approval at least twenty-four (24) hours in advance of scheduled paving operations.

146.3 PLACEMENT

Hot Mix Asphaltic Pavement - Shall be placed in accordance with TxDOT Specification Item 340, latest edition, and the following:

- a) The Contractor will be required to establish a rolling pattern that will achieve a minimum of 95% of the laboratory molded density for new paving and maximum in-place density for overlays. The Contractor shall be responsible for providing testing equipment that will verify compliance with density requirements. The Contractor shall be responsible for testing rolling pattern as outlined in TEX-207-F, Part IV to achieve maximum compaction. When changes in asphalt mixture or placement conditions occur, a new rolling pattern shall be established. At the Engineer's request, the Contractor shall provide a periodic verification that the rolling pattern is adequate to achieve the required density when varying site conditions are noted.
- b) Thickness for compacted HMAC shall be as shown on plans.
- c) The HMAC shall be placed and spread on the approved surface with a self-propelled spreading and finishing machine.
- d) The final compacted thickness for the asphalt surface on existing pavement overlays, is considered to be a nominal desired thickness. In no case shall any portion of the overlay be less than one (1) inch in thickness at specified edges or "humps" and thicknesses of one (1) inch over the nominal depth shall be avoided. All attempts shall be made to maintain the nominal thickness shown in the plans. The contractor shall use a ski or leveling arm on the spreading machine, when necessary, to assist in maintaining desired asphalt thicknesses.

146.4 TESTING

The Contractor will contract with an independent testing laboratory to perform the following tests:

- a) Hveem stability, laboratory molded density, asphalt cement content, and aggregate gradation from samples that will be taken randomly from haul trucks as HMAC is off-loaded to the lay down machine.
- b) Core samples of completed surface to verify compliance with density and thickness requirements.
- c) Surface and ride quality shall meet TxDOT Specification Item 585, Surface Test Type A, latest edition.
- d) Haul trucks shall obtain a ticket at the HMAC plant clearly stating the "Type of Mix" and the "Total Weight" of the mix loaded on the truck. The tickets shall be given to the Owner's Representative before the HMAC is off-loaded to the lay down machine.

146.5 MEASUREMENT

Hot Mix Asphaltic Concrete Pavement will be measured in units as indicated on the Bid Form for "Hot mix asphaltic concrete pavement". This measurement applies to all thicknesses of the composite of the type actually used in the completed and accepted work in accordance with plans and specifications and as described on the Bid Form.

146.6 PAYMENT

The work performed and materials furnished in this item and measured as provided for under measurement will be paid for by the unit price bid for "Hot mix asphaltic concrete pavement" of the type specified. The payment based on the unit price bid shall be full compensation for quarrying, furnishing all materials, additives, freight involved, for all heating, mixing, hauling, preparing the existing base, prime coat, tack coat, placing, rolling and finishing asphaltic concrete mixture and for all manipulations, labor, tools, equipment and incidentals necessary to complete the work.

ITEM 165

CONCRETE PAVEMENT

165.1 DESCRIPTION

This item shall consist of a pavement of Portland cement concrete, with or without reinforcement as shown on the plans, with or without monolithic curbs, constructed as herein specified on the prepared subgrade or other base course in conformity with the thickness and typical cross sections shown on the plans and to the lines and grades established by the Engineer.

165.2 MATERIALS

165.2.1 Concrete - Concrete shall conform to the strength and Class as specified on the Plans. When not specified on the Plans, concrete shall conform to the requirements for Class "A" Concrete as follows:

<u>Min. Sacks Cement per Cubic Yard</u>	<u>Min. Comp. Strength 28 Day PSI</u>	<u>Max. Water/Cement Ratio</u>	<u>Slump Range (Inches)</u>	<u>Coarse Aggregate Number</u>	<u>Fine Aggregate Number</u>
5.0 *	3,000	6.5	3-4	1,2,3 or 4	1

*Alternate mix designs may be approved by the Engineer.

The use of ready mixed concrete will be permitted for all concrete provided that the plant, truck mixers, agitators and mixing equipment conform to the requirements of the Texas Department of Transportation.

165.2.2 Joint Materials

Expansion joint fillers shall be asphalt impregnated joint board or pre-formed fiber material conforming to the requirements of ASTM D-994 or D-1751 of required size and 3/4" uniform thickness. The filler for each joint shall be furnished in a single piece for the full depth and width and shall be punched to admit dowels where called for in the plans. When used in transverse joints, it shall conform approximately to the shape of the finished pavement as shown on the plans.

Ready mixed cold applied joint and crack sealer shall consist of a homogeneous blend of asphalt, rubber, inert filler and a suitable solvent or solvents. The material shall be a resilient, adhesive compound capable of effectively sealing properly cleaned joints in concrete pavement against the infiltration of moisture throughout repeated cycles of contraction and expansion and which will not be picked up by vehicle tires, particularly at summer temperatures. Joint sealants and fillers shall meet all requirements of *TxDOT Standard Specifications for Construction of Highways, Streets and Bridges*, latest edition, Item 433, "Joint Sealants and Fillers".

The Material when tested in accordance with TxDOT Method Tex 525-C shall meet the following requirements:

Penetration:

At 77°F: (As received) 150 grams, 5 seconds not less than 2.75 cm.

(After Evaporation of solvent) 200 grams, 60 seconds not more than 2.20 cm.

At 32°F: (After evaporation of solvent) 200 grams, 60 seconds not less than 2.20 cm.

Flow:

Not more than 0.5 cm.

Bond:

There shall be no cracking of the material or failure in bond between the material and the mortar test blocks during or at the end of five cycles.

165.2.3 Steel

165.2.3.1 Dowels

Approved load transmission devices for expansion and contraction joints shall consist of smooth, rust-free, steel dowel bars of the size and type indicated on plans and shall be open hearth, basic oxygen or electric furnace steel conforming to the properties specified for Grade 60 in ASTM Designation: A 615. The free end of dowel bars shall be smooth and free of shearing burrs.

When required by plans, one end of each dowel bar shall be encased in an approved cap having an inside diameter of 1/16 inch greater than the diameter of the dowel bar. The cap shall be of such strength, durability and design as to provide free movement of the dowel bar and shall be approved by the Engineer prior to use. One end of the cap shall be filled with a soft felt plug or shall be void in order to permit free movement of the dowel bar for a distance equivalent to 150 percent of the width of the joint used. The dowel caps and dowel bars shall be held securely in place and accurately aligned parallel to the subgrade and the centerline of the pavement by means of a dowel assembly, which will remain in the pavement to ensure that the dowels are not displaced during construction. Mechanical methods of implanting dowel bars in the plastic concrete may be used if approved by the Engineer. Smooth dowel bars shall be coated with heavy grease on one end.

165.2.3.2 Reinforcing Steel

Unless otherwise shown on the plans, or herein, all bar reinforcement shall be de-formed, conforming to ASTM A-615, grade 60. Bends shall be cold-bends only, without any signs of fatigue or cracking. Any bars that are to be bent and re-straightened during construction shall conform to ASTM A-615, grade 40. Lap splices shall conform to CRSI 5-13 or equal. Welded wire fabric reinforcement, where required, shall conform to ASTM A-185 or ASTM A-497. All rust, mud and debris shall be cleaned from steel prior to concrete placement.

165.2.4 Curing

The membrane curing compound shall comply with the requirements of TxDOT Standard Specification Item 526 "Membrane Curing", latest edition.

165.3 **EQUIPMENT**

165.3.1 General

All equipment necessary for the construction of this item shall be on the project and shall be approved by the Engineer as to condition before the Contractor will be permitted to begin construction operations on which the equipment is to be used. When approved by the Engineer in writing, a commercial or independently operated batching plant for measuring materials outside the limits of the project may be used.

165.3.2 Mixer

The mixer furnished may be either a paving mixer (operated at the site of the construction or centrally located), a stationary mixer (central mixer) or paving mixer (truck mounted) that will produce adequately mixed concrete meeting the specified requirements.

The size of the paving mixer shall not be less than that of a 27-E paver, as established by the Mixer Manufacturer's Bureau of the Associated General Contractors. Each truck mounted paving mixer shall be approved by the Engineer prior to use on the project.

Each mixer shall be equipped with a water measuring device so constructed that it will measure the water within one (1) percent of the total amount required for each batch. Unless the water is to be weighed, the water measuring equipment shall include an auxiliary tank with a capacity greater than that of the measuring tank, and from which the measuring tank will be filled by gravity flow. The measuring tank shall be open to the atmosphere and shall be so placed and constructed that the water for a batch can be discharged into a calibrated tank or weighing device for checking the accuracy of water measurement without seriously delaying the paving operations. The Contractor shall have a calibrated tank or weighing device available at all times at a location satisfactory to the Engineer.

165.3.3 Hauling Equipment

Batch hauling equipment for the transportation of measured materials from the batching plant to the mixer shall be equipped with tight covers and shall be used when directed by the Engineer to prevent excessive evaporation of moisture or any loss of material.

If a central mixer is used, concrete may be transported to the point of delivery in truck agitators or non-agitating trucks. If, in the opinion of the Engineer, any appreciable segregation or accumulation of excess water and/or mortar occurs on the surface of the concrete, this may be cause for rejection and this method of transporting the concrete to the point of delivery shall be suspended as directed by the Engineer.

165.3.4 Subgrade or Subbase Planer and Templates

Unless a stabilized subbase is provided, an approved subbase planer shall be provided, mounted on visible rollers, riding on the forms and having adjustable cutting blades which shall trim the subgrade to the exact section shown on the plans. The planer frame shall be heavy enough to remain on the forms at all times and shall be of such strength and rigidity that, under a test made by changing the support from the wheels to the center, it shall not develop a deflection of more than 1/8 inch. Tractive power equipment used to pull the planer shall not be such as to produce ruts or indentations in the subgrade.

When the slipform method of paving is to be used, the subgrade planer will be operated on a prepared track grade or controlled by an electronic sensor system operated from a "string line" that establishes the horizontal alignment and the elevation of the subbase.

A template for checking the contour of the subbase shall be provided and operated by the Contractor. The template shall rest upon the side forms and shall be of such strength and rigidity that, under a test made by changing the support to the center, it shall not show a deflection of more than 1/8 inch. It shall be provided with accurately adjustable rods projecting downward to the subgrade at one (1) foot intervals, and these rods shall be adjusted to the required cross section of the bottom of the slab when the template is resting upon the side forms. Where stabilized subbase is provided, use of a scratch template will be required.

165.3.5 Forms

Side forms shall be of metal of approved cross-section. The preferred depth of the form shall be equal to the required edge thickness of the pavement. Forms with depth greater or less than the required edge thickness of the pavement will be permitted provided the difference between the form depth and the edge thickness is not greater than one (1) inch and further provided that forms of a depth less than the pavement edge are brought to the required edge thickness by securely attaching metal strips of approved section to the bottom of the form. Longitudinal hardwood strips not greater than one (1) inch in thickness may be used in lieu of metal strips.

The length of form sections shall not be less than 10 feet and each section shall provide for staking in position with not less than three pins. Flexible or curved forms of wood or metal of proper radius shall be used for curves of 200 foot radius or less. Forms shall be of ample strength and shall be provided with adequate devices for secure setting so that when in place they will withstand, without visible springing or settlement, the impact and vibrating of the spreading and finishing machinery. In no case shall the base be less than 8 inches for a form 8 inches or more in height. The forms shall be free from warps, bends, or kinks, and shall be sufficiently true to provide a reasonably straight edge on the concrete and the top of each form section, and when tested with a straight edge shall conform to the requirements specified for the surface of the completed pavement. Sufficient forms shall be provided for satisfactory prosecution of the work.

Outside curb forms shall be of wood or metal of section satisfactory to the Engineer, straight, free of warp, and shall be of a depth at least equal to the depth of the curb. They shall be mounted on the paving forms and securely attached thereto and maintained in true position during the placing of the concrete.

165.3.6 Concrete Spreader

Use of a concrete spreader shall be required and it shall be a self-propelled machine having sufficient power and traction to spread and strike off concrete without slippage on the forms. It shall be equipped with a power

driven device for spreading the concrete uniformly between the forms. The spreading device may be either a reciprocating blade, a screw conveyor or a belt conveyor. The spreader shall be capable of striking off the surface of the concrete between the forms in the longitudinal direction of the slab at any required elevation.

165.3.7 Slipform Paver

This paver shall be equipped with a longitudinal transangular finishing adjustable to crown and grade. The float shall extend across the pavement practically to the side forms and/or the edge of slab. A "string line" shall be used to provide grade control for the paver, unless otherwise shown on the plans.

165.3.8 Mechanical Vibratory Equipment

All concrete placed for pavement shall be consolidated by approved mechanical vibrators operated ahead of the transverse finishing machine and designed to vibrate the concrete internally and/or from the surface. Vibratory members shall extend across the pavement, practically to, but shall not come in contact with, the side forms. Mechanically operated vibrators shall be mounted in such manner as to not interfere with the transverse or longitudinal joints.

The pavement vibrators shall not be used to level or spread the concrete but shall be used only for purposes of consolidation. The vibrators shall not be operated for more than fifteen (15) seconds while the machine upon which they are installed is standing still.

Approved hand manipulated mechanical vibrators shall be furnished in the number required for provision of proper consolidation of the concrete along forms, at joints and in areas not covered by mechanically controlled vibrators. These vibrators shall be sufficiently rigid to insure control of the operating position of the vibrating head.

165.3.9 Finishing Equipment

The transverse finishing machine shall be provided with two (2) screeds accurately adjusted to the crown of the pavement, shall be power driven and mounted in a substantial frame equipped to ride on the forms, and shall be so designed and operated as to strike off and consolidate the concrete.

Where hand finishing is permitted under this specification, the Contractor shall provide a strike template and tamping template both of four (4) by ten (10) inch lumber or equivalent metal section and at least two (2) feet longer than the width of the pavement. Both templates shall conform to the crown section of the pavement, and the tamp, if of wood, shall have a steel face not less than 3/8 inch in thickness. The contractor shall also provide a longitudinal float of approved design and not less than fourteen (14) feet in length.

The Contractor shall furnish, operate and maintain at least two (2) standard ten (10) foot steel straightedges.

The Contractor shall furnish a sufficient number of bridges equipped to ride on the forms and span the pavement for finishing operations and for the installation and finishing of joints. All necessary finishing and edging tools shall be furnished as may be required to complete the pavement in accordance with the plans.

165.4 SUBGRADE AND FORMS

165.4.1 Preparation of Subgrade

Where stabilized subbase is not provided the subgrade shall be excavated as required, all unstable or otherwise objectionable material removed, and all holes, ruts and depressions filled with approved material. Rolling and sprinkling shall be performed when and to the extent directed, and the road bed shall be completed to or above the plane of the typical sections shown on the plans and the lines and grades established by the Engineer. Material excavated in the preparation of the subgrade shall be utilized in the construction of adjacent shoulders and slopes, and any additional material required for the completion of the sections shall be secured from sources indicated on the plans or designated by the Engineer. Drainage of the roadbed shall be maintained at all times.

The subgrade shall be maintained in a smooth, compacted condition in conformity with the required section and established grade until the pavement is placed and shall be kept thoroughly wetted down sufficiently in

advance of placing any pavement to insure its being in a firm and moist condition for at least two (2) inches below the prepared surface. Sufficient subgrade shall always be prepared in advance to insure satisfactory prosecution of the work. No equipment or hauling shall be permitted on the prepared subgrade, except by special permission of the Engineer, which will be granted only in exceptional cases and only where suitable protection in the form of two ply timber mats or other approved materials is provided.

165.4.2 Placing and Removing Forms

The subgrade under the forms shall be firm and cut true to grade so that each form section when placed will be firmly in contact for its whole length and base width, and exactly at the established grade. Any subgrade under the forms below established grade shall be corrected, using suitable material, placed, sprinkled and rolled as directed. Forms shall be staked with at least three pins of each 10 foot section. A pin shall be placed at each side of every joint. Form sections shall be tightly joined and keyed to prevent relative displacement. Forms shall be cleaned and oiled each time they are used. Conformity of the grade and alignment of forms shall be checked immediately prior to placing concrete, and all necessary corrections made by the Contractor. Where any form has been disturbed or any subgrade becomes unstable, the form shall be reset and rechecked. In exceptional cases, the Engineer may require suitable stakes driven to the grade of the bottom of the forms to afford additional support. Sufficient stability of forms to support the equipment operated thereon and to withstand its vibration without springing or settlement shall be required. If forms settle and/or deflect over 1/8 inch under finishing operations, paving operations shall be stopped and the forms shall be reset to line and grade.

Forms shall remain in place for not less than eight (8) hours after the concrete has been placed. They shall be carefully removed in such a manner that little or no damage will be done to the edge of the pavement. Any damage resulting from this operation shall be immediately repaired. After the forms have been removed, the ends of all joints shall be cleaned, and any honeycombed areas pointed up with approved mortar. Immediately after pointing is complete, the form trench, if used, shall be filled with earth from the shoulders in such a manner as to shed water from rainfall or curing away from the edge of the pavement. Upon completion of the required curing, the subgrade or shoulders adjacent to the pavement shall be placed in condition to maintain drainage.

165.5 CONCRETE MIXING AND PLACING

The concrete shall be mixed in a mixer conforming to the requirements. Ready Mix concrete may be used for mixing concrete for pavement.

165.5.1 Mixing

The aggregates, mineral filler if required, cement and water shall be measured separately, introduced into the mixer and mixed for a period of not less than 50 seconds nor more than 90 seconds, measured from the time the last aggregate enters the drum to the time discharge of the concrete begins. The required water shall be introduced into the mixing drum during the first 15 seconds of mixing. The entire contents of the drum shall be discharged before any materials of the succeeding batch are introduced.

If a central mixer is used, the concrete shall be discharged into the specified hauling equipment and delivered to the road site. If truck agitators are used, the concrete shall be continuously agitated at not less than one nor more than six rpm as directed by the Engineer.

165.5.2 Placing

Unless otherwise shown on the plans the concrete may be placed by using forms or by use of a slipform paver. Any concrete not placed as herein prescribed within thirty (30) minutes after mixing shall be rejected and disposed of as directed except as provided otherwise herein. Except by specific written authorization of the Engineer, concrete shall not be placed when the temperature is below 50°F and falling but may be placed when the temperature is above 45°F and rising, the temperature being taken in the shade and away from artificial heat.

Concrete shall be placed only on approved subgrade or subbase and unless otherwise indicated on the plans, the full width of the pavement shall be constructed monolithically. The concrete shall be deposited on subgrade or subbase in such manner as to require as little rehandling as possible. Where hand spreading is necessary, concrete shall be distributed to the required depth by use of shovels. The use of rakes will not be permitted. Workers will not be permitted to walk in the concrete with any earth or foreign material on their boots or shoes. The placing of concrete shall be rapid and continuous.

Concrete shall be distributed to such depth that, when consolidated and finished, the slab thickness required by the plans will be obtained at all points and the surface shall not, at any point, be below the established grade. Special care shall be exercised in placing and spreading concrete against forms and at all joints to prevent the forming of honeycombs and voids.

Concrete for the monolithic curbs shall be the same as for the pavement and, if carried back from the paving mixer, shall be placed within 20 minutes after being mixed. It may be placed while the pavement concrete is still plastic. When sawed joints are used, curbs shall be doweled as shown on the plans and poured after sawing. Curbs doweled on and placed separately may be placed with an extrusion machine.

165.5.3 Reinforcing Steel and Joint Assemblies

All reinforcing steel, including steel wire fabric reinforcement, tie bars, dowel bars and load transmission devices used in accordance with plan provisions shall be accurately placed and secured in position in accordance with details shown on the plans. Reinforcing bars shall be securely wired together at alternate intersections, following a pattern approved by the Engineer, and at all splices, and shall be securely wired to each dowel intersected. When wire fabric is used, it replaces only the longitudinal and transverse bars and shall be securely wired together at all splices and to each dowel intersected. The bars shall be installed in the required position by the method and device shown on plans or by approved method permitted. If this method of placement proves inadequate, the work shall be completed using conventional methods.

165.5.4 Construction Joints

Intentional stoppage of the placing of the concrete shall be at either an expansion joint or at a weakened plane joint, if load transmission devices are specified.

165.6 JOINTS

165.6.1 General

All transverse and longitudinal joints when required in the pavement shall be of the type or alternate type shown on the plans and shall be constructed at required location, on required alignment, in required relationship to tie bars and joint assemblies, and in accordance with details shown on the plans. Such stakes, braces, brackets or other devices shall be used as necessary to keep the entire joint assembly in true vertical and horizontal position.

Careful workmanship shall be exercised in the construction of all joints to insure that the concrete sections are completely separated by an open joint or by the joint materials and to insure that the joints will be true to the outline indicated.

165.6.2 Expansion Joints

Transverse expansion joints shall be formed perpendicular to the centerline and surface of the pavement and shall be constructed in accordance with the sequence of operations shown on plans. After the transverse finishing machine and before the longitudinal finishing machine have passed over the joint, the Contractor shall test the joint filler for correctness of position and make any required adjustment in position of the filler and shall install the joint seal space form in accordance with the plans. After removal of the joint seal form as required by the plans, the joint seal space above the joint filler shall be thoroughly sandblasted or machine routed to remove all projecting concrete, laitance, dirt or foreign matter. The concrete faces of the joint seal space shall be left true to line and section throughout the entire length of the joint. The joint faces shall be clean and dry at the time the joint sealing filler is placed. The pavement adjacent to the joint shall be left free of joint sealing material. The joint seal space shall be exactly above and not narrower than the joint filler with no concrete overhangings.

165.6.3 Weakened Plane Joints

Weakened plane joints shall consist of transverse contraction joints and longitudinal joints and shall be formed or sawed as specified on the plans. When the joints are sawed, the saw shall be power driven, shall be manufactured especially for the purpose of sawing concrete, and shall be capable of performing the work. Saw blades shall be designed to make a clean smooth cut having a width and depth of cut as detailed on the plans. Tracks adequately anchored, chalk, string line or other approved methods shall be used to provide true alignment condition and the Contractor shall keep a standby power saw on the project at all times when concrete operations are under way.

If membrane curing is used, the portion of the seal which has been disturbed by sawing operations, shall be restored by the Contractor by spraying the areas with additional curing seal.

165.6.4 Contraction Joints

Transverse contraction joints shall be formed or sawed joints perpendicular to the centerline and surface of the pavement and shall be constructed by the method, and in the sequence of operations, as shown on the plans. Where sawed joints are used, contraction joints shall be sawed as soon as sawing can be accomplished without damage to the pavement and before 48 hours after the concrete has been placed, the exact time to be approved by the Engineer. All joints shall be completed before placing concrete in succeeding lanes and before permitting traffic to use the pavement.

165.6.5 Longitudinal Joints

Longitudinal joints shall be of the type or alternate types shown on the plans and shall be constructed of specified materials in accordance with provision of the plans. Longitudinal joints shall be constructed accurately to required lines, shall be perpendicular to the pavement surface at the joint, and the pavement surface over and adjacent to the joint shall be finished as specified.

Longitudinal joints shall be sawed as soon as sawing can be accomplished without damage to the pavement. Sawing shall not cause damage to the pavement and the groove shall be cut with a minimum of spalling. No traffic (including construction traffic) shall be permitted on the pavement until the longitudinal joint is cut.

165.6.6 Joint Sealer Material

After the joints in the hardened concrete have been thoroughly cleaned to the satisfaction of the Engineer, the material shall be installed into each joint by means of a powered, concrete joint sealing machine capable of continuously feeding the compound under pressure into the joint in such a way as to fill it solidly. The extruding nozzle tip of the sealing machine shall be of such design as to fill the joint opening uniformly from the bottom to the top in a neat and workmanlike manner. The joints shall be completely filled.

165.6.7 Joint Filler Boards

Boards shall be anchored as indicated by the plans.

165.6.8 Curbs

The curb shall be constructed in lengths equal to the adjoining pavement slab lengths and expansion joints shall be provided in the curb opposite each transverse expansion joint in the pavement. Expansion joint material shall be of the same thickness, type and quality as specified for the pavement and shall be of the section as shown for the curb. All expansion joints shall be carried through the curb.

When sawed joints are provided for the pavement, the curb shall be sawed as all transverse joints are being sawed. To provide bond for the curb, deformed dowel bars shall be placed as indicated on the plans while the pavement concrete is still plastic. The concrete for the monolithic curb shall be placed within forty-five (45) minutes after placement of the pavement slab.

Weakened Plane joints can be formed in monolithic curbs at a spacing to coincide with the joints in the concrete pavement. When the concrete is sufficiently set, the joint on the face of curb shall be grooved with an

approved type of grooving tool.

A finish coat of mortar shall be applied on the exposed surfaces of the monolithic curbs. The mortar shall be composed on one part of Portland cement and two parts of fine aggregate. A mortar coat will not be required for extruded curbs.

The curb face, lower radius and top of curb shall be plastered with sand cement mortar. The mortar shall be applied with a template or "mule" made to conform to the curb dimensions shown on the plans. All exposed surfaces of the curb shall be finished with a steel trowel and brushed to a smooth and uniform surface.

165.7 SPREADING AND FINISHING

165.7.1 Machine Finishing

All concrete pavement shall be finished mechanically with approved power-driven machines, except as herein provided. Hand finishing will be permitted on the transition from a crowned section to a super-elevation section without crown on curves, and on straight line super-elevation sections less than 300 feet in length. Hand finishing will also be permitted on that portion of a widened pavement outside the normal pavement width, on sections where the pavement width is not uniform, or required monolithic widths are greater than that of available finishing machines.

Machine finishing of pavement shall include the use of power driven spreaders, power driven vibrators, power driven transverse strike-off, and screed, or such alternate equipment as may be substituted and approved.

All concrete pavement shall be consolidated by a mechanical vibrator. As soon as the concrete has been spread between the forms, the approved mechanical vibrator shall be operated to consolidate the concrete and remove all voids. Hand manipulated vibrators shall be used for areas not covered by the mechanical vibratory unit.

The transverse finishing machine shall first be operated to compact and finish the pavement to the required section and grade, without surface voids. The machine shall be operated over each area as many times and at such intervals as directed. At least two trips will be required and the last trip over a given area shall be a continuous run of not less than 40 feet. After completion of finishing with the transverse finishing machine a transverse drag float may be used.

The consistency of the concrete as placed should allow the completion of all finishing operations without the addition of water to the surface. When field conditions are such that additional moisture is needed for the final concrete surface finishing operation, the required water shall be applied to the surface by fog spray only and shall be held to a minimum.

After finishing is complete and the concrete still workable, the surface shall be tested for trueness with an approved 10 foot steel straightedge. The straightedge shall be operated from the side of the pavement, placed parallel to the pavement centerline and passed across the slab to reveal any high spots or depressions. The straightedge shall be advanced along the pavement in successive stages of not more than one-half its length. Practically perfect contact of the straightedge with the surface will be required, and the pavement shall be leveled to this condition, in order to insure conformity with the surface test required below, after the pavement has fully hardened. Any correction of the surface required shall be accomplished by adding concrete if required and by operating the longitudinal float over the area. The surface test with the straightedge shall then be repeated.

For one-lane pavement and uniform widening, the equipment for machine finishing of concrete pavement shall be as directed by the Engineer but shall not exceed the requirements of these specifications.

After completion of the straightedge operation, as soon as construction operations permit, texture shall be applied with 1/8 inch wide metal tines with clear spacing between the tines being not less than 1/4 inch nor more than 1/2 inch. If approved by the Engineer, other equipment and methods may be used, provided that

a surface texture meeting the specified requirements is obtained. The texture shall be applied transversely. It is the intent that the average texture depth resulting from the number of tests directed by the Engineer be not less than 0.060 inch with a minimum texture depth of 0.050 inch for any one test when tested in accordance with Test Method Tex 436-A. Should the texture depth fall below that intended, the finishing procedures shall be revised to produce the desired texture.

165.7.2 Hand Finishing

Hand finishing shall be restricted to only those conditions provided for above and upon specific authorization by the Engineer. When hand finishing is permitted, the concrete shall be struck off with an approved strike-off screed to such elevation that when consolidated and finished the surface of the pavement shall conform to the required section and grade. The strike template shall be moved forward with a combined transverse and longitudinal motion in the direction the work is progressing, maintaining the template in contact with the forms, and maintaining a slight excess of material in front of the cutting edge. The concrete shall then be tamped with an approved tamping template to compact the concrete thoroughly and eliminate surface voids and the surface screeded to required section.

After completion of a strike-off, consolidation and transverse screeding, a hand operated longitudinal float shall be operated to test and level the surface to the required grade.

Workers shall operate the float from approved bridges riding on the forms and spanning the pavement. The longitudinal float shall be held in contact with the surface and parallel to the centerline and operated with short longitudinal strokes while being passed from one side of the pavement to the other. If contact with the pavement is not made at all points, additional concrete shall be placed, if required, and screeded, and the float shall be used to produce a satisfactory surface. Care shall be exercised to keep the ends of the float from digging into the surface of the pavement. After a section has been smoothed so that the float maintains contact with the surface at all points in being passed from one side to the other, the bridges may be moved forward half the length of the float and the operations repeated. Other operations and surface tests shall be as required for machine finishing.

165.7.3 Surface Test

After the concrete has been placed 12 hours or more, the Engineer will test the surface of the pavement with a 10 foot straightedge placed parallel to the centerline. Unless specified otherwise, the surface shall not vary from the straightedge by more than 1/16 inch per foot from the nearest point of contact, and in no case shall the maximum ordinate from a 10 foot straightedge to the pavement be greater than 1/8 inch. Any high spots causing a departure from the straightedge in excess of that specified shall be ground down by the Contractor to meet the surface test requirements. Where the texture of the pavement is removed by extensive grinding, the texture shall be restored by grooving the concrete to meet the surface finishing specifications.

165.8 CURING

165.8.1 General

All concrete pavement shall be cured by protecting it against loss of moisture for a period of not less than 72 hours from the beginning of curing operations. Immediately after finishing operations have been completed, the entire surface of the newly laid concrete shall be covered and cured in accordance with the requirements specified.

165.8.2 Membrane Curing

Immediately after the finishing of the pavement has been completed and after the free surface moisture has disappeared, the pavement shall be sprayed uniformly with a curing compound. Should the film of compound be damaged from any cause before the expiration of 72 hours after original application, the damaged portions shall be repaired immediately with additional compound. Unless otherwise specified on the plans, membrane curing shall be used when the concrete (except that concrete to be used as a base) is placed with a slipform paver.

165.9 PROTECTION OF PAVEMENT AND OPENING TO TRAFFIC

165.9.1 Protection of Pavement

The Contractor shall erect and maintain the barricades required by plans and such other standard and approved devices as will exclude public traffic and traffic of his employees and agents from the newly placed pavement for the periods of time hereinafter prescribed. Portions of the roadway, or crossings of the roadbed required to be maintained open for use by traffic, shall not be obstructed by the above required barricades. Crossings of the pavement required by the plans, or by construction sequence, during the time prior to opening to traffic as herein specified, shall be provided with an adequate and substantial bridge, approved by the Engineer.

165.9.2 Opening Pavement to Traffic

The pavement shall be closed to all traffic, including vehicles of the Contractor, until the concrete is at least seven (7) days old or has reached 75% of its 28-day design strength, whichever is shorter. At the end of this waiting period, and as long thereafter as ordered by the Engineer, and is so desired by the Contractor, the pavement may be opened for use by vehicles of the Contractor provided the gross weight (vehicle plus load) of such vehicles does not exceed 14,000 pounds. Such opening, however, shall in no manner relieve the Contractor from his responsibility of his warranty of the work. On those sections of the pavement thus opened to traffic, all joints shall first be sealed, the pavement cleaned and earth placed against the pavement edges before permitting vehicles thereon.

After the concrete in any section of pavement is 14 days old, or for a period of time as ordered by the Engineer, such section or pavement may be opened to all traffic as required by plans or when so directed by the Engineer. On those sections of the pavement thus opened to traffic, all joints shall first be sealed, the pavement cleaned, earth placed against the pavement edges and all other work performed as required for the safety of traffic.

165.10 PENALTY FOR DEFICIENT PAVEMENT THICKNESS

The unit bid price will be reduced 10% per each 1/4 inch in thickness.

165.11 MEASUREMENT

Concrete pavement will be measured by the square yard of surface area of completed and accepted work. The surface area will be construed to also include that portion of the pavement slab extending beneath the curb. When "monolithic curb" is required, measurement will be by the linear foot complete in place.

165.12 PAYMENT

The work performed and materials furnished, as prescribed by this item and measured as provided under "MEASUREMENT" will be paid for at the unit price bid for "Concrete Pavement" and for "Monolithic Curb" or the adjusted unit price for pavement of deficient thickness as provided under "Penalty for Deficient Thickness" which price shall be full compensation for loading, hauling, utilizing and/or disposing all excavated materials, for shaping and fine grading the roadbed, including furnishing and applying all water required, for coating steel bar dowels, if dowels are required, for furnishing all material and constructing all joints, for all reinforcing steel and for all manipulations, labor, equipment, appliances, tools and incidentals necessary to complete the work.

All excavation required by this item in preparation of subgrade and for the completion of the shoulders and slopes will be measured and paid for in accordance with the provision governing the bid items of "Roadway Excavation" and "Embankment" respectively, with the provision that yardage will be measured and paid for only once, regardless of the manipulations involved.

SPECIAL PROVISION TO TECHNICAL SPECIFICATION

ITEM 165 - CONCRETE PAVEMENT

165.11 MEASUREMENT

Delete this paragraph. Replace with the following:

Concrete pavement will be measured by the square yard of surface area of completed and accepted work. The surface area will be construed to also include that portion of the pavement slab extending beneath the curb. Monolithic curb shall be included with the concrete pavement and will not be measured or paid for separately.

Valley gutters will be measured by the square yard of surface area covered by concrete. Associated asphalt paved transition areas will not be measured or paid for separately. They are considered to be subsidiary to and included with the construction of the concrete valley gutters.

165.12 PAYMENT

Delete this paragraph. Replace with the following:

Payment for concrete work items will be as provided on the Bid Form.

ITEM 175

CONCRETE CURB AND GUTTER

175.1 DESCRIPTION

This item shall govern for curb and gutter, with or without reinforcing steel, composed of Portland Cement concrete constructed on approved subgrade, foundation material or finished surface in accordance with the lines and grades established by the Engineer and in conformance with details shown on the plans.

175.2 MATERIALS

Concrete used shall be Class "A" Concrete. Reinforcing steel, if required, shall conform to the requirements set forth on the plans. Expansion joint filler shall be pre-molded material meeting the requirements specified in the Technical Specification Structural Concrete or Concrete Pavement.

Membrane curing materials shall meet the requirements specified in the "Curing Concrete" section of the Technical Specification Structural Concrete Construction. Admixtures shall meet the requirements of the section "Admixtures" in the Technical Specification Structural Concrete.

175.3 CONSTRUCTION METHODS

The subgrade or foundation shall be shaped to line, grade and cross-section, and if considered necessary by the Engineer, hand tamped and sprinkled. If dry, the subgrade or foundation material shall be sprinkled lightly immediately before concrete is deposited thereon.

Outside forms shall be of wood or metal, of a section satisfactory to the Engineer, straight, free of warp and of a depth equal to the depth required. They shall be securely staked to line and grade and forms for curbs shall be of approved material, shall be of such design so as to provide the curb required, and shall be rigidly attached to outside forms.

The reinforcing steel, if required, shall be placed in position as required by the plans. Care shall be exercised to keep all steel in its proper place.

After the concrete has been struck off and after it has become sufficiently set, the exposed surfaces shall be thoroughly worked with a wooden float. The exposed surfaces shall be rounded by the use of an edging tool to the radius indicated on plans. All exposed surfaces shall be brushed to a smooth and uniform surface.

Curb and gutters shall be placed in sections of 50 feet maximum length unless otherwise shown on the plans. Joints shall be constructed at such locations and of the type as directed and specified on the plans. Joints shall be placed at a maximum of twenty foot intervals using pre-formed asphalt-impregnated boards. Expansion joints shall also be placed at all joints connecting to existing curbing.

For extruded concrete construction, the concrete shall be placed by an extrusion machine approved by the Engineer. When placement is directly on subgrade or foundation materials, the foundation shall be hand tamped and sprinkled if considered necessary by the Engineer.

The line shall be maintained from a guideline set by the Contractor from survey marks established by the Engineer. The outline shall strictly conform to the details shown on the plans. The forming tube of the extrusion machine shall be readily adjustable vertically during the forward motion of the machine to provide required variable heights necessary to conform to the established grade line. To provide a continual check on the grade, a pointer or gauge shall be attached to the machine in such a manner that a comparison can be made between the extruded work and the guideline. Other methods may be used if approved in writing by the Engineer.

The approved mix shall be fed into the machine in such a manner and at such consistency that the finished work will present a well compacted mass with a surface free from voids and honeycomb and true to established shape, line and grade.

Any additional surface finishing specified and/or required shall be performed immediately after extrusion. Joints shall be constructed at such locations as directed by the Engineer and to the details shown on the plans.

175.4 MEASUREMENT

Work and accepted materials as prescribed by this item for concrete curb and gutter will be measured by the linear foot, complete, in place.

175.5 PAYMENT

The work performed and materials furnished as prescribed by this item and measured as provided under "MEASUREMENT" will be paid for at the unit price bid for "CONCRETE CURB AND GUTTER" of the type indicated on the plans. The price for each item shall be full compensation for: cleaning and coating the base; furnishing and applying of water, mortar, adhesives or other material, including reinforcing steel and dowel bars, if required; for furnishing, loading, unloading, storing, hauling and handling all ingredients, including all freight and royalty involved; for mixing, placing, finishing, cleaning and sealing joints and curing all concrete; for furnishing all materials for sealing joints, placing joints and joint filler material in proper position; and for all manipulations, labor, equipment, appliances, tools, traffic provisions and incidentals necessary to complete the work.

SPECIAL PROVISION TO TECHNICAL SPECIFICATION ITEM 175

CONCRETE CURB AND GUTTER

Sub-sections **175.4 MEASUREMENT** and **175.5 PAYMENT** do NOT apply to work performed under this contract. Compensation for concrete curb and gutters shall be included in the lump sum price bid for “*saw-cut, remove & replace existing curb/gutter*”.

ITEM 180

SIDEWALKS AND DRIVEWAYS

180.1 DESCRIPTION

This item shall govern for sidewalks and/or driveways, with or without reinforcing steel, composed of hydraulic cement concrete constructed on approved subgrade, foundation material or finished surface in accordance with the lines and grades established by the Engineer, with the details shown in the plans and with City standards.

180.2 MATERIALS

Concrete used in conventionally formed construction shall be "Class A" Concrete. Reinforcing steel, if required, shall conform to the requirements on the plans.

180.3 CONSTRUCTION METHODS

For formed concrete, the subgrade or foundation shall be shaped to line, grade and cross-section and if considered necessary by the Engineer, hand tamped and sprinkled. If dry, the subgrade or foundation material shall be sprinkled lightly immediately before concrete is deposited thereon. Outside forms shall be of wood or metal, of a section satisfactory to the Engineer, straight, free of warp and of a depth equal to the depth required. They shall be securely staked to line and grade and maintained in a true position during the depositing of concrete. The reinforcing steel, if required, shall be placed in position as required on the plans. Care shall be exercised to keep all steel in its proper location. Sidewalks shall be constructed in sections of the lengths shown on the plans. The different sections shall be separated by a pre-molded or board joint of the thickness shown on the plans, placed vertically and at right angles to the longitudinal axis of the sidewalk. Where the sidewalk or driveways abut a curb or retaining wall, approved expansion material shall be placed along their entire length. Similar expansion material shall be placed around all obstructions protruding through sidewalks or driveways. Sidewalks shall be marked into separate sections, each 6 feet in length by the use of approved jointing tools.

180.4 MEASUREMENT

Work and accepted material as prescribed by this item for concrete sidewalk shall be in accordance with the units specified on the bid form and indicated on the plans, complete in place. Work and accepted material as prescribed by this item for concrete driveway shall be measured by the square yard of surface area, complete in place.

180.5 PAYMENT

The work performed and materials furnished as prescribed by this item and measured as provided under "MEASUREMENT," will be paid for at the unit price bid for "Concrete Sidewalks" or "Concrete Driveway" of the width indicated on the plans. The price for each item shall be full compensation for cleaning and coating the base, furnishing and applying all water, mortar, adhesives or other material, including reinforcing steel and dowel bars, if required, for furnishing, loading and unloading, storing, hauling and handling all ingredients, including all freight and royalty involved, for mixing, placing, finishing, sawing, cleaning and sealing joints and curing all concrete, for furnishing all materials for sealing joints and placing joints and joint filler material in proper position and for all manipulations, labor, equipment, appliances, tools, traffic provisions and incidentals necessary to complete the work.

ITEM 230

REINFORCED CONCRETE PIPE

230.1 DESCRIPTION

This item shall govern for the furnishing and placing of reinforced concrete pipe. The pipe shall be installed in accordance with the requirements of these specifications, to the lines and grades as shown on the plans, and shall be of the classes, sizes and dimensions shown thereon. The installation of the pipe shall include all joints or connections to new or existing pipe, headwalls, etc., as may be required to complete the work.

230.2 MATERIALS

(A) General Except as modified herein, materials, manufacture and design of pipe shall conform to ASTM Designation C-76 or C-655 for circular pipe, ASTM Designation C-506 for arch pipe, ASTM Designation C-507 for elliptical pipe or ASTM Designation C-789 or C-850 for box culverts. All pipe shall be machine made or cast by a process which will provide for uniform placement of the concrete in the form and compaction by mechanical devices which will assure a dense concrete. Concrete shall be mixed in a central batch plant or other approved batching facility from which the quality and uniformity of the concrete can be assured. Transit mixed concrete will not be acceptable for use in pre-cast concrete pipe. Unless otherwise shown on the plans, not more than two holes may be placed in the top section of pipe for lifting and placing. The hole may be cast, cut or drilled in the wall of the pipe. The holes shall not exceed 3 inches in diameter at the inside surface of the pipe wall. Not more than one longitudinal wire or two circumferential wires may be cut per layer of reinforcing steel when locating lift holes in the pipe wall. After the pipe is in place, lift holes shall be filled with concrete or mortar to the satisfaction of the Engineer.

(B) Design Circular pipe shall of the class or D-Load specified on the plans. Regardless of the design specified, the contractor may furnish pipe to either ASTM C-76 or C-655 specifications.

(C) Physical Test Requirements The acceptability of the pipe shall be determined by the results of the physical tests outlined herein, by appropriate material tests required in ASTM Designations C-76, C-506, C-507, or C-655, by absorption tests on selected samples from the wall of the pipe, and by inspection of the finished pipe to determine its conformance with the required design and its freedom from defects. A Three-Point Bearing test shall be performed on one pipe for each 100 pipe or fraction thereof of each type, size, class or D-Load for the load to produce a 0.01 inch crack and, at the discretion of the Engineer, the ultimate load. Pipe which has been tested only to the formation of 0.01 inch crack shall be marked "TEST" and accepted for use. As an alternate to the Three-Point Bearing test, concrete pipe 60 inches in diameter and larger may be accepted on the basis of compressive strength of cores cut from the wall of pipe. The Manufacturer shall furnish facilities and personnel for taking the cores and determining the compressive strength of the samples. Three-Point Bearing tests and core tests shall be in accordance with ASTM Designation C-497. The manufacturer shall plug and seal core holes in the pipe wall, after testing in a manner satisfactory to the Engineer. When testing pipe with lift holes, the pipe shall be positioned in the test machine with the lift holes on top.

(D) Sizes and Permissible Variations

(1) Variations in diameter, size, shape, wall thickness, reinforcement, placement of reinforcement, laying length and the permissible under-run of length shall be in accordance with the applicable ASTM Specification for each type of pipe as referred to previously.

(2) Where rubber gasket pipe joints are to be used, the design of the joints and permissible variations in dimensions shall be in accordance with ASTM Designation C-443.

(E) Workmanship and Finish Pipe shall be substantially free from fractures, large or deep cracks and surface roughness. The ends of the pipe shall be normal to the walls and centerline of the pipe.

(F) Curing Pipe shall be cured in accordance with the applicable ASTM specification for each type of pipe as referred to herein.

(G) Jointing Materials Unless otherwise specified on the plans the Contractor shall have the option of making the joints using any of the following materials:

(1) Mortar. Mortar for joints shall not be allowed.

(2) Cold Applied. Plastic Asphalt Sewer Joint Compound.

This material shall be suitable for jointing concrete pipe. It shall consist essentially of natural and/or processed asphalt base, suitable volatile solvents, and inert filler, a portion of which shall be asbestos fiber. The consistency is to be such that the ends of the pipe can be coated with a layer of the compound

up to one-half inch thick by means of a trowel. It shall cure to a firm stiff plastic condition after application. The material shall be of a uniform mixture and any small separation occurring in the container before use must be readily stirred back to form a uniform mix.

This material shall meet the following requirements when tested according to Test Method Tex-256-C:

Asphalt base, 100 - (% Volatiles + % Ash), % by wt. 28-45

Volatiles by 212 evaporation, 24 hours % by wt. 10-26

Mineral Matter determined as Ash, % by wt. 30-55

Consistency, Cone Penetration, 150 g., 5 sec., 77150-275

(3) Rubber Gaskets. These gaskets shall conform to ASTM Designation C-361 or C-443, with the provision that the Contractor shall furnish the Engineer with the Manufacturer's Certificate of Analysis.

(4) Cold Applied Preformed Plastic Gaskets. This material shall be suitable for sealing joints of tongue and groove concrete pipe. The gasket sealing the joint shall be produced from blends of refined hydrocarbon resins and plasticizing compounds reinforced with inert mineral filler and shall contain no solvents, irritating fumes or obnoxious odors. The gasket joint sealer shall not depend on oxidizing, evaporating or chemical action for its adhesive or cohesive strength, and shall be supplied in extruded rope form of suitable cross-section. The size of the plastic gasket joint sealer shall be in accordance with the manufacturer's recommendations and sufficient to obtain the "squeeze out." The gasket joint sealer shall be protected by a suitable wrapper so designed that when removed at the proper time, the jointing material will maintain its integrity.

(5) For jointing materials (2), (3) and (4) as described above, the Contractor shall furnish the Engineer with the Manufacturer's Certificate of Compliance.

230.3 CONSTRUCTION METHODS

Reinforced concrete pipe culverts shall be constructed from the specified materials in accordance with the following methods and procedures:

(A) Excavation shall conform to the lines and grades indicated on the plans or as revised or established by the Engineer. Any changes in the details of a structure resulting from revised excavation requirements shall be as directed by the Engineer. All trenching shall comply with the item for "TRENCH SAFETY SYSTEM" included in these technical specifications.

Unless otherwise required herein or on the plans, rock or other hard foundation material shall be free from all loose material, clean and cut to firm surface either level, stepped or serrated, as directed by the Engineer.

Excavated material to be used for backfill may be deposited in storage piles located at points convenient for backfilling operations as approved by the Engineer. The survey centerline of the structure, hub lines of any unit of the structure or any other reference line established by construction stakes, shall be kept free of any obstruction.

Excavated material to be wasted shall be disposed of as directed by the Engineer. It shall not obstruct any stream or otherwise impair the efficiency or appearance of the structure or other part of the work. For all pipe culverts where the soil encountered at established footing grade is quicksand, muck or similar unstable material, the following procedure shall be used unless other methods are called for on the plans:

Excavation shall be carried at least one foot horizontally beyond the limits of the structure on all sides. All unstable soil removed shall be replaced with suitable stable material, in uniform layers of suitable depth of compaction. Each layer shall have the proper moisture content and shall be compacted by adequate rolling or tamping as required to provide a stable foundation for the structure. Soil which has sufficient stability to properly sustain the adjacent sections of the roadway embankment will be considered a suitable foundation material.

When it is not feasible to construct a stable footing as outlined above, the Contractor shall construct it by the use of special materials, such as flexible base, cement stabilized base, cement stabilized backfill or other material, as directed by the Engineer.

(B) Backfilling As soon as practical, all portions of the excavation not occupied by the permanent structure shall be backfilled. Backfill material shall be free from large or frozen lumps, wood, or other extraneous material. Selected materials from excavation, borrow or other approved material shall be wetted, if

required, and placed along both sides of the pipe equally, in uniform layers not exceeding six inches in depth (loose measurement) and compacted to 90% standard proctor density, ASTM D-698, so that there will be a berm of compacted material on each side of the pipe.

Backfilling shall be continued in this manner to the elevation of the top of pipe. Special care shall be taken to secure thorough compaction of the material placed under the haunches of the pipe. All fill or backfill below the top of pipe shall be compacted mechanically in the manner and to the density prescribed above, regardless of whether or not such material is placed within the limits of the embankment or roadbed.

In the case of pipe placed in trenches under embankment or roadbed, that portion of the backfill above the top of the pipe shall be placed in uniform layers, not to exceed eight (8) inches compacted to 96% standard proctor density, ASTM D-698, up to two (2) feet of final grade and to 98% within the top two (2) feet. The portion which will not support any portion of embankment or roadbed shall be placed in layers not more than 10 inches in depth (loose measurement) and shall be compacted by whatever means the Contractor chooses, to a density comparable with the adjacent, undisturbed material.

Whenever excavation is made for installing pipe across private property or beyond the limits of the embankment, the topsoil removed in excavating the trench shall be kept separate and replaced as nearly as feasible in its original position, and the entire area involved in the construction operations shall be restored to a presentable condition, equal to or better than the condition before construction.

(C) Laying Pipe Unless otherwise authorized by the Engineer, the laying of pipe on the prepared foundation shall be started at the outlet end with the spigot or tongue end pointing downstream and shall proceed toward the inlet end with the abutting sections properly matched, true to the established lines and grades. Where bell and spigot pipe are used, cross trenches shall be cut in the foundation to allow the barrel of the pipe to rest firmly upon the prepared bed. These cross trenches shall be not more than two inches larger than the bell ends of the pipe. Proper facilities shall be provided for hoisting and lowering the sections of pipe into the trench without disturbing the prepared foundation and sides of the trench. The ends of the pipe shall be carefully cleaned before the pipe is placed. As each length of pipe is laid, the mouth of the pipe shall be protected to prevent the entrance of earth or bedding material. The pipe shall be fitted and matched so that when laid in the bed it shall form a smooth, uniform conduit. When elliptical pipe with circular reinforcing or circular pipe with elliptical reinforcing is used, the pipe shall be laid in the trench in such a position that the markings "Top" or "Bottom" shall not be more than 5 degrees from the vertical plane through the longitudinal axis of the pipe.

(D) Jointing

- (1) Joints using Cold Applied, Plastic Asphalt Sewer Joint Compound shall be made as follows:

Both ends of the pipes shall be clean and dry and shall be coated with a suitable primer of the type recommended by the manufacturer. After the pipe has been set to proper line and grade in the trench, a one-half of an inch thick layer of the compound shall be troweled or otherwise placed on the groove end of the pipe covering not less than two-thirds of the joint face around the entire circumference. Next, the tongue end of the next pipe shall be shoved home with sufficient pressure to make a tight joint. After the joint is made, any excess mastic projecting into the pipe shall be removed. Backfilling of pipe laid with asphalt mastic joints may proceed as soon as the joint has been inspected and approved by the Engineer. Special precautions shall be taken in placing and compacting backfill to avoid damage to the joints.

- (2) Joints using Rubber Gaskets shall be made as follows:

Where rubber gasket pipe joints are required by the plans, the joint assembly shall be made according to the recommendations for the gasket manufacturer. Water tight joints will be required when using rubber gaskets. Backfilling may begin when approved by the Engineer.

- (3) Joints using Cold Applied Preformed Plastic gaskets shall be made as follows:

Before laying the pipe in the trench, the plastic gasket shall be attached around the tongue or groove near the shoulder or hub of each joint. The protective wrapper shall be removed at the proper time so that the gasket may be pressed firmly to the clean, dry surface of the pipe. The joint sealer must be placed in such a manner that no dirt or other deleterious materials will come in contact with the joint

sealing material. After the tongue is correctly aligned with the flare of the groove, the wrapper or wrappers on the gasket shall be removed and the pipe shall be pulled or pushed home with sufficient force to cause evidence of "squeeze-out" of the gasket material on the inside or outside around the complete pipe joint circumference. Any joint material pushed out into the interior of the pipe that would tend to obstruct the flow shall be removed. (Pipe shall be pulled home in a straight line with all parts of the pipe on line and grade at all times.) Backfilling of pipe laid with plastic gasket joints may proceed as soon as the joint has been inspected and approved by the Engineer. Special precautions shall be taken in placing and compacting backfill to avoid damage to the joints.

When the atmospheric temperature is below 60 degrees, plastic joint seal gaskets shall either be stored in an area warmed to above 70 degrees or artificially warmed to this temperature in a manner satisfactory to the Engineer. Gaskets shall then be applied to pipe joints immediately prior to placing pipe in trench, followed by immediate connection to previously laid pipe.

(E) Protection of Pipe Unless otherwise shown on the plans or permitted in writing by the Engineer, no heavy earth moving equipment will be permitted to haul over the structure until a minimum of 4 feet of permanent or temporary, compacted fill has been placed thereon. Pipe damaged by the Contractor's equipment shall be removed and replaced by the Contractor at no additional cost to the Owner.

230.4 MEASUREMENT

Reinforced concrete pipe will be measured by the linear foot. Such measurement will be made between the ends of the pipe barrel along its flow line. Where spurs or branches or connections to existing pipe lines are involved, measurement of the spur of new connecting pipe will be made from the intersection of its central axis with the outside surfaces of the pipe into which it connects. Where inlets, headwalls, catch basins, manholes, junction chambers, or other structures are included in lines of pipe, that length of pipe tying into the structure will be included for measurement, but no other portion of the structure length or width will be so included.

230.5 PAYMENT

Payment shall be full compensation for:

- (1) furnishing and transporting the pipe
- (2) hauling and placing of earth cushion material where required for bedding the pipe
- (3) special bedding
- (4) preparation and shaping of beds
- (5) hauling, placing and jointing of pipes
- (6) moving and reusing headwalls
- (7) all connections to existing structures and
- (8) all other items of materials, labor, equipment, tools and incidentals necessary to complete, in place, the excavation, installation and backfill of the culvert or storm sewer in accordance with the plans and these specifications.

ITEM 235

STORM SEWER POLYPROPYLENE PIPE

235.1 MATERIALS AND CONSTRUCTION PROCEDURE

All materials and construction procedures for this item shall consist of pipe manufactured from Polypropylene (PP). The installation of the pipe shall include all joints, connections to new or existing pipe, inlets, catch basins, headwalls, etc., as may be required to complete the work.

235.2 GRAVITY STORM SEWER PIPE

The gravity storm sewer collection system shall be constructed of PP with an annular corrugated exterior and an integrally formed smooth interior. The pipe shall be manufactured with an integral bell joint that requires no separate fitting or coupler. Bell joints shall be manufactured with factory assembled rubber gaskets. All PP pipe shall comply with applicable requirements of ASTM F2881, ASTM D3212, ASTM F477, and AASHTO M330. When the joint is assembled according to manufacturers recommendation, it will prevent misalignment of adjacent pipes and form a silt-tight joint. Joints shall be watertight according to the requirements of ASTM D3212.

All fittings and accessories shall be as manufactured and furnished by the pipe supplier, or approved equal, and have bell and/or spigot configurations compatible with that of the pipe, and meet the watertight joint performance requirements of ASTM D3212.

235.3 EXCAVATION

(A) Safety

The Contractor shall excavate the trench to a sufficient width to allow for properly making the joints, but the trench width shall not be less than 12 inches nor more than 18 inches greater than the outside diameter of the pipe from the bottom of the pipe to a point not less than twice the diameter of the pipe above the top of the pipe, unless a greater width is specifically permitted by the Engineer. All trenching shall comply with the Technical Specification Trench Safety System.

Excavation shall be by the open trench method to the depth indicated on the plans and of the necessary width. No tunneling will be allowed except by written permission of the Engineer. The Engineer reserves the right to limit the amount of trench to be open at any one time in advance of the completed line. The amount of trench open at any time shall not exceed 500 feet, and the trench shall be backfilled and the ditch line cleaned up and graded up to a point not to exceed 1000 feet in rear of the most advanced point of pipe laying. All excavated material shall be placed on one side of the trench where possible; in the event such is impractical, a berm of at least 2 feet width shall be left along one side to permit the Engineer's stakes to be set properly.

The Contractor shall not remove from the site any material which has been excavated and might be needed in refilling trenches until the trenches have been refilled and tamped to the satisfaction of the Engineer. Where trenches are in streets and roads, the Contractor shall haul off and dispose of any excess soil remaining after the trenches are backfilled. If and when any trench needs refilling, the Contractor shall haul back sufficient earth to refill the trench. Hauling off excess soil and hauling back dirt to refill trenches shall be done as required without any additional payment. The Contractor shall provide lights and barricades around trenches in or adjacent to streets and roads that are left open overnight.

The bottom of the trench shall be graded and prepared by hand so that the pipe, when laid, will be on the proper grade. This may be accomplished in either of two methods:

- (1) Cut the trench to the exact grade. This may be done by machine where the control of the depth of cut of the machine is sufficiently close so that the grade is exact. If the machine cannot cut to grade accurately enough, the machine excavation shall be slightly less, and the final excavation made by hand. The bottom of the finished trench shall be exactly smooth and to grade, so that the barrel of each joint of pipe is uniformly supported along its entire length. If this method is used, bell holes shall be dug in the trench bottom of sufficient depth and width to allow the joints to be made properly if handwork in making the joints is required, or large enough only to prevent the bell from supporting the pipe if integral bell is larger in diameter than the pipe barrel.
- (2) Undercut the trench an amount equal to the depth necessary for the bell holes. If the trench is undercut

either intentionally or accidentally, it shall be refilled to the proper grade with selected sand backfill material that is free from rocks or large clods, or with the backfill material thoroughly rammed into place using pneumatic tamps or vibrating tamper of the type approved by the Engineer.

The Contractor may use either method at his option. He may, if desired, use the undercutting and vibrating method when the excavation is in sandy soil, and handgrading when in plastic soils.

Should rock be encountered, the trench shall be excavated to a point four inches below the bottom of the pipe and refilled to grade with earth or sand, which shall be thoroughly rammed in place, without extra cost to the Owner.

All excavation payment shall be included in the bid price per linear foot for the completed sewer line. No special or extra payment will be made for wet excavation or excavation in rock. The unit price bid per foot of pipe shall include all costs for this work.

(B) Protection of Existing Improvements

Reasonable care has been exercised in showing the location of existing utilities on the plans. The exact location of such utilities is not known in all cases. The Contractor shall explore the area ahead of the ditching operation by observations and/or electronic devices to locate such utilities in advance of trenching operations, and shall conduct his work so as to minimize damage to the existing structures.

Existing utilities shall be properly supported and protected from damage during the progress of the work. All pipelines, utilities or structures which are broken or damaged shall be reconstructed of the same material, to the satisfaction of the Engineer at no cost to the Owner.

No additional compensation will be allowed the Contractor because of interference from existing improvements which are not shown on the Plans.

Where trenches are located closely adjacent to buildings, foundations and structures, the Contractor shall take all necessary precautions against damage to them. The Contractor shall be liable for any damage caused by the new construction.

(C) Shoring and Sheet piling

The side walls of the trench shall be shaped in accordance with all Occupational Safety & Health Administration standards as set forth in the Technical Specification Trench Safety System, unless the Contractor chooses the alternative of using a Trench Excavation Box.

Except where banks are cut back on a stable slope, excavation for structures and trenches shall be properly and substantially sheeted, braced and shored as necessary to prevent caving or sliding, to provide protection for workmen and the work, and provide protection for existing structures and facilities. Sheet piling, bracing and shoring shall withstand earth movement or pressure, and shall be rigid, maintaining shape and position under all circumstances.

(D) De-watering

The Contractor shall provide and maintain adequate de-watering equipment to remove and dispose of all surface and ground water entering excavations, trenches or other parts of the work. Each excavation shall be kept dry during subgrade preparation, and continually thereafter until the structure to be built or the pipe to be installed herein, is completed to the extent that no damage from hydrostatic pressure, flotation or other cause will result.

All excavations for concrete structures or trenches, which extend down to or below static groundwater elevations, shall be de-watered by lowering and maintaining the groundwater surface beneath such excavations a distance of not less than 12 inches below the bottom of the excavations.

Surface water shall be diverted or otherwise prevented from entering excavated areas or trenches to the greatest extent practicable without causing damage to adjacent property.

235.4 LAYING PIPE

(A) General

Pipe shall be laid in the trench so that the interior surface of the bottom side of the pipe shall conform accurately to the flow line on the Engineer's profile. Pipes shall be laid accurately to the line and grade with the spigot end downstream and entering the barrels to full depth. Any adjustment necessary to obtain the correct lines and grade shall be accomplished by tamping in or removing of soil, and in no case by wedging or blocking up.

All water accumulating in the trench must be bailed or pumped out so as to keep the trench bottom to the proper grade. Water shall not be allowed to run over the hand-graded foundation or through the sewer pipe during construction. The ends of sewer lines must be kept plugged to prevent entrance of mud, sand, or other materials. Water shall be disposed of in a manner acceptable to the Engineer. No extra payment of any kind shall be made for disposing of the water, regardless of whatever means the Contractor must use to meet these specifications.

The Contractor shall, upon leaving the work overnight or any other time, close the pipe with a tight fitting plug. In order to guard against the possibility of the line being floated out of alignment by rain or seep water, the lines shall be weighted down or secured in place by other methods prior to leaving the work overnight or at any other time.

Protective gasket and bell wraps installed by the pipe manufacturer to keep the gasket and bell free from debris shall not be removed until joint assembly takes place. A joint lubricant from the manufacturer, or approved by the manufacturer, shall be used on the gasket and bell during assembly.

Wherever sewer, water, gas lines, or any other utilities are encountered in the trench, they shall be rigidly supported and braced in such a manner that no settling will occur either before or after construction. Any breaks in utility lines resulting from trenching shall be repaired by the Contractor immediately without any compensation from the Owner. Each repair shall be made with materials as good or better than the original line.

(B) Bedding of the Pipe

All PP storm sewer pipe shall be bedded in a clean sand or approved compacted material conforming to Class I or II material as designated in ASTM D2321, unless otherwise specified on the plans. Bedding depth shall be minimum 4" for pipes 12"-30" diameter pipes, and 6" for 36"-60" diameter pipes, unless otherwise specified on the plans. Storm sewer pipe placed under pavements shall conform to special bedding details as shown on the plan sheets.

(C) Alignment Tolerance

Before placement of pipe the line and grade shall be carefully checked by use of a string line, laser beam or other means so that when in final position, the pipe will be true to line and grade, +0.05 feet for pipe sizes through 12 inches and +0.10 feet for pipe sizes 15 inches and larger.

235.5 BACKFILLING

All PP storm pipe initial backfill material shall be Class I, or II as designated in ASTM D2321 from pipe bedding (bottom of pipe) up to and covering the top of pipe, unless otherwise specified on the plans. Final backfill, from top of pipe to finished grade, shall be as specified on the plans. Storm sewer pipe placed under pavements shall conform to special backfill details as shown on the plan sheets.

235.6 MEASUREMENT

PP pipe will be measured by the linear foot. Such measurement will be made between the ends of the pipe barrel along its flow line. Where spurs or branches or connections to existing pipe lines are involved, measurement of the spur of new connecting pipe will be made from the intersection of its central axis with the outside surfaces of the pipe into which it connects. Where inlets, headwalls, catch basins, manholes, junction chambers, or other structures are included in lines of pipe, that length of pipe tying into the structure will be included for measurement, but no other portion of the structure length or width will be so included.

235.7 PAYMENT

Payment shall be full compensation for:

- (1) furnishing and transporting the pipe
- (2) hauling and placing of earth cushion material where required for bedding the pipe
- (3) preparation and shaping of beds
- (4) hauling, placing and jointing of pipes
- (5) moving and reusing headwalls
- (6) all connections to existing structures and
- (7) all other items of materials, labor, equipment, tools and incidentals necessary to complete, in place, the excavation, installation and backfill of the culvert or storm sewer in accordance with the plans and these specifications.

ITEM 240

STORM SEWER POLYVINYL CHLORIDE PIPE

240.1 MATERIALS AND CONSTRUCTION PROCEDURE

All materials and construction procedures for this item shall consist of pipe manufactured from unplasticized polyvinyl chloride (PVC).

240.2 GRAVITY STORM SEWER PIPE

Single-wall plastic gravity sewer pipe and fittings shall be unplasticized polyvinyl chloride (PVC) plastic pipe with integral wall Bell and Spigot joints for the conveyance of domestic sewage conforming to the extra strength minimum of SDR-26 of the requirements of ASTM Specification D-3034-73 unless otherwise shown on the plans. All fittings and accessories shall be as manufactured and furnished by the pipe supplier or approved equal and shall have Bell and/or Spigot configurations identical to that of the pipe. PVC pipe must have provisions for contraction and expansion at each joint with a rubber ring. The Bell shall consist of an integral wall section with a solid cross-section rubber ring, factory-assembled, securely locked in place to prevent displacement. On any pipe cut prior to use, a new reference line shall be marked on the Spigot end to provide a visual means of determining whether full insertion of the Spigot into the Bell has been made during the installation.

240.3 EXCAVATION

(A) Safety

The Contractor shall excavate the trench to a sufficient width to allow for properly making the joints, but the trench width shall not be less than 12 inches nor more than 18 inches greater than the outside diameter of the pipe from the bottom of the pipe to a point not less than twice the diameter of the pipe above the top of the pipe, unless a greater width is specifically permitted by the Engineer. All trenching shall comply with the Technical Specification Trench Safety System.

Excavation shall be by the open trench method to the depth indicated on the plans and of the necessary width. No tunneling will be allowed except by written permission of the Engineer. The Engineer reserves the right to limit the amount of trench to be open at any one time in advance of the completed line. The amount of trench open at any time shall not exceed 500 feet, and the trench shall be backfilled and the ditch line cleaned up and graded up to a point not to exceed 1000 feet in rear of the most advanced point of pipe laying. All excavated material shall be placed on one side of the trench where possible; in the event such is impractical, a berm of at least 2 feet width shall be left along one side to permit the Engineer's stakes to be set properly.

The Contractor shall not remove from the site any material which has been excavated and might be needed in refilling trenches until the trenches have been refilled and tamped to the satisfaction of the Engineer. Where trenches are in streets and roads, the Contractor shall haul off and dispose of any excess soil remaining after the trenches are backfilled. If and when any trench needs refilling, the Contractor shall haul back sufficient earth to refill the trench. Hauling off excess soil and hauling back dirt to refill trenches shall be done as required without any additional payment. The Contractor shall provide lights and barricades around trenches in or adjacent to streets and roads that are left open overnight.

The bottom of the trench shall be graded and prepared by hand so that the pipe, when laid, will be on the proper grade. This may be accomplished in either of two methods:

- (1) Cut the trench to the exact grade. This may be done by machine where the control of the depth of cut of the machine is sufficiently close so that the grade is exact. If the machine cannot cut to grade accurately enough, the machine excavation shall be slightly less, and the final excavation made by hand. The bottom of the finished trench shall be exactly smooth and to grade, so that the barrel of each joint of pipe is uniformly supported along its entire length. If this method is used, bell holes shall be dug in the trench bottom of sufficient depth and width to allow the joints to be made properly if handwork in making the joints is required, or large enough only to prevent the bell from supporting the pipe if pre-molded joint VC pipe or rubber-gasketed concrete or PVC pipe is used.
- (2) Undercut the trench an amount equal to the depth necessary for the bell holes. If the trench is undercut either intentionally or accidentally, it shall be refilled to the proper grade with selected sand backfill material that is free from rocks or large clods, or with the backfill material thoroughly rammed into place using

pneumatic tamps or vibrating tamper of the type approved by the Engineer.

The Contractor may use either method at his option. He may, if desired, use the undercutting and vibrating method when the excavation is in sandy soil, and handgrading when in plastic soils.

Should rock be encountered, the trench shall be excavated to a point four inches below the bottom of the pipe and refilled to grade with earth or sand, which shall be thoroughly rammed in place, without extra cost to the Owner.

All excavation payment shall be included in the bid price per linear foot for the completed sewer line. No special or extra payment will be made for wet excavation or excavation in rock. The unit price bid per foot of pipe shall include all costs for this work.

(B) Protection of Existing Improvements

Reasonable care has been exercised in showing the location of existing utilities on the plans. The exact location of such utilities is not known in all cases. The Contractor shall explore the area ahead of the ditching operation by observations and/or electronic devices to locate such utilities in advance of trenching operations, and shall conduct his work so as to minimize damage to the existing structures.

Existing utilities shall be properly supported and protected from damage during the progress of the work. All pipelines, utilities or structures which are broken or damaged shall be reconstructed of the same material, to the satisfaction of the Engineer at no cost to the Owner. Where trenches are located closely adjacent to buildings, foundations and structures, the Contractor shall take all necessary precautions against damage to them. The Contractor shall be liable for any damage caused by the new construction.

No additional compensation will be allowed the Contractor because of interference from existing improvements which are not shown on the Plans.

(C) Shoring and Sheeting

The side walls of the trench shall be shaped in accordance with all Occupational Safety & Health Administration standards as set forth in the Technical Specification Trench Safety System, unless the Contractor chooses the alternative of using a Trench Excavation Box.

Except where banks are cut back on a stable slope, excavation for structures and trenches shall be properly and substantially sheeted, braced and shored as necessary to prevent caving or sliding, to provide protection for workmen and the work, and provide protection for existing structures and facilities. Sheeting, bracing and shoring shall withstand earth movement or pressure, and shall be rigid, maintaining shape and position under all circumstances.

Trench sheeting shall not be pulled unless the pipe strength is sufficient to carry trench loads based on trench width to the back of sheeting. Also, it shall not be pulled after backfilling. Where trench sheeting is left in place, such sheeting shall not be braced against the pipe but shall be supported in a manner that will preclude concentrated loads or horizontal thrusts on the pipe. Cross braces installed above the pipe to support sheeting may be removed after pipe embedment has been completed.

(D) Dewatering

The Contractor shall provide and maintain adequate dewatering equipment to remove and dispose of all surface and ground water entering excavations, trenches or other parts of the work. Each excavation shall be kept dry during subgrade preparation, and continually thereafter until the structure to be built or the pipe to be installed herein, is completed to the extent that no damage from hydrostatic pressure, flotation or other cause will result.

All excavations for concrete structures or trenches, which extend down to or below static groundwater elevations, shall be dewatered by lowering and maintaining the groundwater surface beneath such excavations a distance of not less than 12 inches below the bottom of the excavations. Surface water shall be diverted or otherwise prevented from entering excavated areas or trenches to the greatest extent practicable without causing damage to adjacent property.

240.4 LAYING PIPE

(A) General

Pipe shall be laid in the trench so that the interior surface of the bottom side of the pipe shall conform accurately to the flow line on the Engineer's profile. Pipes shall be laid accurately to the line and grade with the spigot end downstream and entering the barrels to full depth. Any adjustment necessary to obtain the correct lines and grade shall be accomplished by tamping in or removing of soil, and in no case by wedging or blocking up.

All water accumulating in the trench must be bailed or pumped out so as to keep the trench bottom to the proper grade. Water shall not be allowed to run over the hand-graded foundation or through the sewer pipe during construction. The ends of sewer lines must be kept plugged to prevent entrance of mud, sand, or other materials. Water shall be disposed of in a manner acceptable to the Engineer. No extra payment of any kind shall be made for disposing of the water, regardless of whatever means the Contractor must use to meet these specifications.

The Contractor shall, upon leaving the work overnight or any other time, close the pipe with a tight fitting plug. In order to guard against the possibility of the line being floated out of alignment by rain or seep water, the lines shall be weighted down or secured in place by other methods prior to leaving the work overnight or at any other time.

Wherever sewer, water, gas lines, or any other utilities are encountered in the trench, they shall be rigidly supported and braced in such a manner that no settling, will occur either before or after construction. Any breaks in utility lines resulting from trenching shall be repaired by the Contractor immediately without any compensation from the Owner. Each repair shall be made with materials as good or better than the original line.

(B) Bedding of the Pipe

All PVC storm sewer pipe shall be bedded in a clean sand or approved compacted material conforming to Class I or II material as designated in ASTM D2321. Storm sewer pipe placed under pavements shall conform to special bedding details as shown on the plan sheets.

(C) Alignment Tolerance

Before placement of pipe the line and grade shall be carefully checked by use of a string line, laser beam or other means so that when in final position, the pipe will be true to line and grade, +0.05 feet for pipe sizes through 12 inches and +0.10 feet for pipe sizes 15 inches and larger.

240.5 BACKFILLING

All backfill shall be placed in accordance with the provisions of the Technical Specification Excavation, Trenching and Backfilling for Utilities unless otherwise indicated on the plans.

240.6 MEASUREMENT

Polyvinyl chloride pipe will be measured by the linear foot. Such measurement will be made between the ends of the pipe barrel along its flow line. Where spurs or branches or connections to existing pipe lines are involved, measurement of the spur or new connecting pipe will be made from the intersection of its central axis with the outside surfaces of the pipe into which it connects. Where inlets, headwalls, catch basins, manholes, junction chambers, or other structures are included in lines of pipe, that length of pipe tying into the structure will be included for measurement, but no other portion of the structure length or width will be so included.

240.7 PAYMENT

Payment shall be full compensation for:

- (1) furnishing and transporting the pipe
- (2) hauling and placing of earth cushion material where required for bedding the pipe
- (3) preparation and shaping of beds
- (4) hauling, placing and jointing of pipes
- (5) moving and reusing headwalls
- (6) all connections to existing structures and
- (7) all other items of materials, labor, equipment, tools and incidentals necessary to complete, in place, the excavation, installation and backfill of the culvert or storm sewer in accordance with the plans and these specifications.

ITEM 260

MANHOLES AND INLETS

260.1 DESCRIPTION

This item shall govern for the construction of manholes and inlets complete in place or to the stage detailed on the plans and the materials used therein, including the installation, and when required, the furnishing of frames, rings and covers. Junction boxes shall be classified as manholes.

(A) Types The various types of manholes and inlets are designated on the plans by letters or numbers indicating the particular design of each. Each type shall be constructed in accordance with the details shown on the plans and to the depth required by the profile and schedules given.

(B) Stages of Construction All types of manholes and inlets may be built either complete in one stage or in two stages hereinafter described as Stage I Construction and Stage II Construction. Two stage construction shall be appropriate for paving and parking lot inlets. "Staged Construction" does not apply unless noted on the plans and/or shown as separate items on the Bid Schedule.

(1) Stage I Construction shall consist of that portion of manholes and inlets designated as such on the plans. Stage I Construction shall include the furnishing and installation of a temporary wooden cover for both manholes and inlets and the required manhole steps in accordance with the details shown on the plans. Only that portion of the total depth included in Stage I Construction as designated on the plans shall be constructed under Stage I Construction. For Inlet Units, Stage I Construction shall consist of furnishing and installing the sewer pipe from the storm sewer to a point below the top of curb as indicated on the plans including the furnishing and installation of a temporary pre-cast concrete plug for the exposed end of the sewer pipe.

(2) Stage II Construction shall consist of that portion of the complete manhole or inlet not covered under Stage I. This shall include the remaining wall height and top of manhole or inlet including the installation of frames, grates, rings and covers, the furnishing and installation of manhole steps, curb beams and/or collecting basins in accordance with the plans and specifications.

260.2 MATERIALS

(A) Concrete Concrete for manholes and inlets shall be Class "A" Concrete.

(B) Reinforcing Steel Unless otherwise designated on the plans, or herein, all bar reinforcement shall be deformed, and shall conform to one of the following:

ASTM Designation: A-615, Grade 60, open hearth, basic oxygen, or electric furnace new billet steel

ASTM Designation: A-617, Grade 60, axle-steel.

When specific grade is not specified on the plans, the reinforcing steel shall be minimum Grade 60.

(C) Mortar Mortar shall be composed of one part Portland cement and two parts clean, sharp mortar sand.

(D) Concrete Blocks Concrete blocks, when shown on the plans, shall conform to the requirements of ASTM Designation: C-139.

(E) Frames, Grates, Rings and Covers Frames, grates, rings and covers shall conform to the requirements shown on the detail sheet of the plans.

260.3 CONSTRUCTION METHODS

(A) General All concrete work shall be performed in accordance with the requirements and dimensions shown on the plans. Forms will be required for all concrete walls, except where the nature of the surrounding material is such that it can be trimmed to a smooth vertical face. The construction of manholes and inlets for pre-cast concrete pipe sewers shall be done as soon as is practicable after sewer lines are laid into or through the manhole or inlet locations. All sewers shall be cut neatly at the inside face of the walls of the manhole or inlet and pointed up with mortar. All excavation and trenching shall comply with the Technical Specification Trench Safety System.

(B) Inverts The inverts passing out or through the manhole or inlet shall be shaped and routed across the floor of the manhole or inlet as shown on the plans. This shaping may be accomplished by adding and shaping mortar or concrete after the base is cast or by placing the required additional material with the base.

(C) Finishing Stage I Construction Stage I Construction shall be completed by constructing the walls to the elevations shown on the plans and backfilling to required elevations.

(D) Stage II Construction Subgrade and base course construction shall be completed over manholes constructed as provided for Stage I. Stage II Construction of manholes or inlets shall consist thereof of excavating to expose the tip of Stage I Construction and completing the manhole or inlet in accordance with the plans and these specifications, including backfill and cleaning of all debris from the bottom of the manhole or inlet.

(E) Inlet Units Cast iron or steel inlet units shall be installed in conjunction with the construction of concrete curb and gutter or inlet lid as applicable. Prior to placing concrete for curb and gutter, the inlet units shall be set securely in position. Openings for the inlets and recesses in curb and gutter, as indicated on the plans, shall be formed in conjunction with the curb and gutter forms. Concrete for curb and gutter adjacent to the inlets shall be placed using care to secure thoroughly compacted concrete around the inlet casting and formed openings and recesses without displacement of the inlet units in the forms.

260.4 MEASUREMENT

All manholes and inlets satisfactorily completed in accordance with the plans and specifications will be measured by each manhole or inlet, complete, or by each manhole or inlet completed to the stage of construction required by the plans. Extension to inlets will be included in the measurement of inlets.

260.5 PAYMENT

Payment shall be full compensation for all material and labor to install each item complete including excavation and backfill.

(A) Manholes Payment for complete manholes of the type shown on the plans in place and in accordance with these specifications and measured as prescribed above will be made at the unit price bid for each manhole of the type specified and shall be full compensation for each unit including excavation and backfill.

(B) Inlets Payment for inlets of the type shown on the plans in place in accordance with these specifications and measured as prescribed above, will be made at the unit price bid for each inlet of the type specified. Payment for inlets with extensions of the length shown on the plans and measured as prescribed above shall be made at the unit price bid for each inlet.

(C) Manholes, Stage I Payment for Manholes, Stage I in place in accordance with these specifications and measured as prescribed above will be made at the unit price bid for each "Manhole, Stage I" of the type specified.

(D) Manholes, Stage II Payment for Manholes, Stage II in place in accordance with these specifications and measured as prescribed above will be made at the unit price bid for each "Manhole, Stage II" of the type specified.

(E) Inlets, Stage I Payment for Inlets, Stage I in place in accordance with these specifications and measured as prescribed above will be made at the unit price bid for each "Inlet, Stage I" of the type specified.

(F) Inlets, Stage II Payment for Inlets, Stage II in place in accordance with these specifications and measured as prescribed above will be made at the unit price bid for each "Inlet, Stage II" of the type specified.

ITEM 270

EXCAVATION, TRENCHING AND BACKFILLING FOR UTILITIES

270.1 GENERAL

A. Description

Work included: All excavation of trenches for sanitary sewer, water or other pipelines and backfilling after the line has been properly laid, inspected and tested, shall be done according to these specifications and subsequent to clearing the ditch line.

The work required shall include the furnishing of all labor, materials, tools, equipment and machinery necessary for the stripping or removal of top soil or sod and subsoil or rock, the furnishing, placing and maintaining of all sheeting, shoring, and bracing necessary to protect the work, adjacent properties and workers; the furnishing of all pumping, bailing and draining necessary to keep the excavation free from seepage water, water from sewers, drains, ditches, creeks, and other sources; the furnishing of provision for the uninterrupted flow of sewers and surface waters during the progress of the construction; the removal, after the completion of the work, of all sheeting, shoring and bracing not ordered left in place to support the sides of the excavation; the satisfactory disposal of excess and unsuitable materials not required or which cannot be used for backfilling, tamping, compacting and refilling after settlement of all excavated areas; the restoration of all rights-of-way and other lands or structures, private or public, damaged or occupied by the Contractor in the performance of the contract to as good a condition as they were prior to the beginning of the work; and maintenance of any trench settlement that occurs within the warranty period or as otherwise specifically provided.

270.2 PRODUCTS

A. Earthen Materials

1. "Select Backfill" material shall be native material from the trench excavation that is suitable for proper backfill as approved by the Engineer. In all cases select backfill shall be free of trash, sticks and other organic materials as well as lumps, clods or rocks larger than six (6) inches in any dimension. Within one foot of the top of the pipe and the top one foot of the trench, select material shall meet the requirements of "crumbling earth".
2. "Crumbling Earth" as used herein shall refer to select backfill material, free of rocks, lumps, roots and other objectionable matter excavated from the trench which at the time of use is in a crumbled, free-flowing condition and has such properties that it can be placed and made firm and free of voids.
3. "Bank Sand" shall be free flowing, fine grained sand without clay lumps or rock. Bank sand shall not have more than 25 percent passing No. 200 sieve and shall not have a plasticity index exceeding 5, when tested by standard laboratory methods. Sand shall be reasonably clean and free of large lumps of clay, loam, rubbish, vegetative matter or other deleterious substance and shall meet the approval of the Engineer.
4. "Granular Material" shall refer to the various granular, hard mineral types such as pea gravel, bank-run gravel and crushed stone with the following gradation requirements:

<u>Sieve Size</u>	<u>% Passing</u>
1"	100
1/2"	25-60
#4	0-10
#8	0-5

The characteristics of the material shall be of such quality to provide a high confined compressive strength.

B. Cement Stabilized Sand Backfill

1. Mixture of bank sand, Portland cement and water. Use not less than 1-1/2 sacks of cement per cubic yard of mixture unless otherwise noted. Add required amount of water and mix thoroughly in approved type mixer. Stamp batch ticket with time of loading. Material not in place within 1-1/2 hours after loading will be rejected.
2. Portland Cement shall be ASTM C150, Type 1.
3. Water shall be clean and free from injurious amounts of oils, acids, salt, organic matter or other deleterious

materials.

C. Tracer and Warning Materials

1. When non-metallic pipe is used for construction of sanitary sewer or water lines, it shall be marked by laying a tracer wire, direct burial cable, 14 gage THHN Stranded, directly over and running parallel to the line.
2. When metallic or non-metallic pipe is used for construction of utility lines, it shall be marked by laying plastic line marking tape directly over and running parallel to the line. The tape shall be marked with the type of line buried below it. Tape shall be "TERRA TAPE-STANDARD" as manufactured by Reef Industries or approved equal and shall act as an early warning system.

270.3 EXECUTION

A. Excavation

1. Entry upon any private property for performance of any work thereon is prohibited until all required easements or rights-of-way have been obtained.
2. Contractor shall perform all special construction operations and take all special precautions to adequately protect the materials and work performed, the property and landscape of the Owner and others, existing buildings and improvements, existing utilities, workers and employees, and the public in general.
3. Clear the entire width of the permanent easement or right-of-way but clear only such timber and brush from the temporary or construction easement as is necessary for construction of the utility system. The width of the area so cleared shall not extend outside the limits of the easement or street right-of-way as the case may be, as shown on the plans. Trees and timber removed shall be disposed in a manner approved by the Owner.
4. Where trees, plants, shrubbery, etc., are adjacent to the line of the work and are designated not to be destroyed, the Contractor shall protect such trees, plants, shrubbery, etc.
5. Excavate to the approved lines and grades as shown on the drawings. Excavated materials not required for fill or backfill shall be removed from the site and disposed of by the Contractor, at a location approved by the Owner.
6. Excess excavation below the required level shall be backfilled at the Contractor's expense with earth, sand or gravel well compacted, or Class C concrete, as directed by the Engineer.
7. Water accumulated in the excavation shall be removed by pumping or other approved means at the Contractor's expense.
8. Unstable soil shall be removed and replaced with an acceptable backfill material as approved by the Engineer and compacted.
9. Excavation shall be by open cut with trenching machine or back hoe. Where machines other than ladder or wheel type trenching machines are used, excavated material composed of large chunks and clods shall not be used for backfilling.
10. When excavating through paved or otherwise improved surfaces, the Contractor shall restore such surfaces to a condition equal to or better than original, to the satisfaction of the Owner.
11. Contractor shall, at his own expense, shore up and otherwise protect any building or other structure which may be endangered during the work and he shall restore all buildings, culverts, fences, walls, or other properties disturbed during the work to a condition equal to that existing before his operation. Contractor shall be responsible for any injuries to persons, for damages to existing buildings or other structures affected by the work, and Owner shall not be liable therefor.
12. It shall be the responsibility of the Contractor to verify the existence and location of all underground utilities and structures along the route of the work. The omission from or the inclusion of utility locations on the plans shall not be considered as the non-existence of or a definite location of the existing underground utilities and structures.
13. It shall be the responsibility of the Contractor to notify the respective owners when markers or facilities are encountered and to protect and support all water, gas, telephone, electric and other conduits or facilities crossed by the excavation or work to be performed by him or to arrange for their temporary removal, and subsequent replacement. In cases where an existing sanitary sewer line crosses the new trench and is either of unsuitable material or has a joint exposed in the excavation, such sanitary sewer line shall be replaced by ductile iron or SDR 26 PVC pipe of sufficient length to span into adequately encased support points on each side.
14. At all streets, drives, walkways and other crossings where applicable, the trenches are to be promptly restored and maintained in such a manner as to prevent any serious interruption of traffic upon the roadway or sidewalks. Where trenches cannot be closed promptly, contractor shall provide temporary bridges to cross trenches when necessary to reduce nuisance and hazard to the public. Such work is to be considered part of

the basic proposal item most nearly related.

15. Contractor must provide and maintain adequate detours around the work under construction. Contractor must provide sufficient lights, warning signs, and watchmen to provide adequately for the safety of the public. All lighting, barricading and traffic control devices shall be provided by the contractor in accordance with the Manual on Uniform Traffic Control Devices (MUTCD), latest edition.

16. Before leaving work for the night, during a storm, or at other times, care must be taken to protect and securely close and protect the unfinished end of the pipe. Any earth or other materials that may find entrance into the pipe through any such open or unplugged end of the pipe must be removed at the Contractor's expense.

17. The sides of all excavations shall be sufficiently sheeted, shored and braced so as to prevent slides, cave-ins, settlement or movement of the banks and to maintain the excavation clear of obstruction that will in any way hinder or delay the progress of the work. In wet, saturated or flowing materials, when it is necessary to install tight sheeting or cofferdams, wood or steel sheet piling of an approved design and type shall be used. All sheeting piling, shoring and bracing shall have sufficient strength and rigidity to withstand the pressure exerted and maintain the sides of the excavation properly in place and protect all persons or property from injury or damage. When excavations are made adjacent to existing buildings or other structures, or in paved streets, particular care shall be taken to adequately sheet, shore and brace the sides of the excavation to prevent undermining of, or settlement beneath the structures or pavement. Underpinning of adjacent structures or pavement shall be done by Contractor at his own cost and expense and in an approved manner, or when required, the pavement shall be removed, the void satisfactory refilled, compacted and the pavement replaced by Contractor; the entire expense of such removal and subsequent replacement thereof shall be borne by Contractor. Sheeting, shoring and bracing shall not be left in place unless otherwise provided for in the contract or specifically authorized. The removal of sheeting, shoring and bracing shall be done in such manner as not to endanger or damage either new or existing structures, private or public properties, and so as to avoid cave-ins, or sliding of the banks. All holes or voids left by the removal of the sheeting, shoring or bracing shall be immediately and completely filled and compacted with suitable materials.

18. Contractor shall immediately remove all surface or seepage water from sewers, drains, ditches and other sources which may accumulate during the excavation and construction work by providing pumping, bailing, or draining. Contractor shall have available at all times sufficient equipment in proper working order for doing the work herein required. All water removed from excavations shall be disposed of in an approved manner, so as to not create unsanitary conditions, nor to cause injury to persons or property or damage to the work in progress, nor to interfere unduly with the use of streets, private driveways or entrances.

19. Tracer wire shall be laid prior to backfilling operations next to the pipe. A monitoring station shall be installed approximately every 500 feet of pipe. Tracer wire and monitor station cost shall be included as part of the linear foot cost of the pipe.

20. Warning tape shall be placed during backfill operations at a depth of six (6) to eight (8) inches below final grade or pavement subgrade.

B. Trench Excavation

1. The trench sides shall be cut vertical from the bottom of the trench to a point one (1) foot above the top of the pipe. In material that may cave, trench sides shall be braced or cut to a stable slope as determined by the material characteristics. Contractor shall be solely responsible for maintaining the trench in a stable condition to prevent slides, cave-ins, settlement or movement of the banks. Contractor shall provide a trench safety system sealed by a Registered Professional Engineer in the State of Texas described in the Technical Specification Trench Safety System and as required by State and Federal law.

2. Complete and shape trench to provide free working space and to permit thorough tamping of backfill around pipe. The width of the trench shall be six (6) inches minimum and twelve (12) inches maximum on each side of pipe bells. In no case shall the upper portions of the trench be of less width than the bottom.

3. Where bedding is not required, grade bottom of trenches accurately to the curvature of pipe to provide uniform bearing on firm soil along entire length of each pipe section.

4. Remove rubbish, rock, or debris encountered at grade to depth of at least six (6) inches below bottom of pipe and reshape and compact trench bottom.

5. Bell holes shall be of ample size to make the joint and relieve the bell of all load. When the joint has been made, the void under the bell shall be filled with bedding material to provide uniform support to the pipe throughout its length.

6. Keep excavated material piles so that it will not endanger work or obstruct roads and driveways. Keep drainage channels clear or provide other satisfactory means for drainage.

7. Pipe shall have been laid in all trench that has been opened and the trench backfilled at the end of each day's

work, except with written permission to do otherwise.

8. Trenches for pressure line shall be of such depth as to give thirty-six (36) inches cover over the top of the pipe to natural grade and at street crossings thirty (30) inches cover over the top of the pipe to street subgrade. In drainage ditches and bar ditches the pipe shall have a minimum of thirty (30) inches cover or be concrete encased. Lines installed in highway or railroad rights-of-way shall conform to the requirements of the applicable owner or agency. Trench depth for sewer lines shall be such that the sewer pipe flow line will be as shown on the Construction Drawings when the pipe has been installed in accordance with these specifications.

C. Rock Excavation

When excavation is in rock, it shall be undercut four (4) inches and then brought back to grade with bank sand or other approved granular bedding material. This material shall be compacted and shaped as required and specified for pipe bedding. Rock excavation shall include removal of boulders larger than 1/3 cubic yard in volume, of ledge rock, concrete or masonry structures or foundations that require drilling or blasting.

D. Bracing, Sheathing and Shoring

Bracing, sheathing and shoring shall be provided as shown on the plans or required in the trench safety system.. Sheathing designated by the Engineer to remain in place shall be cut off one (1) foot below the natural ground line and left in the trench. All sheathing not designated to remain in place shall be removed prior to backfilling the trenches.

E. Temporary Bridges

Temporary bridges or crossings shall be provided by the Contractor as required to maintain traffic. Such bridges or crossing shall be designed by a Registered Professional Engineer in the State of Texas.

F. Pipe Bedding

1. Concrete Encasement: The bottom of the trench shall be undercut to a depth of one-fourth the inside diameter of the pipe or a minimum of six (6) inches. Reinforcing shall be No. 4 bars longitudinally, spaced twelve (12) inches on-center (minimum) around the pipe. No. 2 ties placed twenty-four (24) inches on-center circumferentially shall be used to maintain proper location of the reinforcement. Concrete shall be a four (4)-sack mix and shall be poured in the trench to proper grade and pipe shall be placed in the concrete at the proper line and grade. After the initial concrete has sufficient set to support the additional load without disturbing the alignment and grade of the pipe, additional concrete shall be placed around the pipe extending up to a height of one-fourth the inside diameter or a minimum of six (6) inches above the top of the pipe. Backfill above this point shall conform to these specifications but shall not proceed until concrete has achieved a compressive strength of 75 percent of its design strength, or three (3) days, whichever is greater.

2. Cement Stabilized Sand Backfill: The bottom of the trench shall be undercut to a depth of one-fourth the inside diameter of the pipe or a minimum of four (4) inches. Cement stabilized sand shall be placed in the trench to proper grade and pipe shall be placed on this material at the proper line and grade. After the initial stabilized sand has sufficient set to support the additional load without disturbing the alignment and grade of the pipe, additional cement stabilized sand shall be placed in uniform layers around the pipe extending up to a minimum height of twelve (12) inches above the top of the pipe. Minimum compaction to this level shall be 90 percent Standard Proctor (ASTM-698). Backfill above this level shall be uniform layers not exceeding twelve (12) inches of cement stabilized sand to the top of the trench. In roadway or proposed pavement areas, the backfill from a point twelve (12) inches above the top of the pipe to the top of the trench can be approved road base material placed in layers not to exceed twelve (12) inches. Compaction above the pipe zone shall conform to these specifications.

3. Class "A" Bedding (Concrete Cradle): The bottom of the trench shall be undercut to a depth of one-fourth the inside diameter of the pipe or a minimum of four (4) inches. Concrete shall be a four (4)-sack mix and shall be poured in the trench to proper grade and pipe shall be placed in concrete at the proper line and grade. After the initial concrete has sufficient set to support the additional load without disturbing the alignment and grade of the pipe, additional concrete shall be placed around the pipe extending up to a height of at least one-fourth the pipe outside diameter. Backfill above this point shall conform to these specifications but shall not proceed until concrete has achieved a compressive strength of 75 percent of its design strength, or three (3) days, whichever is greater.

4. Class "AA" Bedding (Concrete Arch): The bottom of the trench shall be undercut to a depth of one-fourth the outside pipe diameter or a minimum of four (4) inches. The pipe shall be bedded in granular material

extending up the sides of the pipe to the spring line and compacted to 90 percent Standard Proctor (ASTM D-698). The top half of the pipe shall be covered with a monolithic concrete arch having a thickness of at least four (4) inches or one-fourth the outside pipe diameter. Concrete shall be a minimum four(4)-sack mix. Backfill above this point shall conform to these specifications.

5. Class “B” Bedding: The bottom of the trench shall be undercut to a depth of one-eighth the outside diameter or a minimum of four (4) inches. Granular material or bank sand shall be placed and compacted to the proper line and grade before the pipe is laid. After the pipe has been laid additional granular material or bank sand shall be placed and compacted to the spring line of the pipe. Compaction shall be 90 percent of Standard Proctor (ASTM D-698). Care shall be taken not to disturb the grade and alignment. Backfill above this point shall conform to these specifications.

6. Class “B Modified” Bedding: The bottom of the trench shall be undercut to a depth of one-eighth the outside pipe diameter or a minimum of four (4) inches. Granular material or bank sand shall be placed and compacted to the proper line and grade before the pipe is laid. After the pipe has been laid additional granular material or bank sand shall be placed and compacted around the pipe to a minimum of six (6) inches above the top of the pipe. Compaction shall be 90 percent of Standard Proctor (ASTM D-698). Care shall be taken not to disturb the grade and alignment. Backfill above this shall conform to these specifications.

SPECIAL “HAUNCHING” REQUIREMENT - Care shall be taken to ensure that sufficient material has been worked under the “haunch” of the pipe (bottom of pipe to spring line of pipe) to provide adequate side support. Take precautions to prevent movement of the pipe during placing of the material under the pipe haunch.

7. Class “C” Bedding: The bottom of the trench shall be undercut to a depth of one-eighth the outside pipe diameter or a minimum of four (4) inches. Granular material shall be placed and compacted to the proper line and grade before the pipe is laid. After the pipe has been laid, the same bedding material shall be placed and compacted to a minimum height of one-sixth the outside pipe diameter. Compaction shall be 90 percent of Standard Proctor (ASTM D-698). Care shall be taken not to disturb the grade and alignment. Backfill above this shall conform to these specifications.

8. Class “D” Bedding: The bottom of the trench shall be accurately graded to support the bottom of the pipe to provide uniform bearing and support for each section of pipe. Backfill above this shall conform to these specifications.

9. Class “D Modified” Bedding: The bottom of the trench shall be accurately graded and rounded to support the bottom quadrant of the pipe to provide uniform bearing and support for each section of pipe. Backfill above this shall conform to these specifications.

10. Designation and Bedding Required: Standard bedding for the various types of pipe shall be as shown in the chart below and shall be used unless otherwise noted on the plans or as directed by the Engineer. When unsuitable trench conditions are encountered during construction the next higher class of bedding shall be required.

<u>Pipe Type</u>	<u>Standard Bedding Class</u>
Corrugated Metal Pipe*	C
(CMP), Aluminum or Steel	
Ductile Iron Pipe (DIP)	
Less than 30” I.D.	D
Ductile Iron Pipe	
30” I.D. and Larger	C
Reinforced Concrete Pipe (RCP)	D
High Density Polyethylene (HDPE),	
PVC (SDR 26 and higher rated)	B

*Large diameter circular arch-pipe or structural plate CMP shall follow manufacturer’s recommendations for bedding, as approved by the Engineer.

G. Excavation of Appurtenances

Excavation for manholes and similar structures shall be sufficient to leave at least two (2) feet clearance between the outer surfaces and the embankment or timber that may be used to hold and protect the banks. Any overdepth

excavated below such appurtenances that has not been directed will be considered unauthorized and shall be refilled with sand, gravel, or concrete, as directed, at no additional cost to the Owner.

H. Backfilling

After pipe joints have been inspected and approved by the Engineer, backfill trench to lines and grades indicated on the drawings. Suspend backfill operations during times of inclement weather or other unsatisfactory conditions in field when satisfactory results cannot be obtained.

1. Open Areas:

- a. Pipe Zone: Backfill material shall be deposited in six (6) inch maximum thickness layers and compacted to 90 percent Standard Proctor Density, ASTM D-698, until there is a cover of not less than one (1) foot over the top of the pipe. The backfill material in this portion of the trench shall conform to the designated bedding classification and be placed at optimum moisture content. Special care shall be taken not to damage the coating or wrapping of pipes. No rocks, clods, or debris shall be allowed.
- b. Above Pipe Zone: Deposit approved materials in uniform layers not to exceed eight (8) inches, compacted to 90 percent Standard Proctor Density, ASTM D-698. In no case shall completed backfill be at a density less than surrounding undisturbed soil. Excess material from the excavation shall be uniformly mounded over the trench unless otherwise directed by the Owner.
- c. Pavement Sections:
 - (1) Pipe Zone: Backfill material shall be deposited in six (6) inch maximum thickness layers and compacted with mechanical hand tampers to 90 percent Standard Proctor Density, ASTM D-698, until there is a cover of not less than one (1) foot over the top of the pipe. The backfill material in this portion of the trench shall conform to the designated bedding classification and be placed at optimum moisture content. Special care shall be taken not to damage the coating or wrapping of pipes. No rocks, clods or debris shall be allowed.
 - (2) Above Pipe Zone: Deposit approved materials in uniform layers not to exceed eight (8) inches, compacted to 96 percent Standard Proctor Density, ASTM D-689, to within two (2) feet of final grade and to 98 percent Standard Proctor Density within the top two (2) feet.

I. Testing

1. Laboratory Services: Contractor shall be responsible for the services of a certified, commercial testing laboratory to perform density testing. Contractor is responsible for testing required by the Owner to verify that bedding and backfill materials meet or exceed specifications.

ITEM 300

STRUCTURAL CONCRETE

300.1 GENERAL DESCRIPTION

A. Extent of Work

1. This item governs for materials used; for storing and handling of materials; and for proportioning and mixing of concrete for all reinforced concrete precast and cast-in-place structures.
2. Contractor assumes responsibility and cost for design of proper concrete mixture.
3. Furnish laboratory reports showing proportions and materials selected will produce laboratory mixed concrete of specified quality and strengths twenty (20) percent higher than 28-day strength specified, at maximum slump and maximum air content specified.

B. Related Work Specified Elsewhere

Forms, placing, curing, finishing concrete structures see Technical Specification Structural Concrete Construction.

300.2 QUALITY ASSURANCE

A. Submittals

1. Samples
 - a. Furnish materials samples to an approved testing laboratory for review and testing.
 - b. Provide sufficient quantities for testing and determining mixes to produce concrete classes specified.
2. Mix Designs
 - a. Submit mix designs for each different concrete strength and for each different aggregate.
 - b. Secure confirmation of laboratory tests on proposed mix designs prior to submittal.
 - c. Use only approved mix designs.
 - d. Make compression and slump tests of mix as called for in section 300.2 - B.
3. Reports: Provide certified mill reports on cement and sieve analysis on aggregate.

B. Tests

1. Contractor to engage testing laboratory, meeting requirements of ASTM E329 to make tests throughout concrete operations and the Engineer or his representative will monitor tests and review results.
2. Make moisture tests of aggregate to insure proper batching and proportioning and provide and maintain curing facilities as required in ASTM C31.
3. For structural concrete:
 - a. Perform sufficient number of tests to maintain check on quality.
 - b. Conduct tests as per test procedures (ASTM C31 and C39 for Compression Test).
 - c. Test minimum of 2 standard 6-inch by 12-inch cylinders at 3 days or 7 days, and 2 standard 6-inch by 12-inch cylinders at 7 days or 28 days, as applicable for type of cement being used, for each 50 cubic yards of concrete placed.
4. For air entrainment, make two tests, in accordance with ASTM C138 or C173, for each day's placing.
5. Make slump test periodically in accordance with ASTM C143.
6. Perform normal Portland cement concrete 7-day and 28-day tests at 3 and 7 days, respectively, for high-early strength concrete. Minimum strengths normally required at 7 and 28 days will be required at 3 and 7 days, respectively.

C. Specimen Handling

1. Mark test specimens clearly in definite sequence.
2. Transport and store specimens to prevent damage.
3. Provide insulated shed for storage of cylinders and beams.
4. Provide records identifying each cylinder with locations from which specimens were taken.
5. Cure specimens under laboratory conditions, except that for a possibility of surrounding air temperature falling below 40°F, additional specimens to be cured under job conditions may be required.

D. Failure to Meet Specifications

1. Concrete failing to meeting specifications will be rejected.

2. Should a 3-day (high early cement) or 7-day (normal cement) test fail to meet established strength requirements, extended curing or resumed curing may be required.
3. Contractor will strengthen structures or replace portions thereof which fail to meet established strength requirements, at Contractor's expense.
4. Test cores, when required, to be in accordance with procedures of ASTM C42 at no cost to Owner.

300.4 PRODUCT DELIVERY, STORAGE AND HANDLING

A. Cement

1. Store in weather tight enclosures and protect against dampness, contamination and warehouse set.
2. Store off ground in well ventilated building.

B. Aggregates

1. Stockpile to prevent excessive segregation or contamination with other materials or other sizes of aggregates.
2. Use only one supply source for each aggregate stockpile.

C. Admixtures

1. Store to prevent contamination, evaporation or damage.
2. Protect liquid admixtures from freezing or harmful temperature ranges.
3. Agitate emulsions prior to use.

300.5 MATERIALS

A. Concrete

Ready mixed concrete conforming to ASTM C94 or site mixed concrete.

1. Cement

- a. ASTM C150, Type I, II and III.
- b. ASTM Specifications for weight variations and length of storage.
- c. Use no caked cement.
- d. Deliver in bags for site-mixed concrete.
- e. Use only one brand of cement in any one structure.

2. Admixtures

- a. Air entraining admixtures: ASTM C260.
- b. Water reducing and retarding mixtures.
 1. In accordance with ASTM C494, Type A or D admixtures, modified as follows:
 - a. Reduce mixing water by minimum of 10 percent as compared to ASTM C494 referenced non-admix concrete with same slump.
 - b. Bleeding water no greater than bleeding water of ASTM C494 reference concrete when tested as per ASTM C232.
 - c. Increase durability, decrease permeability and increase resistance to surface scaling, when compared to ASTM C494 reference concrete.
 - d. No chlorides added during manufacture of admixtures.

c. Additional Requirements

1. Manufacturer to provide proof of 10 years manufacturing and successful field use of water reducing and retarding admixture from recognized laboratories and other authorities.
2. Manufacturer to have local representative and warehouse facilities and to provide qualified concrete technician to assist in concrete mix design.
3. Manufacturer to furnish certificates of compliance with this specification or certification.
4. Contractor to pay for commercial laboratory testing required in preparation of certification called for above.
5. Water reducing and retarding admixtures used in Class A concrete only, unless otherwise specified.
6. Use manufacturer's published recommended amount for optimum results as minimum requirements. Amount may be varied by Engineer after analysis of results of local commercial laboratory tests using materials from sources assigned by Contractor.
7. Dispensing and mixing equipment and procedures at batch plant are subject to approval.

3. Coarse Aggregate

- a. Durable particles of gravel, crushed gravel, crushed blast furnace slag, crushed stone or combination thereof, conforming to ASTM C33. Specialty applications may require 1/2" nominal colored rock

(Rainbow Rock) comprised of washed, hard gravel in a variety of colors. A sample of this aggregate must be approved for use by the Engineer prior to construction.

b. Use clean, durable particles, free from frozen materials, clay, salt, alkali, vegetable matter or other coating which would adversely affect strength of concrete or bonding of aggregate to cement paste.

1. Non-prestressed concrete aggregate size from No. 4 to 1 1/2".

2. Prestressed concrete aggregate size from No. 4 to 1".

c. The maximum size coarse aggregate shall be as indicated above or no greater than 3/4 of the minimum clear spacing between parallel reinforcing bars or pre-stressing tendons, whichever is smaller.

4. Fine Aggregate

a. Natural sand as per ASTM C33.

b. Fineness modulus between 2.4 and 2.9.

5. Water

a. Free from oils, acids, alkalis, organic matter or other deleterious substances and not containing more than 1000 parts per million of chlorides nor more than 1000 parts per million of sulphates.

b. Testing not required from municipal supplies approved by State Health Department, but from other sources, water will be sampled and tested before use.

6. Slump

a. Test method as per ASTM 143.

b. As indicated in Slump Requirement Table.

7. Mix Proportioning

a. As per Classification Table, based on maximum water-cement ratio and minimum strength requirements, with limits set on minimum cement content.

b. Increase cement content above minimum or use approved admixtures, without additional cost to Owner, if type, gradation or sizes of aggregate being supplied gives concrete mixture not meeting strengths and workability requirements.

8. Curing Materials - As per Technical Specification Structural Concrete Construction.

CLASSES OF CONCRETE

<u>Class of Concr.</u>	<u>Sacks Cem. per C.Y. Minimum</u>	<u>Min. Compr. Strength 28 day psi</u>	<u>Min. Flex. Strength 7 day psi</u>	<u>Max. Water/Cem. Ratio</u>	<u>Coarse Aggr. No.</u>
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A*	5.0	3000	500**	6.5	2-3-4***
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General Usage: Drilled shafts, bridge substructure, culverts (not direct traffic), inlets, manholes, headwalls, concrete approach slab, curb and gutter, concrete barrier railing, concrete retards, sidewalks, driveways.

B	4.0	2000	330	8.0	2-3-4-5-6-7
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General Usage: Riprap, long span structure thrust beams.

C*	6.0	3500	600**	6.0	1-2-3-4-5***
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General Usage: Drilled shafts, bridge railings and substructure, culverts, wingwalls.

D	3.0	1500	250	11.0	2-3-4-5-6-7
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General Usage: Riprap.

H	6.0	as specified on plans	N/A	5.5	2-3-4-5
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General Usage: Pre-stressed concrete beams boxes and piling, concrete barrier railings.

I	5.0	3000	N/A	6.5	8
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Special Usage: Exposed aggregate curbs, walks and structures with "Rainbow Rock" coarse aggregate.

* Entrained air will be required for bridge slabs, top slabs or direct traffic culverts, piers, bents, pre-cast piling (non-pre-stressed) and drilled shafts placed in water.

** Grade 1 coarse aggregate will not be permitted in cased drilled shafts.

*** When Type II cement is used with Class C concrete, the 7-day beam break requirement will be 550 psi; with Class A, 460 psi.

SLUMP REQUIREMENTS

<u>Concrete Designation</u>	<u>Desired Slump</u>	<u>Max. Slump</u>
Structural Concrete		
1. Case Drilled shafts	5	6
2. Uncased drilled shafts, thin walled sections 9" or less and pre-stressed concrete members (Class H)	4	5
3. Slabs, caps, columns, piers, wall sections over 9", etc.	3	4
Underwater or seal concrete	6	7
Riprap, curb, gutter and other misc. concrete	as specified by Engineer	

NOTE: No concrete will be permitted with slump in excess of the maximums shown.

COARSE AGGREGATE GRADATION CHART

Aggr.	Nominal	Percent Retained on Each Sieve									
Grade No.	Size	2 1/2"	2"	1 1/2"	1"	3/4"	1/2"	3/8"	No. 4	No. 8	
1	2 1/2"	0	0 to 20	15 to 50		60 to 80			95 to 100		
2	1 1/2"		0	0 to 5		30 to 65		70 to 90	95 to 100		
3	1"		0	0 to 5		10 to 40	40 to 75		95 to 100		
4	1"			0	0 to 10		40 to 75		90 to 100	95 to 100	
5	3/4"				0	0 to 10		45 to 80	90 to 100	95 to 100	
6	1/2"					0	0 to 10	30 to 60	85 to 100		
7	3/8"						0	5 to 30	75 to 100		
8*	1/2"					0	10 to 15	50 to 70	95 to 100	95 to 100	

*Special Use: colored "Rainbow Rock", smooth river rock only

FINE AGGREGATE GRADATION CHART

Aggr.	Percent Retained on Each Sieve							
Grade No.	3/8"	No. 4	No. 8	No. 16	No. 30	No. 50	No. 100	No. 200
1	0	0 to 5	0 to 20	15 to 50	35 to 75	65 to 90	90 to 100	97 to 100
2	----- As approved by Engineer -----							

NOTE 1: Where manufactured sand is used in lieu of natural sand, the percent retained on the No. 200 sieve shall be 94 to 100 percent.

NOTE 2: Where the sand equivalent value is greater than 85,
the retainage on the No. 50 sieve may be 65 to 94 percent.

300.6 MIXING CONCRETE

A. General

1. Ready mixed and in accordance with requirement of current ACI Building Codes.
2. Postpone or delay work during adverse weather conditions.
3. Protect dry batch material so that it reaches mixer in a dry condition.
4. Use batch mixer having approved and positive water control and measuring device for all materials.
5. Continue mixing to insure uniform distribution of materials, but not less than 1 1/2 minutes after all materials have been introduced into mixer drum.
6. Rotate drum at peripheral speed recommend by mixer manufacturer.
7. Mix and deliver as per ASTM C94.
 - a. Add mixing water at plant.
 - b. Mix concrete in quantities required for immediate use and discharge at jobsite within one hour after introduction of cement to aggregate.
 - c. Begin mixing operating within 30 minutes after cement and aggregates intermingled.
 - d. Ready mixed concrete producer to furnish delivery tickets indicating:
 1. Delivery date and time dispatched.
 2. Name and location of project.
 3. Name of Contractor.
 4. Name of ready mixed concrete producer.
 5. Truck number.
 6. Number of cubic yards of concrete in load.
 7. Class of concrete.
 8. Cement content in bags per cubic yard of concrete.
 9. Amount of admixture in concrete, if any.
 10. Number of gallons of water in mixture.
 11. Air content.
8. Job mix concrete in approved type mixer and do not load beyond manufacturer's rated capacity.
 - a. Normal weight concrete
 1. Mix batches of one cubic yard or less for minimum 1 1/2 minutes after materials are placed in mixer.
 2. Increase mixing time 15 seconds for each half yard increase over one cubic yard batch.
 - b. Maintain positive batch control equipment to within 1% accuracy.
 - c. Clean, maintain and operate equipment so as to thoroughly mix material as required.
 - d. Hand mixing permitted for small placements only, or in emergencies, as authorized.
 - e. Hand mixed batches not to exceed a two bag batch in volume.

300.7 INSTALLATION

Allowable Concrete Temperatures

A. Except by specific written authorization of the Engineer, concrete shall not be placed when air temperature is at or below 50°F and falling (taken in the shade away from artificial heat), but may be placed if temperature is 45° and rising. If the projected temperature during the 72 hours following the pour falls below 32°, then the pour shall be covered and heated.

B. Concrete temperature prior to placement not to exceed 85°F.

C. If cold weather placement is authorized, place concrete and protect against freezing during curing period in accordance with Portland Cement Association "Design and Control of Concrete Mixtures."

D. Protect concrete for temperatures below 32°F until it has cured for a minimum of 3 days at 70°F or 5 days at 50°F. Remove and replace unsatisfactory concrete.

- E. Protect by additional covering, insulated forms or other means and artificial heating.
- F. When air temperature is above 85°F, use approved retarding agent for all exposed concrete and for all cased drilled shafts regardless of temperature.
- G. To produce concrete with minimum temperature of 50°F, heat aggregate and/or water uniformly as follows:
 - 1. Water temperature not to exceed 180°F and/or aggregate temperature not to exceed 150°F.
 - 2. Heat mass of aggregate uniformly.
 - 3. Temperature of aggregates and water to be between 50°F and 85°F before introduction of cement.

300.8 MEASUREMENT AND PAYMENT

The quantities of concrete of the various classifications which will constitute the completed and accepted structure or structures in place will be measured by the cubic yard, each, square foot, square yard, or linear foot as the case may be. Measurement will be as follows:

- A. All concrete quantities will be based on dimensions shown on the plans or those established in writing by the Engineer. Diaform concrete, when required, will be included in the slab measurement.
- B. In determining quantities, no deductions will be made for chamfers less than two inches, embedded portions of structural steel or prestressed concrete beams, piling, anchor bolts, reinforcing steel, drains, weep holes, junction boxes, electrical conduit, conduit and/or voids for prestressed tendons or for embedded portions of light fixtures.
- C. For slabs on steel and prestressed beams, a quantity for the haunch between the slab and beams will be included when required. No measurement will be made during construction for variation in the amount of haunch concrete due to deviation from design camber in the beams.
- D. For slabs on panels or Tee-beams, the combination of span length, theoretical camber in beams, computer deflections, and plan vertical curve will be taken into account in determining the quantity for the slab.

Additional concrete which may be required by an adjustment of the profile grade line during construction, to insure proper slab thickness, will not be measured for payment.

- E. Quantities may be revised by a change in design, measured as specified herein, will be increased or decreased, as the case may be, and included for payment.

For structure elements when measured by the cubic yard, the quantity to be paid for will be that quantity shown on the contract plans and in the proposal, regardless of errors in calculation, except as may be modified by the following:

Plan quantities will be adjusted:

- 1. When a complete structure element has been erroneously included or omitted from the plans, the quantity shown on the plans for that element will be added to or deducted from the plan quantity and included for payment. A complete structure element will be the smallest portion of a total structure for which a quantity is included on the plans.
- 2. When the plan quantity for a complete structure element is in error by 5 percent or more, a recalculation will be made and the corrected quantity included for payment.
- 3. When quantities are revised by a change in design the plan quantity will be increased or decreased by the amount involved in the design change.

The part to the contract requesting the adjustment shall present to the other, three copies of the description and location, together with calculations of the quantity for the structure involved. When the quantity is certified correct by the Engineer, it will become the revised plan quantity.

ITEM 320

EXCAVATION AND BACKFILL FOR STRUCTURES

320.1 GENERAL

All excavations shall be made to lines and depths shown on the plans. Alterations or deviations shall be approved by the Engineer.

320.2 BACKFILL OF STRUCTURES

- A. Spaces excavated and not to be occupied by permanent structures shall be backfilled as soon as practicable. Backfill shall be compacted at or near optimum moisture by mechanical tamping in layers not to exceed 8" to 95 percent Standard Proctor. Backfill material shall be as called for on plans or as directed by Engineer and free of large lumps, vegetation or other objectionable material.
- B. Do not backfill against walls until concrete has reached 75% of its desired strength.
- C. Prior to backfilling against walls of partially completed structures, determine from Engineer whether design features will permit proposed backfilling.
- D. Unless otherwise authorized, perform backfilling operations in presence of Engineer or designated representative.

320.3 COFFERDAMS

- A. Cofferdams or other de-watering methods shall be provided for excavation where it is necessary to control water conditions or where needed to avoid sliding and caving of walls of excavation.
- B. Upon request, Contractor shall submit drawings and specifications of proposed method of cofferdam or other de-watering method construction to Engineer for approval. Cofferdams and de-watering shall be the complete responsibility of Contractor and be sized to provide complete working access and inspection of construction.

320.4 MEASUREMENT AND PAYMENT

No separate payment for work performed under this item. Include cost of same in contract prices bid for items of which this work is a component.

ITEM 400

POTABLE WATER LINE & FITTINGS

400.1 GENERAL

All materials and construction procedures shall conform to the Texas Commission on Environmental Quality Publication, Rules and Regulations For Public Water Systems, Chapter 290, Subchapter D, Sections 290.38 through 290.47, and all applicable revisions and amendments thereto. All specifications referred to herein shall be of the latest current revision.

Except as otherwise noted herein, all work shall be accomplished as recommended in applicable American Waterworks Associations (AWWA) Specifications; American National Standards Institute/National Sanitation Foundation (ANSI/NSF) Standard 61; and according to the recommendation of the manufacturer of the material or equipment used.

400.2 MATERIALS

The water distribution system shall be constructed of the following materials as dictated on the construction plans.

(A) Ductile Iron Pipe

Ductile iron pipe shall be standard thickness, Class 2, cement-lined unless otherwise specified and shall conform to the standards of USA Standard A-21.51 (AWWA C-151).

Rubber gasket pipe joints to be push-on-joint (Tyton) or mechanical joint (M.J.) in accordance with USA Standard A-21.11 (AWWA C-111), unless otherwise specified.

Flanged joint shall conform to USA Standard B-16.1.

Standard thickness cement lining shall be in accordance with USA Standard A-21.4 (AWWA C-104).

The Contractor shall furnish certification from the manufacturer of the pipe and gasket being supplied that the inspection and all of the specified tests have been made and the results thereof comply with the requirements of this standard.

(B) Steel pipe

Steel pipe shall be hot-dip galvanized steel pipe meeting ASTM Specification A-120-57T. Screw joints shall be made perfectly tight by applying a stiff mixture of graphite and oil, applied with a brush to the threads only. Special fittings for pipe shall conform to Federal Specification WW-P-321.

(C) Polyvinyl Chloride Pressure Pipe

(1) ASTM D-2241 Plastic Pipe: Polyvinyl Chloride (PVC) plastic pipe shall conform to ASTM D-2241, "Standard Specification for Polyvinyl Chloride (PVC) Plastic Pipe (SDR-PR)." Standard Dimension Ratios shall be SDR 26 for Class 160 (160 psi pipe), SDR 21 for Class 200 (200 psi pipe) and SDR 17 for Class 250 (250 psi pipe).

(2) AWWA C900 Plastic Pipe: PVC Pipe shall meet the requirements of AWWA C900, "Standard for Polyvinyl Chloride (PVC) Pressure Pipe, 4 inches through 12 inches for Water" and shall be furnished in cast-iron pipe equivalent outside diameters with neoprene rubber-gasketed separate couplings as listed in that standard. Pipe shall be listed by Underwriters Laboratories, Inc. and Factory Mutual approved. Dimension Ratios shall be DR 25 for Class 100 (100 psi pipe), DR 18 for Class 150 (150 psi pipe) and DR 14 for Class 200 (200 psi pipe).

All PVC Plastic pipe shall be extruded from clean, virgin, approved class 12454-A (PVC 1120) resin compound conforming to ASTM Specification D-1784, "Standard Specification for Rigid Polyvinyl Chloride (PVC) Compounds and Chlorinated Polyvinyl Chloride (CPVC) Compounds." Pipe joints shall conform to ASTM D-3139, "Standard Specification for Joints for Plastic Pressure Pipe Using Flexible Elastomeric Seals" and gaskets shall conform to ASTM F-477, "Standard Specification for Elastomeric Seals (Gaskets) for Joining Plastic Pipe." Plastic pipe proposed for use in public water

systems must bear the NSF Seal of Approval, NSF No. 14, "National Sanitation Foundation Standard No. 14 for Thermoplastic Materials, Pipe, Fittings, Valves, Traps and Joining Materials."

(3) PVC plastic fittings shall be of the same class as the pipe in which they are to be installed. Solvent weld method may be used for joints in pipe sizes smaller than 1½". Plastic pipe shall not be threaded. Female threaded adapters only should be used for making up threaded joints. Gasketed coupling, tees, ells, etc. shall be used for pipe sizes of 1½ inch diameter and larger. Ells, tees, and couplings used in "new" construction and tie-ins to "existing" lines shall be with 200 psi rated fittings and in conformance with ASTM D3139. All piping ells, tees, and couplings for 6 inch and larger shall be Ductile Iron Mechanical Joint Fittings Class 350 or Push-On Joint Ductile Iron Fittings Class 350 in conformance with ANSI/AWWA C153/A21.53-84 and joined to PVC pipe spigot ends by means of transition gaskets, supplied by the manufacturer.

(D) Cast Iron Fittings

Cast iron fittings shall be short body cement-lined and for pressure rating of 150 psi, unless otherwise noted. Metal thickness and manufacturing process shall conform to applicable portions of USA Standard A-21.10, A-21.11, B-16.1, B-16.2 and B-16.4.

Standard cement lining in accordance with USA Standard A-21.4 (AWWA C-104).

Rubber gaskets for push-on-joint (Tyton) or mechanical joint (M.J.) in accordance with USA Standard A-21.11 (AWWA C-111). Rubber gaskets for use with PVC pipe to be furnished with the pipe and shall conform to the requirements of ASTM D-1869 and F-477 (rubber rings for use with PVC).

Gasket material for flanges shall be neoprene, Buna N, chlorinated butyl or cloth-inserted rubber.

Type of ends shall be specified as push-on-joint (Tyton), mechanical joint (M.J.), plain end (P.E.), flanged (FL.), screwed or roll-on hub or ring tight type for PVC (R.T.).

(E) Gate Valves

The minimum requirements, for all gate valves shall, in design, material and workmanship, conform to the Standards of AWWA C-500.

Buried gate valves shall be iron body, resilient seat wedge type, bronze mounted, double disc, non-rising stem, operating stems equipped with Standard two (2) inch operation nut, and O-ring Stem seals, suitable for installation with the type and class of pipe being installed. Ends to be specified. All valves installed underground shall be provided with standard valve boxes.

Gate valves inside pump houses shall be Mueller Resilient Seat gate valves or equal with iron body and modified wedge disc of OS & Y type. Flanged ends complying to ANSI B16.1.

(F) Fire Hydrants

Fire hydrants shall have 5¼ inch main valve opening (MVO) as specified for 36 inch deep trench, unless otherwise designated, flanged at ground line, 6 inch connection that is suitable to the type of pipe being used; two 2½ inch hose connection National Standard Thread; pumper connection and operating nut to match existing. They shall be so constructed that direction of facing of pumper connection may be rotated to face the roadway. Fire hydrants shall comply with AWWA C-502. Unless otherwise specified, they shall be of traffic type with break-away flange construction.

(G) Valve Boxes

Valve boxes shall be cast iron.

(H) Corporation Stop

Corporation stops shall be as shown on the plans and details.

(I) Service Clamp

Pipe saddles shall be double strap with stainless steel straps and cast iron bodies as manufactured by Smith-Blair or Romac.

(J) Angle Meter Stops

Angle Meter stops shall be as shown on the plans and details.

(K) Concrete Meter Box

Concrete meter boxes shall be complete with concrete lid and cast iron inspection cover, equal to Brooks Products, Inc., Meter Box.

(L) Copper Service Pipe

Copper service pipe shall be Type K soft annealed copper service pipe of the sizes shown on the plans and details.

(M) Air and Vacuum Release Valves

Air and vacuum release valves shall be as shown on the plans and details.

(N) Concrete Blocking

Concrete blocking shall be Class "B" concrete.

(O) Bolts in Piping

Bolts shall be cast iron, zinc or chromium plated steel, brass or stainless steel.

(P) Flanged Gaskets

Gasket material shall be neoprene, Buna N, chlorinated butyl, or cloth inserted rubber.

400.3 ALIGNMENT

Pipe shall be laid closely to specified alignment. Alignment deviation is not to exceed 0.5 feet.

400.4 TRENCH EXCAVATION

Clearing and grubbing where required shall be performed within the easement or public right-of-way and as permitted by the property owner or governing agencies. Debris resulting from the clearing and grubbing shall be disposed of by the Contractor.

Trenches shall be excavated to the line and depth designated by the Engineer to provide a minimum of 36 inches of cover over the pipe, unless otherwise shown on the contract drawings. No additional compensation will be made for deeper excavation made for localized grade changes or installing water line under existing culverts or other utilities. Except for unusual circumstances where approved by the Engineer, the trench sides shall be excavated vertically and the trench width shall be excavated only to such widths as are necessary for adequate working space. The minimum trench width at the top of the pipe shall normally be the outside diameter of the pipe barrel plus minimum working room. The trench shall be kept free from water until jointing is complete. Surface water shall be diverted so as not to enter the trench. The Contractor shall maintain sufficient pumping equipment on the job to insure that these provisions are carried out. Bedding required on the bottom of the trench due to action of weather or workmen shall be furnished by the Contractor without expense to the Owner. The Contractor shall perform all excavation of every description and of whatever substance encountered and boulders, solid rock, roots and other obstruction shall be entirely removed or cut out to the width of the trench and to a depth 6 inches below water main grade. Where material is removed from below water main grade, the trench shall backfilled to grade with material satisfactory to the Engineer and thoroughly compacted, as indicated in the construction plans.

All trenching shall comply with the Technical Specification Trench Safety System. Trenching operations shall not proceed more than 500 feet in advance of pipe laying, except with written approval of the Engineer.

When trenching operations cut through concrete pavement, the concrete shall be cut on a straight line and shall be beveled so that the cut will be approximately 1 inch wider at the top than at the bottom. Asphalt paving shall be cut ahead of the trenching equipment to prevent excessive tearing up of the surfacing and eliminate ragged edges.

400.5 TIMBER AND SHEETING

The Contractor shall provide and install timber supports and sheeting as necessary to protect workmen, the work and existing buildings, utilities and other properties as required in the Technical Specification Trench Safety System. All timber and sheeting above the pipe shall be removed prior to backfilling. All sheeting below the top of the pipe shall be cut off and left in place. Removal of timber shall be accomplished in such a manner that there will be no damage to the work or to other properties. All timber and sheeting shall be to the Contractor's design and as approved by the Engineer.

400.6 LAYING PLASTIC PIPE

Installation and backfilling for ASTM D-2241 pressure rated plastic pipe shall be in accordance with ASTM D-2774, "Standard Practice for Underground Installation of Thermoplastic Pressure Piping." Installation and backfilling for AWWA C-900 Pressure Class plastic pipe shall be in accordance with AWWA C-605, "Standard for Installation of PVC Pressure Pipe for Water." The Contractor shall keep the trench free from water. The assembly of pipe and couplings shall be made with dry and clean materials where possible. Couplings shall be assembled in accordance with the manufacturer's instructions.

Whenever it is necessary to cut pipe, it shall be done with tools recommended by the manufacturer. The cut ends of the pipe shall be square and smooth and free from excessive chipping.

Connections to Roll-On Joint cast iron fittings or valves shall be made without nipples except as required for placing the fitting in the proper position. All joints shall be kept clean and free from dirt or rubbish.

400.7 LAYING DUCTILE IRON PIPE

Work shall be accomplished in accordance with AWWA Specification C-600. The bottom of the trench shall be finished to grade with hand tools in such a manner that the pipe will have bearing along the entire length of the barrel. The bell holes shall be excavated with hand tools to sufficient size to make up the joint. Bolts on mechanical pipe and fittings shall be tightened uniformly with a "Torque" wrench which measures the torque applied. Installation of push-on-joint (Tyton) pipe shall be in accordance with the manufacturer's instructions.

400.8 BACKFILLING

Backfilling and surface restoration shall closely follow installation and testing of the pipe, so that not more than 500 feet of pipe is left exposed without express approval of the Engineer. Hand shaping will be required in rock areas prior to backfill. If suitable backfill materials are not available from trenching operations, the Engineer may order the placing of bedding materials around the water main. All backfill within twelve (12) inches of the pipe shall be hand tamped with suitable small hand tools.

Where governmental agencies, other than the Owner, have jurisdiction over the roadways, the backfill and compaction shall be done to the satisfaction of the agency having the jurisdiction.

400.9 TUNNELING

Tunneling may be ordered by the Engineer under pavement or elsewhere as directed on the plans. Tunnels shall be not less than 4 feet high and 2 feet wide and not less than 1 foot wider than the outside diameter of the pipe. Tunnels shall be backfilled with materials acceptable to the Engineer and backfill shall be mechanically compacted.

400.10 HIGHWAY CROSSINGS

The Contractor may use any method which provides satisfactory results and is acceptable to the Engineer and governmental agency having control of the road, provided that the Contractor restores the roadway to its original condition. Normally, highway crossings require the placing of a steel pipe casing by jacking or tunneling and laying the water main within this casing. In case of tunneling, subsequent low pressure grouting through the pavement may be required.

400.11 FIRE HYDRANT INSTALLATION

Fire hydrants shall be set as shown in the Standard Details. Where shackle rods are to be used, the valve barrel must have lugs and also the gate valve must have lugs. Fire hydrants above ground shall be painted with two coats of paint, type and color as selected by the Owner.

400.12 GATE VALVE INSTALLATION

Gate valves shall be set in the ground vertically and shall be opened and shut under pressure to check operation and at the same time, show no leakage. Valves 4 inches and larger shall be blocked in accordance with the Standard Detail.

400.13 VALVE BOX INSTALLATION

Valve boxes shall be set flush in pavement and in gravel roads as required by the Engineer and shall conform to the Standard Detail.

400.14 CONCRETE BLOCKING

Concrete blocking shall be cast in place against undisturbed soil as shown in the plans and details. Blocking shall bear against fittings only and shall be clear of joints so as to permit taking up or dismantling joint. All bends and tees shall be blocked in accordance with Standard Details. The Contractor shall install blocking which is adequate to withstand full test pressure as well as to continuously stand operating pressures under all conditions of service. The concrete blocking is based on 150 psi test pressure with safe soil bearing load of 2,000 pounds per square foot (sand). For a safe soil bearing load of 1,000 psf (soft clay) multiply thrust block bearing area by 2.0.

400.15 AIR AND VACUUM RELEASE VALVE INSTALLATION

Installation shall be as shown on the Standard Detail. Iron piping and fittings shall be galvanized. Location of the air release valves as shown on the plans is approximate. The installation shall be set at the high point of the line. Water line must be constructed so the air release valve may be installed in convenient location.

400.16 HYDROSTATIC TESTS

When all piping, fittings, connections including water service connections are complete in-place, the installation shall be subjected to a hydrostatic pressure test with allowable leakage not to exceed 10 gallons per inch of pipe diameter per mile of pipe per 24 hours, when tested at the pressure rating or class of the pipe. A minimum 4-hour test shall be performed successfully before approved by the engineer. Any leaks or imperfections developing under said pressure shall be remedied by the Contractor before final acceptance of the work. Test pressure shall be maintained while the entire installation is inspected. The Contractor shall provide all necessary equipment and shall perform all work connected with the tests. Tests shall be made after corporation stops are installed. Insofar as is practical, tests shall be made with pipe joints, fittings and valves exposed for inspection.

Test shall be performed as follows:

- (1) Fill pipe with water until all air is exhausted.
- (2) Raise pressure to pressure rating or class of the pipe by means of pumping from a container.
- (3) Refill container and maintain pressure for 4 hours.
- (4) Measure water required to refill container to pre-test level.

The Contractor shall perform the tests to assure that the equipment to be used for the test is adequate and in good operating condition and the air in the line has been released before requesting the Engineer to witness the test. The Engineer shall witness the test; if the test does not pass inspection for any reason, additional trips required to witness the test shall be at the Contractor's expense.

400.17 STERILIZATION AND FLUSHING OF WATER MAINS

Sterilization of water mains shall be accomplished by the Contractor in accordance with the requirements of the current standard, AWWA C-651 and in a manner satisfactory to the Engineer. The section to be sterilized shall be thoroughly flushed at maximum flow prior to chlorination. Flushing period must be approved by the Owner. Sections will ordinarily be sterilized between adjacent gate valves unless, in the opinion of the Engineer, a longer section may be satisfactorily handled. Chlorine shall be applied by solution feed at one end of the section with a valve at the opposite end opened sufficiently to permit a flow through during chlorine application. The chlorine solution shall be fed into the pipeline already mixed by any automatically proportioning applicator so as to provide a steady application rate of not less than 60 PPM chlorine. Flushing valves along the chlorinated section shall be opened during application until the presence of chlorine has definitely been detected. When a chlorine concentration of not less than 50 PPM has been established throughout the line, the valves shall be closed and line left undisturbed for 24 hours. The line shall then be thoroughly flushed and water samples taken for approval by the local health agency. A minimum of three (3) consecutive samples of chlorine free water from each line, with one sample required for each 1000 linear foot section, shall be free of organisms of the Coli-aerogenous groups before the system is approved and placed into service. The disinfection and submission of samples shall be in

accordance with the requirements of the State Health Department. Flushing period must be approved by the Owner. The Contractor shall exercise special care in flushing to avoid damage to surrounding property.

400.18 REPLACING ROAD SURFACING

The Contractor shall restore all roadway and driveway surfaces excavated or disturbed to condition acceptable to the governmental agency having control of the road and/or acceptable to the Engineer.

400.19 SERVICE CONNECTION

Connections shall be installed with pipe saddles on plastic pipe and steel pipe and by direct tap into ductile iron pipe, except where connections 1½ inches and larger are being made to ductile iron pipe 6 inches and smaller, in which case, saddles shall be used.

Installation shall be as shown in the Standard Details.

400.20 CONNECTIONS TO EXISTING PIPELINES

Connections may be made to existing pipes under pressure with tapping machine by determining the size and type of pipe and installing tapping sleeve to fit complete with tapping gate valve. Where cut-ins are permitted to be made in existing pipes, the work shall be conducted at such a time and in such a manner as to minimize the interruption of service. Cut-in time must be approved by the Owner. Necessary pipe, fittings and gate valves shall be assembled at the site ready for installation prior to the shutting off of water in the existing main. Once the water has been cut off, the work shall be prosecuted vigorously and shall not be halted until the line is restored to service.

Unless specifically provided for elsewhere in these specifications, the contractor shall have the responsibility of giving at least twenty-four (24) hours' notice to the water line supervisor of intention to disrupt service and shall give at least one (1) hour notice to the affected water users.

400.21 PUMP AND PRESSURE REDUCING STATIONS

Pipe, fittings and equipment shall be supported and blocked against static and dynamic loading in accordance with Section, "Concrete Blocking," and the equipment manufacturer's recommendations. Drain lines from pumps and other equipment shall be piped to a below grade drainage system connected to the station sump or drain.

400.22 CONCRETE

All concrete shall conform to the requirements of the construction plans and shall be approved by the Engineer.

400.23 MEASUREMENT

Bid items for water lines shall be measured by the linear foot of pipe materials found in-place. All fittings, valves and appurtenances shall be measured by each individual unit.

400.24 PAYMENT

The work performed and the materials furnished in accordance with this item and measured as provided under "MEASUREMENT" will be paid for at the unit price bid for each size and type of water line and at the unit price bid for each type of fitting, valve and appurtenance. These prices shall be full compensation for furnishing all materials, excavation, backfill, blocking, labor, tools and equipment necessary to complete the work.

ITEM 910

CLEARING AND GRUBBING

910.1 DESCRIPTION

"CLEARING AND GRUBBING" shall consist of the removal and disposal of trees, stumps, brush, roots, vegetation, logs, rubbish and other objectionable matter.

910.2 CONSTRUCTION METHODS

The site or right of way shall be cleared of stumps, brush, logs, rubbish, trees and shrubs, except such trees and shrubs and certain areas designated by the Engineer for preservation. Those trees, shrubs and other landscape features specifically designated by the Engineer for preservation shall be carefully protected from abuse, marring or damage during construction operations. On areas required for embankment construction, all stumps, roots, etc. (except for designated trees and brush) shall be removed to a depth of at least 2 feet below the existing ground surface. All holes remaining after clearing and grubbing shall be backfilled and tamped as directed by the Engineer and the entire area bladed to prevent ponding of water and to provide drainage, except, in areas to be immediately excavated, the Engineer may direct that the holes not be backfilled. When permitted by the plans, trees and stumps may be cut off as close to natural ground as practicable on areas which are to be covered by at least 3 feet of embankment and/or waste excavation.

All cleared and grubbed material shall be disposed of in a manner satisfactory to the Engineer. Unless otherwise provided, all merchantable timber removed as required above shall become the property of the Contractor.

910.2 MEASUREMENT

"Clearing and Grubbing" will be measured by the acre. Measurement for payment will be made only on areas indicated and classified on plans as "Clearing and Grubbing", except that required work on additional areas (such as additional right of way, additional borrow and material sources, additional cut and embankment areas, etc.) not originally proposed by plans but found necessary during construction, and which comes within the purview of "Clearing and Grubbing" as established on plans for the contract shall be measured accordingly.

When indicated on the plans, "Clearing and Grubbing (Tree)" will be measured by each tree removed.

910.4 PAYMENT

All work performed and measured as provided under "MEASUREMENT" will be paid for at the unit price bid for "Clearing and Grubbing". Said price shall be full compensation for furnishing all labor, equipment, tools, supplies, arranging for providing disposal sites and incidentals necessary to complete the work.

ITEM 912

REMOVAL OF STRUCTURES AND OBSTRUCTIONS

912.1 DESCRIPTION

"REMOVAL OF STRUCTURES AND OBSTRUCTIONS" shall consist of the removal and disposal, wholly or in part, of all buildings, structures, fences, old pavement and all other obstructions within the clearing limits that are not designated or permitted to remain, except for obstructions to be removed and disposed of under other contract items. It shall also include the salvaging of designated materials and backfilling the resulting trenches, holes and pits.

912.2 CONSTRUCTION METHODS

The Contractor shall perform the work described above as shown on the plans. All designated salvageable material shall be removed without unnecessary damage, in sections or pieces that may be readily transported, and shall be stored at locations shown on the drawings. All other material not designated for salvage shall be removed from the project or disposed of, as described in the plans. The source, type and method of placement of material to fill the cavities left by the removed structure shall be as shown on the plans.

The removal of existing culverts within embankment areas will be required only as necessary for the installation of new structures. All removed culvert sections that are not designated for salvage or to be re-laid shall be disposed of by the Contractor in an approved off-site location.

The substructures of existing structures shall be removed down to the natural bottom, and those parts outside of a foundation shall be removed down to at least one foot below natural ground surface or finished ground line, whichever is lower. Where portions of existing structures lie wholly or in part within the limits for a new structure, they shall be removed to accommodate the construction of the proposed structure.

Bridges to be salvaged shall be dismantled without unnecessary damage. Steel members shall be matchmarked unless matchmarking is waived by the Engineer and a drawing prepared showing matchmarking with the structural location of each member. All salvaged material shall be stored at locations shown on the plans.

Structures not designated for salvage shall be disposed of as described in the plans.

Pipe shall be carefully removed and precautions taken to avoid damaging the pipe. Pipes to be re-laid shall be stored when necessary to prevent loss or damage. The Contractor shall replace, without additional compensation, all sections lost from storage or damaged by the use of improper methods.

Any trees, shrubs or other vegetation shall be removed as directed in the plans. Care should be taken to protect and preserve trees identified on the plans as items to remain on the site. The removal of trees, shrubs and vegetation shall include all limbs, leaves, fruit and stumps or roots. The Contractor shall backfill all stump holes immediately with compacted select fill material to prevent injury and water ponding.

ITEM 915

RESTORATION AND CLEANUP

915.1 GENERAL

The Contractor shall furnish all labor, equipment, materials and incidentals to restore any disturbed or damaged surfaces and/or items to a condition equal to or better than that which existed before work began. The Contractor shall leave the construction site clean.

915.2 PRODUCTS

The Contractor may use equipment and materials as necessary to properly complete the restoration and cleanup phase of the project.

915.3 EXECUTION

General

- A. As soon as the pipe is laid and backfilled or structures built, clean the construction site and any adjoining areas used by the Contractor in construction and make any restorations necessary to leave the site in a condition equal to or better than prior to construction.
- B. As a matter of record, the Contractor shall photograph improved or planted areas before and after working across them.

Restoration

- A. The Contractor shall restore and/or replace any paving, curbing, sidewalks, culverts, gutters, shrubbery, plants, fences, sod or other disturbed surfaces or structures. The size, thickness, strength, texture or condition of restored items shall equal to that which existed before the work began.
- B. All terraces, levees and water courses shall be restored to their former condition so that they shall function as originally intended.
- C. Private roads used by the Contractor shall be restored to former condition.

Cleanup

- A. The cleaning up shall be done by a special labor crew organized by the Contractor at the time he starts backfill operations and such work shall be diligently prosecuted until the entire construction site has been covered.
- B. Any rock, including loose rock having a dimension three (3) inches or more, encountered by the grading, trenching or boring operations, not backfilled according to the specifications, shall be removed from the construction site and disposed of at locations and in a manner that is satisfactory to the Owner.
- C. Unless directed otherwise by the Owner, all materials used for providing temporary roadways for construction equipment shall be removed and disposed of.
- D. All debris, pavement and excess earth from excavations shall be removed and disposed of by the Contractor.
- E. Seeding or sodding will be necessary in areas of excavation as required by the Owner. The seeding or sodding to be performed according to specifications dealing with this work.
- F. To prevent erosion of soil disturbed by construction, the Contractor shall construct terraces or shall place over the construction site and trench backfill suitable control devices composed of sacks filled with earth or sand, silt fences, silt dams or hay bales.
- G. The Contractor should not attempt to perform cleanup operations during adverse weather or wet ground conditions.
- H. At no time during the progress of the work shall the completed cleanup operation be a greater distance behind the completed pipe trench than is deemed advisable by the Engineer.
- I. Before the final acceptance of the project, the entire project site shall be cleared of all surplus and waste materials from the work and otherwise restored as required above.

915.4 PAYMENT

Not Applicable

ITEM 917

SODDING

917.1 DESCRIPTION

This item shall provide for furnishing and planting sod of the kinds specified along and across all disturbed grassed areas within the project. The work covered by this specification also includes preparation of the ground, fine grading, all required fertilizer, geo-synthetic fabrics, watering and maintenance of the sodded areas.

917.2 MATERIALS

The soil for areas to be repaired shall be at least of equal quality to the soil existing in areas adjacent to the areas to be repaired. The soil shall be reasonably free from subsoil, clay lumps, brush, objectionable weeds and other litter, and shall not contain stones, stumps, roots, toxic substances, other objects larger than 1-inch in diameter or any other material or substance that might be harmful to plant growth or be a hindrance to grading, planting or maintenance operations.

Geo-synthetic fabrics shall be as stated on the plans or approved equal, and shall be applied over the entire area disturbed by construction in those areas designated on the plans. Staples shall be installed in accordance with manufacturer's recommendation.

The sod shall consist of live, growing Bermuda, San Augustine, centipede or other grass as shown on the plans or as directed by the Engineer. The sod shall have a healthy, minimum one (1) inch thick, virile root system consisting of dense thickly matted roots throughout the soil. The sod shall be free from noxious weeds, other grasses and any matter deleterious to its growth or which might affect its subsistence or hardness when transplanted. Sod material shall be kept moist from the time it is dug until the time it is planted.

Fertilizer shall be uniform in composition, free flowing and suitable for application with acceptable equipment and delivered to the site in bags or containers. Each container shall be labeled, conform to the state fertilizer laws and bear the name or trademark and warranty of the producer. Fertilizer shall be 13-13-13 at 300 pounds per acre.

917.3 CONSTRUCTION METHODS

Site grading shall include all cutting, filling, importing and moving of earth necessary to bring the disturbed areas to required grades. Grading shall be such as to conduct drainage away from structures and into drainage channels. Grading shall be done with selected materials as directed by the Engineer and, if necessary, top soil shall be imported to the site.

Any area being prepared to receive sod shall be brought to an elevation that will leave the block sod surface flush with the adjacent ground surfaces. After areas to be sodded have been brought to the proper grade, they shall be thoroughly tilled to a depth of two (2) inches by discing, harrowing or by other approved method until the condition of the soil is sufficiently pulverized for planting. The work shall be performed only during periods when satisfactory results are likely to be obtained. When conditions are such, by reason of drought, excessive moisture or other factors, that results are not likely to be satisfactory, the Engineer may stop the work and it shall resume only when, in the Engineer's opinion, the desired results are likely to be obtained. Any irregularities in the surface resulting from tilling or other operations shall be leveled out before planting operations are begun.

After completion of tilling operations, the surface shall be cleared of stones, stumps, other objects larger than 1-inch in thickness or diameter, roots, brush, wire and grade stakes. If required, geo-synthetic fabric shall be installed in accordance with manufacturer's instructions and as directed by the Engineer, over the prepared areas. The sod blocks shall be carefully placed on the prepared areas. The fertilizer shall then be distributed uniformly at the rate specified over all areas being sodded and thoroughly watered. When sufficiently dry, the sodded area shall be rolled or tamped to form a thoroughly compacted, solid mat. Any voids left in the block sodding shall be filled with additional sod and tamped. Surfaces of block sod which, in the opinion of the Engineer, may slide due to the height and slope of the surface or nature of the soil shall, upon direction by the Engineer, be secured with wooden pegs driven through the sod blocks into firm earth sufficiently close to hold the blocks of sod firmly in

place. Any excess soil from planting operations shall be spread uniformly over adjacent areas or disposed of as directed by the Engineer so that the completed surfaces will present a neat appearance.

917.4 ESTABLISHMENT

The Contractor shall be responsible for the proper care of the sodded areas and shall maintain, repair and water the areas as required during the construction period and, at final acceptance of the project, turn over to the Owner a prime stand of grass.

The newly planted areas shall be watered frequently to promote healthy growth. Light sprinkling shall be performed in a manner that will not cause sod displacement and surface erosion. As turf develops, the frequency of watering will be reduced and application volumes increased, as growth and moisture requirements dictate. Watering equipment shall be of a type that will not damage the finished surface.

The Contractor is responsible for establishing and maintaining a dense healthy stand of grass for the duration of the project including the one (1) year warranty period. Areas that require re-sodding will be designated by the Engineer. Re-sodding shall be completed within a period of time designated by the Engineer and in a manner that will cause minimum disturbance to the existing grass. Re-sodding shall be accomplished at no additional cost to the Owner.

If, at any time before completion and acceptance of the entire work covered by this contract, any portion of the surface becomes gullied or otherwise damaged following sodding, the affected portion shall be repaired to re-establish the condition and grade of the soil prior to sodding and re-sodded as specified above.

917.5 MEASUREMENT

No separate measurement will be used to determine the scope of this activity. It will be considered a lump sum unit, including all items necessary to accomplish the work.

917.6 PAYMENT

The work performed and material furnished as prescribed by this item, and measured as provided under "MEASUREMENT", will be paid for at the lump sum price bid for "sod & fertilize". Such price shall be full compensation for excavation, material disposal, compaction, preparing, hauling and placing all materials, freight, labor, materials, equipment, maintenance and incidentals necessary to complete the work.

ITEM 918

SEEDING

918.1 DESCRIPTION

This item shall provide for furnishing and planting seed of the kinds specified along and across all disturbed grassed areas within the project. The work covered by this specification also includes preparation of the ground, fine grading, all required fertilizer, geo-synthetic fabrics, watering and maintenance of the seeded areas.

918.2 MATERIALS

The soil for areas to be repaired shall be at least of equal quality to the soil existing in areas adjacent to the areas to be repaired. The soil shall be reasonably free from subsoil, clay lumps, brush, objectionable weeds and other litter, and shall not contain stones, stumps, roots, toxic substances, other objects larger than 1-inch in diameter or any other material or substance that might be harmful to plant growth or be a hindrance to grading, planting or maintenance operations.

Geo-synthetic fabrics shall be as stated on the plans or approved equal, and shall be applied over the entire area disturbed by construction in those areas designated on the plans. Staples shall be installed in accordance with manufacturer's recommendation.

The seed shall consist of a 50/50 mixture of Bermuda and unhulled rye grass or other seed mixtures as shown on the plans or as directed by the Engineer. The seed mixture shall be free from noxious weed seeds, other grasses and any matter deleterious to its growth or which might affect its subsistence or hardness when planted. The Bermuda/rye seed mixture shall be applied at a rate of 5 pounds per acre.

Fertilizer shall be uniform in composition, free flowing and suitable for application with acceptable equipment and delivered to the site in bags or containers. Each container shall be labeled, conform to the state fertilizer laws and bear the name or trademark and warranty of the producer. Fertilizer shall be 13-13-13 at 300 pounds per acre.

918.3 CONSTRUCTION METHODS

Site grading shall include all cutting, filling, importing and moving of earth necessary to bring the disturbed areas to required grades. Grading shall be such as to conduct drainage away from structures and into drainage channels. Grading shall be done with selected materials as directed by the Engineer and, if necessary, top soil shall be imported to the site.

Any area being prepared to receive seed shall be brought to an elevation that will leave the grass surface flush with the adjacent ground surfaces. After areas to be seeded have been brought to the proper grade, they shall be thoroughly tilled to a depth of two (2) inches by discing, harrowing or by other approved method until the condition of the soil is sufficiently pulverized for planting. The work shall be performed only during periods when satisfactory results are likely to be obtained. When conditions are such, by reason of drought, excessive moisture or other factors, that results are not likely to be satisfactory, the Engineer may stop the work and it shall resume only when, in the Engineer's opinion, the desired results are likely to be obtained. Any irregularities in the surface resulting from tilling or other operations shall be leveled out before planting operations are begun.

After completion of tilling operations, the surface shall be cleared of stones, stumps, other objects larger than 1-inch in thickness or diameter, roots, brush, wire and grade stakes. If required, geo-synthetic fabric shall be installed in accordance with manufacturer's instructions and as directed by the Engineer, over the prepared areas. The seed mixture shall be carefully placed on the prepared areas and lightly raked under the soil. The fertilizer shall then be distributed uniformly at the rate specified over all areas being planted and thoroughly watered. Any excess soil from planting operations shall be spread uniformly over adjacent areas or disposed of as directed by the Engineer so that the completed surfaces will present a neat appearance.

918.4 ESTABLISHMENT

The Contractor shall be responsible for the proper care of the planted areas and shall maintain, repair and water the areas as required during the construction period and, at final acceptance of the project, turn over to the Owner a prime stand of grass.

The newly planted areas shall be watered frequently to promote healthy growth. Light sprinkling shall be performed in a manner that will not cause displacement and surface erosion. As turf develops, the frequency of watering will be reduced and application volumes increased, as growth and moisture requirements dictate. Watering equipment shall be of a type that will not damage the finished surface.

The Contractor is responsible for establishing and maintaining a dense healthy stand of grass for the duration of the project including the one (1) year warranty period. Areas that require re-seeding will be designated by the Engineer. Re-seeding shall be completed within a period of time designated by the Engineer and in a manner that will cause minimum disturbance to the existing grass. Re-seeding shall be accomplished at no additional cost to the Owner.

If, at any time before completion and acceptance of the entire work covered by this contract, any portion of the surface becomes gullied or otherwise damaged following planting, the affected portion shall be repaired to re-establish the condition and grade of the soil prior to seeding and re-seeded as specified above.

918.5 MEASUREMENT

No separate measurement will be used to determine the scope of this activity. It will be considered a lump sum unit, including all items necessary to accomplish the work.

918.6 PAYMENT

The work performed and material furnished as prescribed by this item, and measured as provided under "MEASUREMENT", will be paid for at the lump sum price bid for "seed & fertilize". Such price shall be full compensation for excavation, material disposal, compaction, preparing, hauling and placing all materials, freight, labor, materials, equipment, maintenance and incidentals necessary to complete the work.

ITEM 921

TRENCH SAFETY SYSTEM

921.1 GENERAL

The Contractor shall comply with the minimum requirements of this specification. Maintenance and inspection of any shoring and related equipment shall be the responsibility of the Contractor. The Owner and/or the Engineer reserves the rights to require the Contractor to remove, repair and/or replace any portions of the shoring system deemed unsafe, but the final responsibility for workers' safety remains with the Contractor.

The Contractor shall determine the safety system needed for the project within the minimum requirements of this specification. The Contractor shall submit to the Owner, a certified submittal from a Registered Professional Engineer from the State of Texas that the Contractor's Trench Safety System meets the minimum requirements of this specification, and shall make adjustments as required by the Owner to meet minimum requirements at Contractor's expense. Approval of a trench safety system by the Owner shall not relieve the Contractor of his responsibility to provide a safe working place for his employees. The Contractor agrees to hold harmless and defend the Owner and/or its Engineer against any claim resulting from failure of the trench safety system or lack of one.

921.2 PRODUCTS

A. Regulatory Requirements

1. Conform to applicable Occupational Safety and Health Administration (OSHA) Standards as contained in 29 CFR, Part 1926, Subpart P - Excavations (as may be amended) including OSHA "Proposed Rules: Excavations Federal Register, Vol. 52, No. 72 Wednesday, April 15, 1987, pages 12325-12339. The sections that are made part of these specifications by reference include Sections 1926.652 and 1926.653.
2. The Contractor's Trench Safety System shall be designed by "a registered professional engineer" or "a qualified person or a qualified engineer"; such a person shall be a Professional Engineer registered in the State of Texas.
3. The Contractor's "Engineer" shall develop a specific trench safety system design for the project in general compliance to the requirements set forth by House Bills 662 and 665 of the 70th Legislature, and in accordance with Part 1926.652 (c)(4) of OSHA "Proposed Rules".

B. Definitions

1. Angle of Repose: The greatest angle above the horizontal plane at which a material will lie without sliding.
2. Bank: A mass of soil rising above a digging level.
3. Braces: The horizontal members of the shoring system whose ends bear against the uprights or stringers.
4. Excavation: Any man-made cavity or depression in the earth's surface, including its sides, walls, or faces, formed by earth removal and producing unsupported earth conditions by reasons of the excavation. If installed forms or similar structures reduce the depth-to-width relationship, an excavation may become a trench.
5. Hard Compact Soil: All earth materials not classified as running or unstable.
6. Kickouts: Accidental release or failure of a shore or brace.
7. Sheet Pile: A pile or sheeting that may form one of a continuous interlocking line, or a row of timber, concrete or steel piles, driven in close contact to provide a tight wall to resist the lateral pressure of water, adjacent earth or other materials.
8. Sides, Walls, Faces: The vertical or inclined earth surfaces formed as a result of excavation work.
9. Slope: The angle with the horizontal at which a particular earth material will stand indefinitely without movement.
10. Stringers, Wales: The horizontal members of a shoring system whose sides bear against the uprights or earth.
11. Trench: A narrow excavation made below the surface of the ground. In general, the depth is greater than the width, but the width of a trench is not greater than 15 feet.
12. Trench Jack: Screw or hydraulic type jacks used as cross bracing in a trench shoring system.
13. Trench Shield: A shoring system composed of steel plates and bracing, welded or bolted together, which support the walls of a trench from the ground level to the trench bottom and which can be moved along as work progresses.
14. Unstable Soil: Earth material, other than running, that because of its nature or the influence of related

conditions, cannot be depended upon to remain in place without extra support, such as would be furnished by a system of shoring.

15. Uprights: The vertical members of a shoring system.

C. Construction Materials and Maintenance

1. Materials used for sheeting, sheet piling, cribbing, bracing, shoring and underpinning shall be in good serviceable condition, and timbers shall be sound, free from large or loose knots, and of proper dimensions as called for in the latest revision of OSHA Construction Standards, Subpart P, "Table P-2 - Trench Shoring -Minimum Requirements", of which is made a part of these specifications. All Materials which are found to be defective in any way shall be immediately removed from the job site. It shall be the responsibility of the Contractor to regularly check all trench safety equipment for soundness and adequacy.

2. Steel trench shields shall be constructed of steel plate sides, welded to a steel framework. All shields shall be constructed in order to provide protection equivalent to or greater than sheeting of shoring required for the trench. The Contractor shall provide written certification from the manufacturer's engineer to the Owner of adequacy before using any trench shield. Adjustable jacks may be used in order to adjust the shield to varying trench widths. An access ladder shall be provided at the midpoint. Pipe or flat steel runners or wheels shall be installed under the side walls for ease of movement of the shield during trenching operations. Substantial lifting eyes and /or rings shall be welded at proper points for moving the shield. For adaptability to deep and shallow trenches, the shield may be made with top and bottom sections. When the sides of the trench extend above the top of the shield, a reinforced roof with hatches shall be provided. Forced ventilation shall be provided for fully enclosed shields.

3. All maintenance of the trench safety equipment shall be the sole responsibility of the Contractor.

921.3 EXECUTION

A. General

Within fifteen (15) days after the bid opening, or at least ten (10) days prior to beginning construction, the Contractor shall submit a written plan for a Trench Safety System specifically for construction of trench excavation, together with the general safety program required by OSHA standards governing the presence and activities of individuals in and around trench excavations. Failure to submit a Trench Safety System submittal as required may result in forfeiture of the bid bond. The Trench Safety System submittal shall be all inclusive of specific requirements of OSHA and the Owner.

The Contractor shall provide a trench safety system for all trench excavations which exceed a depth of five (5) feet or are in unstable or unsuitable soils as designated by the responsible Engineer. The Trench Safety System shall conform to the OSHA standards, latest revision, the same of which is made a part of these specifications, along with the following additions and revisions. The types of trench safety systems currently allowed include shoring, bracing, solid shoring, sloping of the ground and trench shields. The Contractor may submit an alternative method of trench safety, but may not implement until a sealed submittal by a Registered Professional Engineer from the State of Texas is approved by the Owner. Should the Contractor decide to slope the sides of the trench, he shall have the angle of repose of the soil determined by an approved independent soils testing laboratory. At a minimum, the Contractor's design for sloping of the trench sides shall conform to the latest revision of OSHA Construction Standards, Subpart P, "Table P-1 - Approximate Angle of Repose For Sloping of Sides of Excavations", which is made a part of these specifications. Soil core samples taken to a depth of at least the depth of the trench plus four (4) feet shall be taken a minimum of every 700 feet. A minimum of two (2) copies of the results of the lab tests shall be provided to the Owner.

1. Each Contractor shall be responsible and liable for his own Trench Safety System, including self inspections, whether or not a project representative is present on the job site. The Contractor shall install additional safety equipment if requested to do so by the Engineer or Owner, whose decision shall be final.

2. Before beginning any excavation the Contractor shall make an inspection of the job site. He shall pay special attention to the type of soil or soils in which he will be working, any adjacent roads, highways, railroads and any previous excavations. All underground installations shall be located, including utility lines, pipelines, etc., before any excavation begins.

3. The Contractor shall provide a trench safety system in every trench. The trench safety system shall be installed in a true horizontal position, be spaced vertically and shall be secured to prevent sliding, falling or kickout. The trench safety system shall be effective to the bottom of the excavation. All trenches shall be provided with an adequate means of exit at all times with spacings of 25 feet or less. These means of exit shall be anchored in place in order to aid in the event a quick exit is necessary. During trench excavation, the excavated material shall be placed a minimum of two (2) feet away from the edge of the trench.

4. The Contractor shall make an inspection of all trench excavations. He shall check for any evidence of

cave-ins, slides, etc. If any change in soil conditions or failure of the trench is found, the Contractor shall remedy such. All water shall be diverted by suitable means to prevent the entrance of same into any excavation. No water shall be allowed to accumulate in any excavation and shall be removed as soon as possible.

B. Indemnification

1. The Contractor shall indemnify and hold harmless the Owner, its employees, agents and Engineer, from any and all damages, cost (including without limitation, legal fees, court costs and investigation costs), judgments or claims by anyone for injury or death of persons resulting from the collapse or failure of trenches constructed. These specifications for the trench safety system in no way relieve the Contractor of his responsibilities and liability to ensure the safety of the workers or any other party from the hazards of the construction operations.

2. The Trench Safety System plan by the Contractor's Engineer shall cover the situations that may be encountered during construction. It should be recognized that information contained in the required Geotechnical Report is based on the data obtained from the soil borings and conditions along the line route may differ from those found at the soil boring locations. It is the Contractor's responsibility to detect varying conditions which may be hazardous and take appropriate action.

3. The Contractor is responsible for determining the appropriate trench safety systems necessary for specific locations based on actual subsurface conditions encountered during construction. The Owner and its Engineer shall be held harmless from any claim or liability for injury or loss that results from failure on the part of the Contractor to implement the Trench Safety System plan properly or to make necessary changes to the trench safety systems necessitated by conditions encountered during construction.

921.4 MEASUREMENT AND PAYMENT

There will be no separate payment for this item. It shall be subsidiary to and included with the unit price bid for all applicable items.

2025 Ridgebrook Drive Drainage Improvements Project Bid Award Item 6A

Case Opperman, PE
Director of Public Works & City Engineer

...

March 4, 2025

ARPA-Funded Drainage Improvements

- Formerly known as Kenbrook Drainage Improvements Project
- Approx. 660 LF of storm drain pipe and inlets
 - Between Cherrybrook and Gardenbrook and across 4422 Ridgebrook
- Staff has communicated with affected property owners about proposed work

Bid Opening – February 19, 2025

<i>Duplichain Contractors, LLC</i>	<i>\$ 263,060.00</i>
Crockett Construction, Inc.	\$ 324,498.00
John Wright Construction, Inc.	\$ 345,400.00
Davis Construction	\$ 368,643.00
Lakey, Inc.	\$ 397,664.96

Duplichain Contractors has completed numerous projects for the City

Budget is available for this contract from ARPA funding

Questions?

PRESENTER: Case Opperman, Director of Public Works

ITEM/SUBJECT: Consider approval of a contract by and between the City of Nacogdoches and McKinney & Moore of Texas, LLC for SWTP Filter 1 Rehabilitation Project for a not-to-exceed amount of \$361,243.38. (Director of Public Works/City Engineer)

SUMMARY/BACKGROUND: There are ten (10) filters at the Surface Water Treatment Plant (SWTP) as part of the water treatment process. The Capital Improvements Program (CIP) includes Filter rehabilitation every other year to keep our plant in good operating condition.

Staff has determined that the next priority for rehabilitation is Filter 1. This rehabilitation will include replacing the underdrains and filter media (sand and anthracite) in the Filter, as well as installation of new transmitters at Filters 5, 6, 8 and 10 and a new valve and actuator at Filter 1.

On February 20, 2025, the City received bids for this work. Three (3) contractors submitted bids, as follows:

McKinney & Moore of Texas, LLC	\$ 361,243.38
Duplichain Contractors, LLC	\$ 380,000.00
Mayim Municipal Builders, LLC	\$ 516,000.00

McKinney & Moore of Texas was found to be the lowest responsible bidder. They are a Bullard-based company who have successfully completed several projects for the City in the past, including the most recent Filter rehabilitation project. It is recommended that the contract for this project be awarded to McKinney & Moore of Texas, LLC in the amount of \$361,243.38. There is available budget for this project in the FY24-25 CIP.

FINANCIAL:

Item is budgeted:

Account No.: 30.36 680.97

Account Name: *Water Treatment Filter Reconstruction*

Amount: \$ 361,243.38

COUNCIL PRIORITIES: THIS AGENDA ITEM IS CONSISTENT WITH THE FOLLOWING CITY COUNCIL PRIORITIES

Infrastructure

CITY CONTACT: Case Opperman, PE – Director of Public Works/City Engineer
oppermanc@nactx.us
(936) 559-2515

ATTACHMENTS:

1. Bid Award Consideration Letter
2. Bid Tab

3. Contract Documents
4. PowerPoint

February 21, 2025

Mr. Case Opperman, P.E.
Director of Public Works/City Engineer
City of Nacogdoches
202 Pilar Street, Suite 239
Nacogdoches, TX 75961

via email

RE: City of Nacogdoches
SWTP Filter 1 Rehabilitation Project
KSA Project No. 103530
Award Consideration & Bid Tabulation

Dear Mr. Opperman:

Sealed bids were received at the City of Nacogdoches City Hall for the above referenced project on February 20, 2025 at 2:00 PM, publicly opened, and read aloud in Conference Room 203, same location. A total of three (3) bids were received, as shown on the attached bid tabulation.

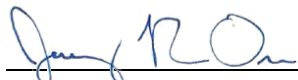
The notification and advertising process for this bid included advertisement in the local newspaper, electronic notifications to contractors and subcontractors known to perform this type of work, and presentation of the plans and specifications on www.civcastusa.com.

McKinney & Moore of Texas, LP of Bullard, Texas submitted the low total bid in the amount of \$361,243.38.

From the review of the information provided in the bid proposal and prior experience with the bidder, the low bidder appears qualified to perform the work required and is capable of successfully completing the project.

Sincerely,

KSA



Jeremy R. Orr, P.E.
Municipal Team Leader

Enclosure: Bid Tabulation

BID TABULATION

City of Nacogdoches
SWTP Filter 1 Rehabilitation
KSA Project No. 103530
Bid Date: February 20, 2025

				1		2		3	
				McKinney & Moore of Texas, LP PO Box 908 Bullard, TX 75757 903.586.3911		Duplichain Contractors, LLC PO Box 637 Alto, TX 75925 936.858.4100		Mayim Municipal Builders, LLC 1557 Edelweiss Allen, TX 75002 469.951.1113	
BID ITEM	DESCRIPTION	UNIT	QTY	UNIT PRICE	TOTAL PRICE	UNIT PRICE	TOTAL PRICE	UNIT PRICE	TOTAL PRICE
BASE BID									
1.01	Mobilization, Insurance, and Bonds	LS	1	\$17,777.07	\$17,777.07	\$29,500.00	\$29,500.00	\$25,700.00	\$25,700.00
1.02	Filter Disinfection and Testing	LS	1	\$11,100.72	\$11,100.72	\$4,000.00	\$4,000.00	\$6,000.00	\$6,000.00
1.03	Filter Underdrain and Media Improvements	LS	1	\$84,677.46	\$84,677.46	\$82,400.00	\$82,400.00	\$239,000.00	\$239,000.00
1.04	Filter Underdrain and Media Allowance - Filter 1	AL	1	\$122,300.00	\$122,300.00	\$122,300.00	\$122,300.00	\$122,300.00	\$122,300.00
1.05	Pressure Transmitter Replacement Allowance - Filters 5,6,8,10	AL	1	\$72,800.00	\$72,800.00	\$72,800.00	\$72,800.00	\$72,800.00	\$72,800.00
1.06	Miscellaneous Allowance	AL	1	\$20,000.00	\$20,000.00	\$20,000.00	\$20,000.00	\$20,000.00	\$20,000.00
1.07	Remove and Replace 24-in Butterfly Valve and Actuator	EA	1	\$32,588.13	\$32,588.13	\$49,000.00	\$49,000.00	\$30,200.00	\$30,200.00
TOTAL BID AMOUNT					\$361,243.38		\$380,000.00		\$516,000.00

Compiled by:



a Pape-Dawson company

TBPE Firm Registration No. F-1356

Jeremy Orr, P.E.

Municipal Team Leader



**BIDDING
and
CONTRACT DOCUMENTS
FOR
CONSTRUCTION SERVICES
FOR
SWTP FILTER 1 REHABILITATION PROJECT
Bid #: 25-10-111**

**DUE DATE
FEBRUARY 20, 2025 @ 2:00 PM**

City of Nacogdoches, Texas
City Hall
202 E. Pilar
Nacogdoches, TX 75961
936-559-2516

www.nactx.us

TABLE OF CONTENTS

INSTRUCTION TO BIDDERS

CONTRACTOR'S PROPOSAL

CONTRACTOR DATA SHEET

CERTIFICATION

GENERAL AND SPECIAL CONDITIONS OF AGREEMENT

STANDARD FORM OF AGREEMENT FOR CONSTRUCTION

DRAWINGS

INSTRUCTION TO BIDDERS

INSTRUCTIONS TO BIDDERS

1.0 NOTICE

Sealed bids addressed to the City of Nacogdoches Engineering Office, 202 Pilar St., Suite 239, Nacogdoches, TX 75961, will be received for **Construction Services for SWTP Filter 1 Rehabilitation Project** until **2:00 PM, February 20, 2025** after which time all qualified bids will be publicly opened and read aloud at **City Hall Conference Room 203**. Bids received after that time will be returned unopened. No fax or email bids will be accepted.

LOCATION AND DESCRIPTION OF PROJECT

Rehabilitation of Filter 1 at the Surface Water Treatment Plant including Filter disinfection and testing, Filter Underdrain and Media improvements and Pressure Transmitter replacements for Filter Effluent Flow Meters, including integration into SCADA system, as shown on plans.

A Pre-bid Meeting will be held at the Surface Water Treatment Plant, 11618 FM 225, Nacogdoches, Texas at 10:00 AM on February 10, 2025. This meeting is not mandatory, but attendance is highly recommended.

COPIES OF BIDDING DOCUMENTS

A complete set of Bidding and Contract Documents may be viewed and downloaded free of charge at www.civcastusa.com or on the City website at <https://www.nactx.us/bids.aspx>.

The successful bidder will be required to furnish a Payment Bond and Performance Bond in the amount of the contract. Bidders may not withdraw their Bid Proposal within 60 calendar days of the bid opening date.

Sealed bids shall be clearly marked with the words “Sealed Bid, SWTP Filter 1 Rehabilitation Project” and addressed to the City of Nacogdoches. Bids shall be delivered using one of the following methods:

Hand-deliver to:
Engineering Office
202 Pilar Street, Suite 239
Nacogdoches, TX 75961

Mail to:
Attn: Engineering
PO Box 635030
Nacogdoches, Texas 75963

Ship to (FedEx, UPS, DHL, etc.):
Attn: Engineering
202 East Pilar, Suite 239
Nacogdoches, Texas 75961

A Certified Cashier's Check or an acceptable Bid Bond in an amount of not less than five (5) percent of the total amount bid shall accompany each bid proposal.

2.0 DEFINITION OF TERMS

In order to simplify the language throughout this bid, the following definitions and those defined in the Contract Documents shall apply:

BIDDER - A contractor who submits a Bid directly to the City.

BIDDING DOCUMENTS - the Advertisement, Instructions to Bidders, the Proposal, Special Provisions, Technical Specifications and the proposed Contract Documents (including all Addenda issued prior to the receipt of Bids).

CITY – Same as City of Nacogdoches.

CITY COUNCIL – The elected officials of the City of Nacogdoches, Texas given the authority to exercise such powers and jurisdiction of all City business as conferred by the State Constitution and Laws.

CONTRACT – An agreement between the City and a Supplier to furnish supplies and/or services over a designated period of time during which repeated purchases are made of the commodity specified.

CONTRACTOR – The successful Bidder(s) of this bid request.

CITY – The government of the City of Nacogdoches, Texas.

OWNER – City of Nacogdoches.

SUB-CONTRACTOR – Any contractor hired by the Contractor or Supplier to furnish materials and services specified in this bid request.

SUCCESSFUL BIDDER - the lowest, qualified, responsible and responsive Bidder to whom the City (on the basis of the City's evaluation as hereinafter provided) makes an award.

SUPPLIER – Same as Contractor.

3.0 COPIES OF BIDDING DOCUMENTS

A complete set of Bidding and Contract Documents may be viewed and downloaded free of charge at www.civcastusa.com or on the City website at <https://www.nactx.us/bids.aspx>.

Complete sets of Bidding Documents must be used in preparing Bids; the City assumes no responsibility for errors or misinterpretations resulting from the use of incomplete sets of Bidding Documents.

4.0 COMMUNICATION

The Owner's Representative for all communication regarding the Bidding and Contract Documents, including specifications and drawings is:

Case Opperman, PE – Director of Public Works/City Engineer
oppermanc@nactx.us
(936) 559-2515

No oral questions and other interpretations or clarification will be considered official or binding.

5.0 PRE-BID CONFERENCE

A Pre-bid Meeting will be held at the **Surface Water Treatment Plant, 11618 FM 225, Nacogdoches, Texas at 10:00 AM on February 10, 2025**. This meeting is not mandatory, but attendance is highly recommended.

Representatives of the Owner will be present to discuss the project. Bidders are highly encouraged to attend and participate in the conference. Owner's Representative will transmit to all prospective bidders of record such Addenda as he considers necessary in response to questions arising at the conference.

6.0 GENERAL BID PROVISIONS

- a. The Invitation to Bid as advertised will be considered an inclusion of the specifications and conditions.
- b. Bid proposals will be submitted on the forms provided by Owner. All figures must be written in ink or typewritten. However, mistakes may be crossed out, corrections inserted adjacent thereto and initiated in ink by the person signing the proposal. Do not use a whiteout or other cover products on mistakes.
- c. Formal advertised bids indicate date and time by which the bids must be received at the designated location. Bids received after that time will be returned unopened to the bidder.
- d. The bidder will note any exceptions to the conditions of this bid. If no exceptions are stated, it will be understood that all general and specific conditions will be complied with, without exception.
- e. Bidders may request withdrawal of a posted sealed proposal prior to the scheduled bid opening time, provided the request for withdrawal is submitted to the City of Nacogdoches in writing. Owner reserves the right to reject any and all bids by reason of this request.
- f. If it becomes necessary to revise any part of this bid, a written addendum will be provided to all bidders. Owner is not bound by any oral representations, clarifications, or changes made in the written specifications by Owner's employees, unless such clarification of change is provided to bidders in written addendum form from the City of Nacogdoches.
- g. Pursuant to Local Government Code 271.9051, if the bid is less than \$100,000 and the City Council determines that a local bidder whose principal place of business is in the City offers the City the best combination of contract price and additional economic development opportunities for the City created by the contract award, including the employment of residents of the municipality and increased tax revenues to the municipality, the city **may** award the bid to the local bidder whose bid is within 5% of the lowest bid. Otherwise, all bids will be awarded to the lowest responsible bidder. The determination of the lowest responsible bidder may involve all or some of the following factors: price, conformity to specifications, financial ability to perform the contract, previous performance, facilities and equipment, availability of repair parts, qualifications and experience, delivery promise, payment terms, compatibility as required, other costs, and other objectives and accountable factors which are reasonable.
- h. Owner may give an environmental preference to products or services that have a lesser or reduced effect on human health and the environment when compared with competing products and services that serve the same purpose. This comparison may consider raw materials acquisition, product, manufacturing, packaging, distribution, reuse, operation, maintenance, or disposal of the product or service;
- i. Bidders may be disqualified and rejection of proposals may be recommended to the Owner for any (but not limited to) of the following causes: 1) Failure to use the proposal form furnished by the Owner; 2) Lack of signature by an authorized representative on the proposal form; 3) Failure to properly complete the proposal; 4) Evidence of collusion among proposers; 5) Omission of a certified Cashier's Check or Bid Bond (if required) proposal guarantee; 6) Unauthorized alteration of bid form; 7) Lack of appropriate qualifications and experience relative to the size and scope of the work proposed; 8) Unsatisfactory performance; 9) Failure

to complete projects or 10) Loaded or unbalanced bids. Owner reserved the right to waive any minor informality or irregularity.

- j. Whenever in this invitation, any particular materials, process and/or equipment are indicated or specified by patent, proprietary or brand name, or by name of manufacture, such wording will be deemed to be used for the purpose of facilitating description of the material, process and/or equipment desired and will be deemed to be followed by the words "or equal." Contractor shall provide exactly such items in his bid as described, unless approved pursuant to Paragraph 12.0 herein.
- k. Samples of items shall be furnished, if requested by the Owner, without charge, and if not destroyed, shall be returned upon request at the bidder's expense.
- l. It is agreed that the successful bidder will not assign, transfer, convey or otherwise dispose of the contract or its right, title or interest in or to the same, or any part thereof, without previous written consent of Owner and any sureties.
- m. Contractor must provide audited financial statements, if requested, to the City.
- n. Prices in the Bid Proposal shall be presented in the format requested (Unit Price, Lump Sum, etc.)
- o. No freight or delivery charges will be accepted unless shown on bid.
- p. Owner is exempt from State Retail Tax and Federal Excise Tax. The price bid must be net, exclusive of taxes.
- q. All bidders will comply with all Federal, State, and local laws relative to conducting business in the City of Nacogdoches. The laws of the State of Texas will govern as to the interpretation, validity, and effect of this bid, its award and any contract entered into.
- r. Advanced disclosures of any information to any particular bidder which gives that particular bidder any advantage over any other interested bidder in advance of the opening of bids, whether in response to advertising or an informal request for bids, made or permitted by a member of the governing body or an employee or representative thereof, will operate to void all proposals of that particular bid solicitation or request.
- s. Minority business enterprises will be afforded full opportunity to submit bids in response to this invitation and will not be discriminated against on the grounds of race, color, creed, sex, or national origin in consideration for an award.

7.0 QUALIFICATIONS OF BIDDERS

To demonstrate qualifications to perform the Work, each Bidder must be prepared to submit within five days of City's request, written evidence, such as financial data, previous experience, present commitments and other such data as may be called for below. Each Bid must contain evidence of the Bidder's qualifications to do business in the State of Texas or covenant to obtain such qualification prior to award of the contract.

In determining a bidder's qualifications, the following factors will be considered:

- A. Work previously completed by the bidder and whether the bidder:
 - a. maintains a permanent place of business;
 - b. has adequate plant and equipment to do the work properly and expeditiously;
 - c. has paid or settled all claims for payment promptly;
 - d. has appropriate technical experience;
 - e. has job references for work of similar size and scope to the project; and
 - f. satisfactory performance and completion of public, or comparable, projects.

B. The safety record of the Bidder, of the corporation, partnership, or institution represented by the Bidder, or of any one acting for such firm, corporation, or partnership.

Each Bidder may be required to show that he has properly completed similar type work and that no claims are now pending against such work. No bid will be accepted from any bidder who is engaged in any work that would impair his ability to fully execute, perform or finance this work. The General/Subcontractors Experience Data Sheet following the proposal must be filled out and submitted with the bid for consideration. Failure to include a completed Data Sheet may result in the rejection of the bid.

8.0 EXAMINATION OF CONTRACT DOCUMENTS AND SITE

A. It is the responsibility of each Bidder before submitting a Bid to:

- a. examine the Contract Documents thoroughly;
- b. visit the site to become familiar with local conditions that may affect cost, progress, performance or furnishing of the Work;
- c. consider federal, state and local Laws and Regulations that may affect cost, progress, performance or furnishing of the Work;
- d. study and carefully correlate Bidder's observations with the Contract Documents;
- e. notify the Owner's Representative of all conflicts, errors or discrepancies in the Contract Documents; and
- f. visit with local utilities, including cable companies, and other entities that may have underground or above-ground infrastructure in the work area for infrastructure location.

B. Information and data reflected in the Contract Documents with respect to underground facilities at or contiguous to the site is based upon information and data from the Owner's files for its underground facilities and information and data furnished by owners of other underground facilities. Owner does not assume responsibility for the accuracy or completeness thereof.

C. Before submitting a Bid each Bidder will be responsible to make or obtain such explorations, at bidders expense and not to be added into cost of bid if accepted (tests and data concerning physical conditions - surface, subsurface and underground facilities - at or contiguous to the site, or otherwise) which may affect cost, progress, performance or furnishing of the Work and which Bidder deems necessary to determine its Bid for performing and furnishing the Work in accordance with the time, price and other terms and conditions of the Contract Documents.

D. The lands upon which the Work is to be performed, rights-of-way and easements for access thereto and other lands designated for use by Contractor in performing the Work are identified in the Contract Documents. All additional lands and access thereto required for temporary construction facilities or storage of materials and equipment or disposal of spoil are to be provided by the Contractor. Contractor is responsible for obtaining all permits required for any of the before mentioned purposes prior to beginning work in accordance with the Standard Form Of Agreement, Paragraph 35 Permits and Licenses.

E. The submission of a Bid will constitute an incontrovertible representation by Bidder that Bidder has complied with every requirement of this section, that without exception the Bid is premised upon performing and furnishing the Work required by the Contract Documents and

such means, methods, techniques, sequences or procedures of construction as may be indicated in or required by the Contract Documents, and that the Contract Documents are sufficient in scope and detail to indicate and convey understanding of all terms and conditions for performance and furnishing of the Work.

9.0 INTERPRETATIONS and ADDENDA

All questions about the meaning or intent of the Contract Documents are to be directed to the Owner. Interpretations or clarification considered necessary by the Owner's Representative in response to such questions will be issued by Addenda and mailed or otherwise delivered to all parties recorded by the Owner's Representative as having received the Bidding Documents. Questions received less than 48 hours prior to opening of Bids will not be answered. Only questions answered by formal written Addenda will be binding. No oral and other interpretations or clarification will be considered official or binding.

Addenda may also be issued to modify the Bidding Documents as deemed advisable by the City.

To properly qualify his bid, each Bidder shall, prior to filing his Bid, check the receipt of all Addenda or letters of clarification issued and acknowledge such receipt on the Proposal Form or on a separate attachment to the bid. Bids without such acknowledgment of all issued Addenda and letters of clarification may cause your bid to be considered non-responsive. Such Addenda and letters of clarification shall become a part of the executed contract and modify the contract documents accordingly.

10.0 BID SECURITY

Bidders must submit with their Bids a Cashier's Check or a Certified Check in the amount of five (5%) percent of the maximum amount of Bid payable without recourse to the City of Nacogdoches, Texas, or a bid bond in the same amount from a surety company holding permit from the State of Texas to act as a surety, as a guarantee that Bidder will enter into a contract and execute bond and guarantee forms within fifteen (15) days after notice of award of contract. Bids without checks, as stated above, or acceptable bid bond may not be considered.

Bid Security shall be in effect from the opening of the Bid and will be retained until a Bidder has executed the Agreement and furnished the required contract security, whereupon the Bid Security will be returned. A Bidder may withdraw its Bid at any time until the Agreement is signed. However, it will forfeit its Bid Security in doing so if no material mistake was made in the Bid.

The Bid Security of the Successful Bidder will be retained until such Bidder has executed the Agreement and furnished the required contract security, whereupon the Bid Security will be returned. If the Successful Bidder fails to execute and deliver the Agreement and furnish the required contract security within fifteen (15) days after the Notice of Award, the Owner may annul the Notice of Award and the Bid Security of that Bidder will be forfeited. The Bid Security of other Bidders whom Owner believes to have a reasonable chance of receiving the award may be retained by Owner until 5 days after the Agreement is executed whereupon Bid Security furnished by such Bidders will be returned. Bid Security with Bids which are not competitive will be returned within seven days after the Bid opening.

11.0 CONTRACT TIME

The times for Substantial Completion and Final Completion are set forth in the Special Provisions and will be included in the Agreement. It will be necessary for the Successful Bidder

to satisfy the City of the Bidder's ability to achieve Substantial Completion and Final Completion within the times designated in the Special Provisions.

12.0 SUBSTITUTE OR "OR EQUAL" ITEMS

The materials and equipment described in the Bidding Documents establish a standard of required function, dimension, appearance and quality to be met by any proposed substitution. No substitution will be considered unless a written request for approval has been submitted by the Bidder and has been received by the Owner's Representative at least five (5) working days prior to the date for receipt of Bids or until after the contract for the work has been signed. Each such request shall include the name of the material or equipment for which it is to be substituted and a complete description of the proposed substitute including drawings, cuts, performance and test data and any other information necessary for an evaluation. A statement setting forth any changes in other materials, equipment or work that incorporation of the substitute would require shall be included. The burden of proof of the merit of the proposed substitute is upon the Bidder. The Owner's Representative's decision of approval or disapproval of a proposed substitution shall be final. If the Owner's Representative approves any proposed substitution before the date for receipt of bids, such approval will be set forth in an Addendum issued to all prospective Bidders. Bidders shall not rely upon approvals made in any other manner.

13.0 BID FORM

All blanks on the Bid Form must be completed in ink or by typewriter. Unfilled blanks may result in the bid being disqualified.

Any financial amounts written in words will supersede amounts written by numbers in the Bid Form.

Bids by corporations must be executed in the corporate name by the corporate officer authorized to sign for the corporation, accompanied by evidence of authority to sign. The corporate address and state of incorporation must be shown below the signature.

Bids by partnerships must be executed in the partnership name and signed by a partner, whose title must appear under the signature and accompanied by evidence of authority to sign. The fiscal address of the partnership must be shown below the signature.

All names must be typed or printed below the signature.

The Bid shall contain an acknowledgment of receipt of all Addenda. The numbers and dates of which must be filled in on the Bid Form or on a separate attachment to the Bid.

The address and telephone number(s) for communication regarding the Bid must be shown.

All of the data on the GENERAL/SUBCONTRACTORS EXPERIENCE AND DATA INFORMATION sheet must be completely filled in.

14.0 SUBMISSION OF BIDS

A Bid shall be submitted at the time and place indicated in the Advertisement. It shall be enclosed in an opaque sealed envelope, marked with the project title, name and address of the Bidder. The Bid shall be accompanied by the Bid Security and other required documents. If the Bid is sent through the mail or other delivery system the sealed envelope shall be enclosed in a separate envelope with the notation "BID ENCLOSED" on the face of it.

Each Bidder should, prior to filing his Bid, check the receipt of all Addenda or letters of clarification issued and acknowledge such receipt on the outside of the envelope containing his Bid proposal.

15.0 MODIFICATION AND WITHDRAWAL OF BIDS

Bids may be modified or withdrawn by an appropriate document duly executed, in the described manner that a Bid must be executed and delivered to the place where Bids are to be submitted at any time prior to the opening of Bids.

If prior to the award of the contract by the City Council, any Bidder files a duly signed, written notice with Owner's Representative and promptly thereafter demonstrates to the reasonable satisfaction of Owner's Representative that there was a material mistake in the preparation of his Bid, that Bidder may withdraw his Bid and the Bid Security will be returned. Thereafter, that Bidder will be disqualified from further bidding on the Work to be provided under the Contract Documents.

16.0 OPENING OF BIDS

Properly prepared Bids will be opened publicly and read aloud. A summary of the amounts of the base Bids and major alternates (if any) will be made available to Bidders after the opening of Bids. A tabulation of the Bids which are read will be available upon request as soon as it has been assembled and verified.

Bids received after the specified time of the opening will be returned unopened.

17.0 BIDS TO REMAIN SUBJECT TO ACCEPTANCE

All bids will remain subject to acceptance, for 60 days after the date of the Bid opening, but the Owner may, in its sole discretion, release any Bid and return the Bid Security prior to that date.

18.0 AWARD OF CONTRACT

Owner reserves the right to reject any and all Bids, to waive any and all informalities and irregularities not involving price, time, or changes in the Work and to disregard all non-conforming, non-responsive, unbalanced or conditional Bids. Owner reserves the right to reject the Bid of any Bidder if Owner believes that it would not be in the best interest of the Project to make an award to that Bidder, whether because the Bid is not responsive or the Bidder is unqualified or of doubtful financial ability or fails to meet any other pertinent standard or criteria established by Owner. Discrepancies in the multiplication of units of Work and unit prices will be resolved in favor of the unit prices. Discrepancies between the indicated sum of any column of figures and the correct sum thereof will be resolved in favor of the correct sum.

In evaluating Bids, the Owner will consider the qualifications of the Bidders, whether or not the Bids comply with the prescribed requirements, time of construction, and such alternates, unit prices and other data, as may be requested in the Bid Form or prior to the Notice of Award.

Owner may consider the qualifications and experience of subcontractors, suppliers, and other persons and organizations proposed for those portions of the Work as to which the identity of subcontractors, suppliers, and other persons and organizations must be submitted as provided. Owner may also consider the operating costs, maintenance requirements, performance data and

guarantees of major items of materials and equipment proposed for incorporation in the Work when such data is required to be submitted prior to the Notice of Award.

Owner may conduct such investigations as Owner deems necessary to assist in the evaluation of any Bid and to establish the responsibility, qualifications and financial ability of Bidders, proposed subcontractors, suppliers and other persons and organizations to perform and furnish the Work in accordance with the Contract Documents to Owner's satisfaction within the prescribed time.

Pursuant to Local Government Code 271.9051, if the bid is less than \$100,000 and the City Council determines that a local bidder whose principal place of business is in the City offers the City the best combination of contract price and additional economic development opportunities for the City created by the contract award, including the employment of residents of the municipality and increased tax revenues to the municipality, the city **may** award the bid to the local bidder whose bid is within 5% of the lowest bid.

Otherwise, all bids will be awarded to the lowest responsible bidder. The determination of the lowest responsible bidder may involve all or some of the following factors: price, conformity to specifications, financial ability to perform the contract, previous performance, facilities and equipment, availability of repair parts, qualifications and experience, delivery promise, payment terms, compatibility as required, other costs, and other objectives and accountable factors which are reasonable.

If the contract is to be awarded, Owner will give the Successful Bidder a Notice of Award within 60 days after the day of the Bid opening.

Bid prices may be compared after adjusting for differences in the time designated in the Bid for Substantial Completion. The adjusting amount will be determined at the rate set forth in the Standard Form of Agreement for liquidated damages indicated for Substantial Completion for each day after the desired date appearing in the City's Standard Form of Agreement, Paragraph 23.

19.0 CONTRACT SECURITY

Paragraph 28 BOND PROVISIONS of the Standard Form of Agreement set forth Owner's requirements as to performance and payment Bonds. When the Successful Bidder delivers the executed Agreement to the Owner, it must be accompanied by the required performance and payment Bonds.

20.0 SIGNING OF AGREEMENT

The Successful Bidder shall execute the Contract and provide proof of insurance as detailed in the Standard Form of Agreement based on Staff recommendation prior to Council action. Within 15 days of Award, all required Bonds shall be delivered to the Owner. A fully executed contract will be presented to the Successful Bidder.

21.0 PERSONAL INTEREST

Bidders shall comply with all applicable ordinances and with state law pertaining to conflict of interest and required disclosures, including, but not limited to, TEXAS LOCAL GOVERNMENT CODE, Chapter 171.

22.0 DISCLOSURE OF INTERESTED PARTIES

Contracting hereunder may require compliance with §2252.908 Texas Government Code/Disclosure of Interested Parties for contracts that (1) require an action or vote by the City Council before the contract may be signed; or (2) has a value of at least \$1 million. The law provides that a governmental entity may not enter into certain contracts with a business entity unless the business entity submits a disclosure of interested parties to the governmental entity at the time the business entity submits the signed contract to the governmental entity or state agency.

For purposes of this section, the following definitions apply:

“Interested party” means a person who has a controlling interest in a business entity with whom the City contracts or who actively participates in facilitating the contract or negotiating the terms of the contract, including a broker intermediary, advisor, or attorney for the business entity.

"Controlling interest" means: (1) an ownership interest or participating interest in a business entity by virtue of units, percentage, shares, stock, or otherwise that exceeds 10 percent; (2) membership on the board of directors or other governing body of a business entity of which the board or other governing body is composed of not more than 10 members; or (3) service as an officer of a business entity that has four or fewer officers, or service as one of the four officers most highly compensated by a business entity that has more than four officers.

"Intermediary," means a person who actively participates in the facilitation of the contract or negotiating the contract, including a broker, adviser, attorney, or representative of or agent for the business entity who:

1. Receives compensation from the business entity for the person's participation;
2. Communicates directly with the City on behalf of the business entity regarding the contract; and
3. Is not an employee of the business entity.

The process as implemented by the Texas Ethics Commission (“TEC”) is as follows:

1. The disclosure of interested parties must be performed using the [Texas Ethics Commission’s electronic filing application](#) listing each interested party of which the business entity is aware of Form 1295, obtaining a certification of filing number for this form from the TEC, and printing a copy of it to submit to the City.
2. The copy of Form 1295 submitted to the City must be notarized and contain the unique certification number from the TEC. The form must be filed with the City pursuant to §2252.908 Texas Government Code, “at the time the business entity submits the signed contract” to the City.

The City, in turn, will submit a copy of the disclosure form to the TEC not later than the 30th day after the date the City receives the disclosure of interested parties from the business entity.

CONTRACTOR'S PROPOSAL

CITY OF NACOGDOCHES, TEXAS
FILTER 1 REHABILITATION

BID NO.	QTY	UNIT	DESCRIPTION (with unit price in words)	UNIT PRICE	TOTAL PRICE
BASE BID					
1.01	1	LS	Mobilization, Insurance, and Bonds (Reference Section 01 22 00.1.2.A) <i>Seventeen Thousand Seven Hundred Seventy -Seven Dollars and Seven Cents</i> per lump sum	\$ XXXXXXXX	\$ <u>17,777.07</u>
1.02	1	LS	Filter Disinfection and Testing (Reference Section 01 22 00.1.2.B) <i>Eleven Thousand One Hundred Dollars and Seventy-Two Cents</i> per lump sum	\$ XXXXXXXX	\$ <u>11,100.72</u>
1.03	1	LS	Filter Underdrain and Media Improvements - Filter 1 (Reference Section 01 22 00.1.2.C) <i>Eighty-Four Thousand Six Hundred Seventy -Seven Dollars and Forty-Six Cents</i> per lump sum	\$ XXXXXXXX	\$ <u>84,677.46</u>
1.04	1	AL	Filter Underdrain and Media Allowance - Filter 1 (Reference Section 01 22 00.1.2.D) at <u>One Hundred Twenty Two Thousand Three Hundred</u> Dollars and <u>Zero</u> Cents per allowance.	\$ XXXXXXXX	\$122,300.00
1.05	1	AL	Pressure Transmitter Replacement Allowance - Filters 5,6,8,10 (Reference Section 01 22 00.1.2.E) at <u>Seventy Two Thousand Eight Hundred</u> Dollars and <u>Zero</u> Cents per allowance.	\$ XXXXXXXX	\$72,800.00
1.06	1	AL	Miscellaneous Allowance (Reference Section 01 22 00.1.2.F) at <u>Twenty Thousand</u> Dollars and <u>Zero</u> Cents per allowance.	\$ XXXXXXXX	\$20,000.00
1.07	1	EA	Remove and Replace 24-in Butterfly Valve and Actuator (Reference Section 01 22 00.1.2.G) <i>Thirty-Two Thousand Five Hundred Eighty-Eight Dollars and Thirteen Cents</i> per each	\$ <u>32,588.13</u>	\$ <u>32,588.13</u>

TOTAL BID AMOUNT (BASE BID): \$361,243.38

Notes:

1. The quantities shown above are estimates only. The bidder understands that this is a unit price bid and that payment will be made for those quantities of work constructed and accepted as meeting the Contract requirements.
2. Prices shall be provided for the base bid and all alternates listed. Bidders that fail to provide prices for each item or enter "no bid" for an item shall be considered non-responsive.
3. The Owner reserves the right to award alternates in the order that best serves their interest.
4. The Owner reserves the right to reject any and all bids.
5. Award will be made to a single contractor.
6. Refer to Section 01 22 00 of the Specifications for descriptions of the bid items above.
7. In the event of discrepancies between written words and numbers in the bid form, written words shall govern.



ADDENDUM No. 1

TO: ALL PLAN HOLDERS

(VIA CIVCAST)

DATE: February 12, 2025

PROJECT: City of Nacogdoches
Filter 1 Rehabilitation
Bid No. 25-10-111
KSA Project No. 103530

The Contract Documents are modified as described below. All bidders shall acknowledge receipt of this and all other Addenda on the Proposal Form. This addendum becomes a part of the Contract Documents. All provisions of the original Plans, Specifications, and Contract Documents shall remain in full force and effect, except as modified by this addendum.

BIDDING DOCUMENTS

Contractor's Proposal: Remove the existing proposal form and insert the attached revised proposal form.

TECHNICAL SPECIFICATIONS

Section 01 22 00 Bid Item Descriptions: Add the following bid item description.

G. Remove and Replace 24-in Butterfly Valve and Actuator:

1. Item shall consist of furnishing all tools, equipment, materials, and labor to remove and replace a 24-in butterfly valve and pneumatic actuator including but not limited to joining of pipe, valve, actuator, tubing, fittings, gaskets, nuts and bolts, flange fillers, flange adapters, and appurtenances for a complete and operable valve assembly as shown and specified. Existing actuator shall be salvaged and returned to the Owner.
2. Contractor shall field verify the dimensions of the existing piping arrangements and make adjustments to as to accommodate the replacement valve and actuators as required at no additional cost to the Owner.
3. Measurement and payment of this item shall be per each for a complete and operable valve assembly removed and replaced as shown in the Plans and as approved by the Engineer.

Add Section 33 12 16 Valves: Add the attached technical specification section.

Add Section 40 05 57 Pneumatic Rotary Vane Valve Actuators: Add the attached technical specification section.

PLAN SHEETS

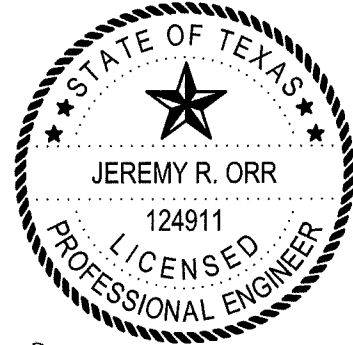
Add Sheet 7: Filter 1 Backwash Waste Valve Replacement: Add the attached plan sheet.

ADDENDUM No. 1 ISSUED BY:

KSA ENGINEERS, INC.



Jeremy R. Orr, P.E.
Municipal Team Leader



2-12-25

TBPE Firm Registration No. F-1356

CONTRACTOR DATA SHEET

**GENERAL/SUB-CONTRACTOR'S EXPERIENCE
AND
DATA INFORMATION**

Name of Company: McKinney & Moore of Texas, LLC

Company Years in Business: 50

List Municipal Projects
(Similar Projects in Size and Scope Completed in Last Five Years)

Project	Municipality	\$ Amount	Type	Date
see attached Bid Qual				

Superintendent & Project Manager Information

Include Superintendent proposed for the project, years of experience as superintendent,
project manager proposed for the project, and years experience as project manager

Superintendent	Years Experience	Projects
Jaime Leon	20	

Project Manager	Years Experience	Projects
T.J. McKinney	24	

SEE ATTACHED BID QAUL

References: Name 5 projects of similar work, giving owner's name, representative's name, project engineer's name, and telephone numbers for each

1.		

2.		

3.		

4.		

5.		



CONTRACTOR'S QUALIFICATION STATEMENT

FIRM	MCKINNEY & MOORE OF TEXAS, LLC				
ADDRESS	16600 St HWY 155, Suite 3007				
CITY	Tyler	STATE	TEXAS	ZIP	75703
PHONE	(903) 630-3655	CELL	(903) 780-7789		

LIMITED LIABILITY CORPORATION

Established under the laws of the State of Texas with the principal business in East Texas.

YEARS OF EXPERIENCE & PRINCIPALS OF FIRM:

NAME	TITLE	PHONE	NO. OF YEARS
T.J. MCKINNEY	MANAGING MEMBER	(903) 780-7789	24
JANET MCKINNEY	MANAGING MEMBER	(903) 521-8621	20
GEORGE MCKINNEY	CONSULTANT	(903) 586-3911	50

FIRM HISTORY:

MCKINNEY & MOORE OF TEXAS, LLC	FROM	2022	TO	PRESENT
MCKINNEY & MOORE OF TEXAS, LP	FROM	2005	TO	2022
MCKINNEY & MOORE, INC	FROM	1975	TO	2005

FIRM'S AVERAGE ANNUAL CONSTRUCTION VOLUME: \$ 8 MIL

BANK REFERENCE:

AUSTIN BANK

200 EAST COMMERCE ST., JACKSONVILLE, TX 75766

CRYSTAL BATEMAN (903) 586-1526

CBATEMAN@AUSTINBANK.COM

BOND REFERENCE:

Mullis Newby Hurst

5057 Keller Springs Rd, Suite 200, Addison, TX 75001

Troy Key (297) 201-0105

Tkey@mnhins.com

MOST RECENT COMPLETED PROJECTS

COMPLETED PROJECTS	CONTRACT AMOUNT	COMPLETION YEAR	ENGINEER	ENG. PHONE #
TDCJ Beto Unit Clarifier	\$ 501,669	2024	TDCJ	304-553-4873
Nacogdoches WWTP Bar Screen	\$ 114,040	2024	Stokes & Associates	903-657-7558
Hawkins WWTP Rehabilitation	\$ 858,205	2024	KSA Engineers	903-581-8141
Nacogdoches SWTP Filter Rehab	\$ 291,906	2023	KSA Engineers	903-581-8141
Mount Vernon WWTP Imp	\$ 536,855	2023	KSA Engineers	903-326-7700
City of Palestine - Lamar St	\$ 184,881	2023	City Engineering	903-731-8441
TDCJ Beto Effluent Weirs	\$ 183,080	2023	TDCJ	304-553-4873
Winona ISD Lift Station	\$ 374,294	2023	The C.T. Brannon Corporation	903-597-2122
City of Palestine - Sylvan St Sewer Line	\$ 237,655	2023	City Engineering	903-731-8441
City of Emory - Lift Station	\$ 197,623	2022	Hayter Engineering	903-785-0303
City of Palestine - RFP-018	\$ 157,600	2022	City Engineering	903-731-8441
City of Palestine - Waterline Replacement	\$ 246,501	2022	City Engineering	903-731-8441
Smith County Sand Flat WSC	\$ 402,575	2021	Hayes Engineering	903-758-2010
Murchison Sewer Improvements	\$ 126,916	2021	Velvin & Weeks	903-675-3903
Canton WWTP Rehab	\$ 182,266	2021	Capco Engineers	903-531-9670
COT Force Main & ARV Replacement	\$ 214,037	2021	Langan / Adams	903-324-8412
City of Yantis Lift Station Rehabilitation	\$ 207,945	2021	Hayter Engineering	903-785-0303
Beto Unit WWTP Refurbish Clarifier	\$ 335,543	2021	TDCJ	304-553-4873
Sand Flat WSC High Service Pump Station	\$ 397,600	2020	Hayes Engineering	903-758-2010
Kaufman Sewer Improvements	\$ 101,750	2020	Freeman-Millican	214-503-0555
City of Quinlan WWTP & Lift Station Imp	\$ 219,230	2019	Hayter Engineering	903-785-0303
Coffield Clarifier Repairs	\$ 42,750	2019	TDCJ	304-553-4873
Spring Hill ISD Baseball Complex	\$ 164,350	2019	N/A	903-939-0240
Brookshire WTP RAW Water Pump Station	\$ 143,825	2019	KSA Engineers	972-542-2995
Josephine WWTP	\$ 461,622	2019	DBI Engineers	972-787-7777

CERTIFICATION OF BID

The undersigned affirms that they are duly authorized to execute this Contract, that this bid has not been prepared in collusion with any other Bidder, and that the contents of this bid have not been communicated to any other Bidder prior to the official opening of this bid. To the extent this Contract is considered a Contract for goods or services subject to § 2270.002 Texas Government Code, Bidder certifies that it: i) does not boycott Israel; and ii) will not boycott Israel during the term of the Agreement. Additionally, the undersigned affirms that the firm is willing to sign the enclosed Standard Form of Agreement (if applicable).

Signed By: TJ McKinney Title: President

Typed Name: T.J. McKinney Company Name: McKinney & Moore of Texas, LLC

Phone No: 903-630-3655 Fax No: _____

Email: tj@mckinneyandmoore.com

Bid Address: PO Box 908 Bullard, TX 75757
P.O. Box or Street City State Zip

Remit Address: PO Box 908 Bullard, TX 75757
P.O. Box or Street City State Zip

Federal Tax ID No: 88-4139601

DUNS No: _____

Date: 02.18.2025

AIA Document 310 - 2010 Bid Bond

CONTRACTOR (Name, legal status and address):

McKinney and Moore of Texas, LLC
P.O. Box 908
Bullard, TX 75757

SURETY (Name, legal status and principal place of business):

FCCI Insurance Company
6300 University Parkway
Sarasota, FL 34240-8424

OWNER (Name, legal status and address):

City of Nacogdoches
202 Pilar Street, Suite 239
Nacogdoches, TX 75961

Bond Amount: **Five Percent of the Greatest Amount Bid (5% GAB)**

PROJECT: (Name, location or address, and Project number, if any):

SWTP Filter 1 Rehabilitation Project

The Contractor and Surety are bound to the Owner in the amount set forth above, for the payment of which the Contractor and Surety bind themselves, their heirs, executors, administrators, successors and assigns, jointly and severally, as provided herein. The conditions of this Bond are such that if the Owner accepts the bid of the Contractor within the time specified in the bid documents, or within such time period as may be agreed to by the Owner and Contractor, and the Contractor either (1) enters in to a contract with the Owner in accordance with the terms of such bid, and gives such bond or bonds as may be specified in the bidding or Contract Documents, with a surety admitted in the jurisdiction of the Project and otherwise acceptable to the Owner, for the faithful performance of such Contract and for the prompt payment of labor and material furnished in the prosecution thereof; or (2) pays to the Owner the difference, not to exceed the amount of this Bond, between the amount specified in said bid and such larger amount for which the Owner 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. The Surety hereby waives any notice of an agreement between the Owner and Contractor to extend the time in which the Owner may accept the bid. Waiver of notice by the Surety shall not apply to any extension exceeding ninety (90) days in the aggregate beyond the time for acceptance of bids specified in the bid documents, and the Owner and Contractor shall obtain the Surety's consent for an extension beyond ninety (90) days.

If this Bond is issued in connection with a subcontractor's bid to a Contractor, the term Contractor in this Bond shall be deemed to be Subcontractor and the term Owner shall be deemed by the Contractor.

When this Bond has been furnished to comply with a statutory or other legal requirement in the location of the Project, any provision in this Bond conflicting with said statutory or legal requirement shall be deemed deleted here from and provisions conforming to such statutory or other legal requirement shall be deemed incorporated herein. When so furnished, the intent is that this Bond shall be construed as a statutory bond and not as a common law bond.

Signed and sealed this **20th** day of **February, 2025**

Randi Walls

(Witness)

(Seal)



(Witness)

(Seal)

McKinney and Moore of Texas, LLC

(Principal)



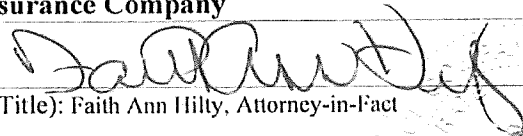
President

(Seal)

(Name & Title):

FCCI Insurance Company

(Surety)



(Name & Title): Faith Ann Hilty, Attorney-in-Fact

Language conforms to AIA Document A310 Bid Bond
BID70001ZZ0311F

IMPORTANT NOTICE

To obtain information or make a complaint:

You may call FCCI Insurance Group's (FCCI)* toll-free telephone number for information or to make a complaint at 1-800-226-3224.

You may also write to FCCI Insurance Group Compliance Department e-mail at StateComplaints@fcci-group.com.

For Claims, you may write to FCCI Insurance Group Claim Department e-mail at newclaim@fcci-group.com.

You may contact the Texas Department of Insurance to obtain information on companies, coverages, rights or complaints at 1-800-252-3439.

You may write the Texas Department of Insurance:

PO Box 149104

Austin TX 78714-9104

Fax: 1-512-475- 1771

Web: <http://www.tdi.state.tx.us>

E-mail: ConsumerProtection@tdi.state.tx.us

PREMIUM OR CLAIM DISPUTES

Should you have a dispute concerning your premium or about a claim you should contact FCCI first. If the dispute is not resolved, you may contact the Texas Department of Insurance.

ATTACH THIS NOTICE TO YOUR BOND

This notice is for information only and does not become a part or condition of the attached documents.

*The FCCI Insurance Group includes the following insurance carriers: Brierfield Insurance Company, FCCI Advantage Insurance Company, FCCI Commercial Insurance Company, FCCI Insurance Company, Monroe Guaranty Insurance Company, and National Trust Insurance Company.

CONDITIONS OF AGREEMENT

CONDITIONS OF AGREEMENT

CONTRACT DOCUMENTS

STANDARD SPECIFICATIONS FOR CONSTRUCTION--CITY OF NACOGDOCHES

FACILITIES: All building construction and related installations shall conform to the City's latest adopted editions of the International Building Code, National Electric Code, and the Uniform Plumbing Code and the Nacogdoches Standards for the Design and Construction of Public Improvements. All other City of Nacogdoches codes and ordinances shall also apply.

CIVIL CONSTRUCTION: These specifications shall be used in conjunction with the City of Nacogdoches' Standard Specifications of Water and Sewer Construction and Street Construction and is hereby incorporated by reference. All City of Nacogdoches codes and ordinances shall apply.

Any discrepancies between the City standards and these specifications shall be clarified per the instructions in Paragraph 9.0, "INTERPRETATIONS AND ADDENDA" in the instructions to Bidders.

GENERAL CONDITIONS OF AGREEMENT

The Standard Form of Agreement between Owner and Contractor shall be governing conditions of this contract.

SPECIAL PROVISIONS OF AGREEMENT

- A. **MEASUREMENTS:** All work not specifically set forth as a pay item in the Proposal shall be considered a subsidiary obligation of the Contractor and all costs in connection therewith shall be included in the various unit prices listed in the Proposal.
- B. **QUANTITIES:** Where unit quantities are shown on each bid item of the Proposal, they shall be construed to represent approximate quantities of Work to be completed. Final quantities will be determined by measurement on the site of the completed Work. Work performed outside of specified limits will not be included in final measurement. Bidders are hereby notified that no incidental items of the Work will be paid for unless it is listed in the Proposal form as a pay item.
- C. **EXPLOSION, COLLAPSE AND UNDERGROUND HAZARDS (XCU):** Contracts where trenching depths exceed twelve (12) feet shall require additional coverage for the following General Liability hazards:

Explosion
Collapse

Applies to blasting operations
Applies to excavation and grading work adjacent to structure

Underground

Applies to excavation, burrowing, trenching, tunneling, etc. For example, severing an electrical line during excavation operations.

An additional premium may be assessed by contractor's insurance provider. Successful contractor is responsible for assessing depth based on plans and specifications contained herein.

- D. **TRAFFIC CONTROL:** When work is performed in or immediately adjacent to a public street right-of-way, the Contractor shall submit to the City Engineer a traffic control plan for each public right-of-way he enters prior to the pre-construction meeting. This plan shall be in conformance to the Texas Manual on Uniform Traffic Control Devices. Once reviewed, the plans will be returned to the Contractor with comments.

Approved Traffic Control Plans shall be in the possession of the contractor on site during all work within the designated right of way.

- E. **MATERIAL STAGING:** Contractor is responsible for identifying and securing a suitable site for the storage of materials and other construction related items unless such a site is specifically identified in the plans.
- F. **PERMITS:** Contractor will be required to get permits pursuant to contract documents; however, the city will waive the fees.
- G. **STORM WATER PERMIT:** For construction areas disturbing more than one (1) acre of land, Contractor shall provide a Storm Water Pollution Prevention Plan and all related inspections, rain gages, signage, subsidiary to the contract.
- H. **SURVEY:** The Owner will provide a one-time survey staking of key construction points, bench marks, horizontal controls, building corners, or utility appurtenances as deemed necessary by the City Engineer. Additional construction staking, or replacement staking, will be at the contractor's expense.
- I. **CONTRACTOR PARKING and BATHROOMS:** Unless noted otherwise in the bid documents and plans, the installation of temporary bathroom facilities on the site will not be allowed. Parking for construction related vehicles, worker vehicles, and other equipment may be limited at the construction site. The Contractor should anticipate the need to provide an off-site parking subsidiary to the bid price in the contract.
- J. **FIELD OFFICES:** The Contractor will not be required to maintain a field office at the construction site. In the event that the Contractor wishes to have a temporary project office, approval will be required by the Owner. The cost for the installation of all utilities will be paid by the Contractor.
- K. **DRAINAGE AND EROSION CONTROLS:** The contractor will be responsible for designing, installing and maintaining interim drainage and erosion controls for the construction site.

Surface drainage channels, culverts, or other features will be maintained by the contractor in such a way to minimize the impacts from storm water to offsite properties.

- L. CONTRACT FORMS, BONDS AND CERTIFICATES: The Standard Form of Agreement bond forms listed below will be made a part of the executed contract documents and are made a part of these specifications:

CITY OF NACOGDOCHES STANDARD FORM OF AGREEMENT BETWEEN THE
OWNER AND THE CONTRACTOR

PERFORMANCE BOND

PAYMENT BOND

These forms are not to be filled in by the bidder at the time of submitting his proposal.

STANDARD FORM OF AGREEMENT FOR CONSTRUCTION

CITY OF NACOGDOCHES CONSTRUCTION AGREEMENT

This Agreement is entered into by and between the **City of Nacogdoches**, a Texas home-rule municipal corporation (the "City") and **McKinney & Moore of Texas, LLC**, a limited liability corporation (the "Contractor"), for **Construction Services for SWTP Filter 1 Rehabilitation Project** located in Nacogdoches, Texas (the "Project").

1. DEFINITIONS

1.01. Calendar Day. A "calendar day" is any day of the week or month, no days being excepted.

1.02. City. Whenever the word "City" is used, it shall mean and be understood as referring to the City of Nacogdoches, Texas.

1.03. City's Representative. Whenever the words "City's Representative" or "Representative" are used, it shall mean and be understood as referring to the City Manager or his delegate, who shall act as City's agent. The City's Representative may inspect and issue instructions but shall not directly supervise the Contractor.

1.04. Contract Amount. The term "Contract Amount" shall mean the amount of Contractor's lump sum base bid proposal, together with all alternates, as accepted by the City in accordance with the Contractor's Proposal. In the case of a unit price contract, Contract Amount shall mean the sum of the product of all unit prices times the respective estimated final quantities of work, for all base bid and alternates, as accepted by the City.

1.05. Contract Documents. The term "Contract Documents" shall mean those documents listed in Paragraph 2.01.

1.06. Contractor. Whenever the word "Contractor" is used, it shall mean the person(s), partnership, or corporation who has agreed to perform the work embraced in this Agreement and the other Contract Documents.

1.07. Extra Work. The term "Extra Work" shall mean and include work that is **not** covered or contemplated by the Contract Documents but that may be required by City's Representative and approved by the City in writing **prior** to the work being done by the Contractor.

1.08. Final Completion. The term "Final Completion" shall mean that all the work has been completed, all final punch list items have been inspected and satisfactorily completed, all payments to materialmen and subcontractors have been made, all documentation and warranties have been submitted, and all closeout documents have been executed and approved by the City.

1.09. Interpretation of Phrases. Whenever the words "directed", "permitted", "designated", "required", "considered necessary", "prescribed", or words of like import are used, it is understood that the direction, requirement, permission, order, designation, or prescription of City's Representative is intended. Similarly, the words "approved", "acceptable", "satisfactory", or words of like import shall mean approved by, accepted by, or satisfactory to City's Representative.

1.10. Nonconforming work. The term "nonconforming work" shall mean work or any part thereof that is rejected by City's Representative as not conforming with the Contract Documents.

1.11. Parties. The "parties" are the City and the Contractor.

1.12. Project. The term "Project" shall mean and include all that is required to obtain a final product that is acceptable to the City. The term "work" shall have like meaning.

1.13. Subcontractor. The term "subcontractor" shall mean and include only those hired by and having a direct contact with Contractor for performance of work on the Project. The City shall have no responsibility to any subcontractor employed by a Contractor for performance of work on the Project, and all subcontractors shall look exclusively to the Contractor for any payments due.

1.14. Substantially Completed. The term "Substantially Completed" means that in the opinion of the City's Representative the Project, including all systems and improvements, is in a condition to serve its intended purpose but still may require minor miscellaneous work and adjustment. Final payment of the Agreement Price, including retainage, however, shall be withheld until Final Completion and acceptance of the work by the City. Acceptance by the City shall not impair or waive any warranty obligation of Contractor.

1.15. Work. The term "work" as used in this Agreement shall mean and include all that is required herein to obtain a final product that is acceptable to the City. The term "Project" shall have like meaning. This Project includes the following: **Construction Services for SWTP Filter 1 Rehabilitation Project** located in Nacogdoches, Texas.

1.16. Working Day. A "working day" means any day not including Saturdays, Sundays, or legal holidays.

2. CONTRACT DOCUMENTS

2.01. The Contract Documents and their priority shall be as follows:

- 2.01.01. This signed Agreement
- 2.01.02. Addendum to this Agreement
- 2.01.03. General Conditions
- 2.01.04. Special Conditions
- 2.01.05. Technical specifications
- 2.01.06. Drawings
- 2.01.07. Instructions to Bidders and any other notices to Bidders or Contractor
- 2.01.08. Performance bond, Payment bonds, Bid bonds and Special bonds
- 2.01.09. Contractor's Proposal

2.02. Where applicable, the Contractor will be furnished three (3) sets of plans, drawings, specifications, and related Contract Documents for its use during construction. Plans and specifications provided for use during construction shall be furnished directly to the Contractor only.

2.03. The Contractor shall distribute copies of the plans and specifications to suppliers and subcontractors as necessary. The Contractor shall keep one (1) copy of the plans and specifications accessible at the work

site with the latest revisions noted thereon. For proper execution of the work contemplated by this Agreement, additional sets of drawings, plans and specifications may be purchased by the Contractor.

2.04. All drawings, specifications, and copies thereof furnished by the City shall not be re-used on other work, and with the exception of one (1) copy of the signed Contract Documents, all documents, including sets of the plans and specifications and “as built” drawings, are to be returned to the City on request at the completion of the work. All Contract Documents, models, mockups, or other representations are the property of the City. In the event of inconsistencies within or between parts of the Contract Documents, the Contractor shall (1) provide the better quality or greater quantity of Work, or (2) comply with the more stringent requirement, either or both in accordance with the City’s interpretation. The terms and conditions of this Clause 2.04, however, shall not relieve the Contractor of any of the obligations set forth in Paragraphs 8.01. and 8.02.

3. AWARD OF CONTRACT

3.01. Upon the award of the contract by the City Council, the parties shall execute this Agreement, and the Contractor shall deliver to City's Representative all documents, bonds, and certificates of insurance required herein.

3.02. **Time is of the essence in this Agreement.** Accordingly, the Contractor shall be prepared to perform the work in the most expedient and efficient possible manner in order to complete the work by the times specified in this Agreement for Substantial Completion and Final Completion. In addition, the Contractor's work on the Project shall be commenced on the date to be specified in the notice to proceed. The notice to proceed may be given by oral notification or set by City's Representative at the post-contract award conference. **The notice to proceed may not be given, nor may any work be commenced, until this Agreement is fully executed and complete, including all required exhibits and other attachments, particularly those required under Paragraphs 27 and 28 (Insurance & Bonds).**

3.03. **Contract Amount.** Except in the event of a duly authorized change order approved by the City as provided in this Contract, and in consideration of the Contractor’s final completion of all work in conformity with this Contract, the City shall pay the Contractor an amount not to exceed **Three Hundred Sixty-One Thousand Two Hundred Forty-Three and 38/100 Dollars (\$ 361,243.38).**

4. CITY'S REPRESENTATIVE

4.01. The Contractor shall forward all communications, written or oral, to the City through the City's Representative.

4.02. The City's Representative may periodically review and inspect the work of the Contractor.

4.03. The City's Representative shall appoint, from time to time, such subordinate supervisors or inspectors as City's Representative may deem proper to inspect the work performed under this Agreement and ensure that said work is performed in accordance with the plans and specifications.

4.04. The Contractor shall regard and obey the directions and instructions of City's Representative, any subordinate supervisors or inspectors appointed by the City provided such directions and instructions are consistent with the obligations of this Agreement.

4.05. Should the Contractor object to any orders by any subordinate supervisor or inspector, the Contractor may, within two (2) days from receipt of such order, make written appeal to City's Representative for his decision.

5. INDEPENDENT CONTRACTOR

5.01. In all activities or services performed hereunder, the Contractor is an independent contractor and not an agent or employee of the City. The Contractor, as an independent contractor, shall be responsible for the final product contemplated under this Agreement. Except for materials furnished by the City, the Contractor shall supply all materials, equipment and labor required for the execution of the work on the Project. The Contractor shall have ultimate control over the execution of the work under this Agreement. The Contractor shall have the sole obligation to employ, direct, control, supervise, manage, discharge, and compensate all of its employees and subcontractors, and the City shall have no control of or supervision over the employees of the Contractor or any of the Contractor's subcontractors except to the limited extent provided for in this Agreement.

5.02. The Contractor shall retain personal control and shall give its personal attention to the faithful prosecution and completion of the work and fulfillment of this Agreement. The subletting of any portion or feature of the work or materials required in the performance of this Agreement shall not relieve the Contractor from its obligations to the City under this Agreement. The Contractor shall appoint and keep on the Project during the progress of the work a competent Project Manager and any necessary assistants, all satisfactory to City's Representative, to act as the Contractor's representative and to supervise its employees and subcontractors. All directions given to the Project Manager shall be binding as if given to the Contractor. Adequate supervision by competent and reasonable representatives of the Contractor is essential to the proper performance of the work, and lack of such supervision shall be grounds for suspending the operations of the Contractor and is a breach of this Agreement.

5.03. Unless otherwise stipulated, the Contractor shall provide and pay for all labor, materials, tools, equipment, transportation, facilities, and drawings, including engineering, and any other services necessary or reasonably incidental to the performance of the work by the Contractor. It shall be the responsibility of the Contractor to furnish a completed work product that meets the requirements of the City. Any additional work, material, or equipment needed to meet the intent of this specification shall be supplied by the Contractor **without** claim for additional payment, even though not specifically mentioned herein.

5.04. Any injury or damage to the Contractor or the Project caused by an act of God, natural cause, a party or entity not privy to this Agreement, or other force majeure shall be assumed and borne by the Contractor.

6. DISORDERLY EMPLOYEES

The Contractor agrees to employ only orderly and competent employees skillful in the performance of the type of work required, and agrees that whenever City's Representative shall inform the Contractor in writing that any person or persons on the work are, in his opinion, incompetent, unfaithful, or disorderly, such person or person shall be discharged from the work and shall not again be re-employed on the site or the Project without City's Representative's written permission.

7. HOURS OF WORK

The Contractor may work Monday through Friday from 7 a.m. to 6 p.m., exclusive of Saturdays, Sundays, or legal holidays. The Contractor may work overtime, weekends, and holidays only when approved in advance by the City's Representative. The time for Substantial Completion shall not be affected in any way by inclusion of this section or by the City's consent or lack of consent to work outside of the times specified in this Agreement.

8. NATURE OF THE WORK

8.01. It is understood and agreed that the Contractor has, by careful examination, studied and compared the various Drawings and other Contract Documents, satisfied itself as to the nature and location of the work, the conditions of the ground and soil, the nature of any structures, the character, quality, and quantity of the material to be utilized, the character of equipment and facilities needed for and during the prosecution of the work, the time needed to complete the work, Contractor's ability to meet all deadlines and schedules required by this Agreement, the general and local conditions, including but not limited to weather, and all other matters that in any way affect the work under this Agreement. These obligations are for the purpose of facilitating construction by the Contractor and are not for the purpose of discovering errors, omissions, or inconsistencies in the Contract Documents; however, any errors, inconsistencies or omissions discovered, or which reasonably should have been discovered by the Contractor shall be reported promptly to the City as a request for information in such form as the City may require. However, the Contractor shall not perform any act or do any work on the Project that places the safety of persons at risk or potentially damages materials or equipment used in the Project, and the Contractor shall do nothing that would render any test or tests erroneous.

8.02. Any design errors or omissions noted by the Contractor during this review shall be reported promptly to the City, but it is recognized that the Contractor's review is made in the Contractor's capacity as a contractor and not as a licensed design professional unless otherwise specifically provided in the Contract Documents. The Contractor is not required to ascertain that the Contract Documents are in accordance with applicable laws, statutes, ordinances, building codes, and rules and regulations, but any nonconformity discovered by or which reasonably should have been discovered or made known to the Contractor shall be reported promptly to the City.

8.03. If the Contractor fails to perform the obligations of Paragraphs 8.01. and 8.02., the Contractor shall pay such costs and damages to the City as would have been avoided if the Contractor had performed such obligations. The Contractor shall not be liable to the City for damages resulting from errors, inconsistencies or omissions in the Contract Documents or for differences between field measurements or conditions and the Contract Documents unless the Contractor recognized or reasonably should have recognized such error, inconsistency, omission or difference and knowingly failed to report it to the City.

9. POST-AGREEMENT AWARD MEETINGS

9.01. Prior to the commencement of the work, the parties shall meet and attend a post-agreement award meeting at the time and place determined by City's Representative. At the post-agreement award meeting, the parties shall meet, discuss, and finalize all schedules, including commencement date, and/or specifications submitted for review. No later than ten (10) days prior to the post-agreement award meeting, the Contractor shall submit to City's Representative the following documents:

- (a) Schedules of work contemplated, including the starting and ending date, as well as an indication of the completion of stages of work hereunder.
- (b) The names and addresses of all proposed subcontractors in writing.
- (c) Schedules of the starting and ending dates of subcontractors and the scope of work contemplated for subcontractors.
- (d) Name, local office, phone number and addresses and, home phone numbers for the Contractor and its Project Superintendent/Manager.
- (e) For construction projects, four (4) copies of all shop and/or setting drawings or schedules for the submission thereof.
- (f) Where applicable, materials procurement schedules and material supplier names, addresses and phone numbers.

9.02. The City's Representative, within five (5) working days after the initial post-agreement award conference or any other meetings, may submit minutes of the meeting to the Contractor. The Contractor shall thereafter have five (5) working days to review the minutes and make its objections, changes, or reductions thereto in writing. The Contractor shall thereafter sign the minutes and promptly return them to City's Representative. Where there is disagreement, City's Representative will make the final determination.

10. PROGRESS OF WORK

10.01. Unless otherwise specifically provided, the Contractor shall prosecute its work at such time and sessions, in such order of precedence, and in such manner as shall be most conducive to the economy of the Project; provided, however, that the order and time of prosecution shall be such that the Project shall be Substantially Completed in accordance with this Agreement, the plans and specifications, and within the time of completion designated in the schedules agreed upon by the parties.

10.02. Further, the parties shall be subject to the following:

- (a) The Contractor shall submit a progress schedule and payment schedule of the work contemplated by this Agreement at the initial post-agreement award meeting and subsequent meetings.
- (b) City's Representative shall be entitled to make objections to the Contractor's schedule submitted herein. The Contractor shall promptly resubmit a revised schedule to City's Representative.
- (c) The Project Superintendent/Manager shall coordinate its activities with City's Representative. If required by the City, the Contractor shall provide a weekly schedule of planned activities, which may be reviewed on a daily basis.
- (d) The Contractor shall submit, at such time as may reasonably be requested by City's Representative, additional schedules that shall list the order in which the Contractor proposes to carry on the work with dates at which the Contractor will start the several parts of the work and the estimated dates of completion of the several parts.

(e) The Contractor shall attend additional meetings called by City's Representative upon twenty-four (24) hours written notice unless otherwise agreed in writing by the parties.

(f) When the City is having other work done, either by agreement or by its own force, City's Representative may direct the time and manner of work done under this Agreement so that conflicts will be avoided and the various work being done by and for the City shall be coordinated.

(g) In the event that it is determined by the City that the progress of the work is not in accordance with the approved progress and payment schedule, the City may so inform the Contractor and require the Contractor to take such action as is necessary to insure completion of the Project within the time specified.

10.03. The process of approving Contractor's schedules and updates to Contractor's schedules shall not constitute a warranty by the City that any non-Contractor milestones or activities will occur as set out in the Contractor's schedules. Approval of a contractor's schedules does not constitute a commitment by the City to furnish any City-furnished information or material any earlier than the City would otherwise be obligated to furnish that information or material under the Contract Documents. Failure of the Work to proceed in the sequence scheduled by Contractor shall not alone serve as the basis for a Claim for additional compensation or time. In the event there is interference with the Work which is beyond its control, Contractor shall attempt to reschedule the Work in a manner that will hold the additional time and costs beyond its control to a minimum. The Contractor shall monitor the progress of the Work for conformance with the requirements of the construction schedules and shall promptly advise the City of any delays or potential delays. In the event any schedule indicates any delays, the Contractor shall propose an affirmative plan to correct the delay. In no event shall any schedule constitute an adjustment in the Contract Time, any Milestone Date or the Contract Sum unless any such adjustment is agreed to by the City and authorized pursuant to Change Order.

10.04. **Work Stoppage.** If in the judgment of either the City or City's Representative any of the work or materials furnished is not in strict accordance with this Agreement or any portion of the work is being performed so as to create a hazardous condition, they may, in their sole discretion, order the work of the Contractor or any sub contractor wholly or partially stopped until any objectionable person, work, or material is removed from the premises. Such stoppage or suspension shall neither invalidate any of the Contractor's performance obligations under this Agreement, including the time of performance and deadlines therefore, nor will any extra charge be allowed the Contractor by reason of such stoppage or suspension.

11. SITE CONDITIONS AND MANAGEMENT

11.01. Where the Contractor is working around or in existing structures, it shall verify conditions at the site, including but not limited to, door openings and passages. Any items constructed or manufactured off-site or outside of buildings shall be done so that they are not too bulky for existing facilities. The Contractor shall provide special apparatus as required to handle any such items. All special handling equipment charges shall be at the Contractor's expense. Further, Contractor shall include in its price for the Work, all labor, materials, equipment and/or engineering services required to protect the adjacent properties and/or structures from damage due to performance of the Work.

11.02. The Contractor shall be responsible for all power, light, and water required to perform the work.

11.03. Throughout the progress of the work, the Contractor shall keep the working area free from debris of all types, and remove from premises all rubbish, resulting from any work being done by him. At the completion of the work, the Contractor shall leave the premises in a clean and finished condition. Any failure to do so may be remedied and charged back to the Contractor.

11.04. **Layout of Work.** Except as specifically provided herein, the Contractor shall lay out all work in a manner acceptable to City's Representative in accordance with applicable City of Nacogdoches codes and ordinances. City's Representative will review the Contractor's layout of all structures and any other layout work done by the Contractor at the construction meeting, or at the Contractor's request, but this review does not relieve the Contractor of the responsibility of accurately locating all work in accordance with the plans and specifications.

11.05. **Lines and Grades.** All lines and grades shall be furnished by the Contractor. Benchmarks and control stakes have been provided by the City's Representative. All benchmarks and control stakes shall be carefully preserved by the Contractor. In case of destruction or removal of the same by the Contractor, its subcontractors, or employees, such stakes, marks, etc. shall be replaced by the Contractor at the Contractor's expense. If the Contractor fails to do so, the City may do so and charge back the Contractor. Additional construction staking as needed for the work, including lines and grades, shall be the sole responsibility of the Contractor, and the Contractor shall receive no extra time or compensation therefor.

11.06. **Contractor's Structures.** The building or locating of structures for housing men or the erection of tents or other forms of protection will be permitted only at such places as City's Representative shall permit. The Contractor shall not damage the property where such structures are allowed and shall at all times maintain sanitary conditions in and about such structures in a manner satisfactory to the City. The City may charge the Contractor for any damage or injury to the City, its property, or third persons as a result of the location or use of such structures.

11.07. The Contractor and any entity over whom the Contractor has control shall not erect any sign on the Project site without the prior written consent of the City.

11.08. City may have other work related to the Project performed at the Project site during the time the Work is performed. Contractor should schedule its Work to coordinate with the work of other contractors and utilities with the understanding that some of that work may be performed at times other than as set out in the Contract Documents or as otherwise anticipated. City will endeavor to have such other work performed so as not to unduly interfere with Contractor's performance when Contractor notifies City of specific reasonable needs well in advance of those needs and where it is possible to do so. Although Contractor should anticipate some delays and interference to its sequence of Work because of work by other contractors and utilities, and will not be entitled to either an extension of time or additional compensation because of them, in the event of substantial delay caused by another contractor or a utility, after advance notice of its needs by Contractor, Contractor will be entitled to make a claim for an extension of time as provided herein.

11.09. When two or more contractors, including Contractor, are employed on related or adjacent work or obtain materials from the same material source, or when work must be completed by one contractor before another can begin, each shall conduct his operations in such a manner as not to cause any unnecessary delay or hindrance to the other. Each contractor, including Contractor if applicable, shall be responsible to the other for all damage to work, to persons, or to property caused to the other by his operations, and for loss caused the other due to unreasonable or unjustified delays or failure to finish the work or portions thereof, or furnish materials within the time requested. Should Contractor cause damage to the work or property of any

separate contractor at the Project site, or should any claim arising out of Contractor's separate contractor at the Project site, or should any claim arising out of Contractor's performance of the Work at the Project site be made by any separate contractor against Contractor, City or other consultants, or any other person, Contractor shall promptly attempt to settle with such other contractor by agreement, or to otherwise resolve the dispute. **Contractor shall, to the fullest extent permitted by applicable laws, indemnify and hold City harmless from and against all claims, damages, losses and expenses (including, but not limited to, fees of architects, attorneys and other professionals and court costs) arising directly, indirectly or consequentially out of any action, legal or equitable, brought by any separate contractor against City to the extent based on a claim arising out of Contractor's negligence.**

12. MATERIALS

12.01. Materials or work described in words that when so applied have well-known technical or trade meaning shall be held to refer to such recognized standards. All work shall be done and all materials furnished in strict conformity with this Agreement, the other Contract Documents, and recognized industry standards. When specific products, systems or items of equipment are referred to in the Contract Documents, any ancillary devices necessary for connecting the products, systems or items of equipment shall also be provided. When standards, codes, manufacturer's instructions and guarantees are required by the Contract Documents, the current edition at the time of Contract execution shall apply, unless another edition is specified in the Contract Documents. References to standards, codes, manufacturer's instructions and guarantees shall apply in full, except (1) they do not supersede more stringent standards set out in the Contract Documents, and (2) any exclusions or waivers that are inconsistent with the Contract Documents do not apply.

12.02. All materials shall be approved by the City prior to purchase by the Contractor. Unless otherwise specified herein, the Contractor shall purchase all materials and equipment outright and shall not subject the materials and equipment utilized in the Project to any conditional sales agreement, bailment, lease, or other agreement reserving unto seller any right, title, or interest therein. Title to all materials, but not risk of loss, shall pass to the City upon delivery to the Project.

12.03. Where the City deems it necessary to supply materials, it may furnish to the Contractor the list of materials set forth in the attached "List of City Furnished Materials". Upon receipt of said materials, the Contractor shall immediately furnish to the City a written receipt. Moreover, the Contractor shall, on behalf of the City, accept delivery of the materials set forth in the attached "List of Materials Ordered by the City". Under such circumstances, the Contractor shall promptly forward to the City for payment the supplier's invoice together with the Contractor's receipt in writing for such materials.

- (a) Upon acceptance of the materials furnished or ordered by the City, the Contractor warrants that it shall properly handle, transport, store and safeguard the materials.
- (b) Further, the Contractor shall repair, repaint or replace any and all materials or any part thereof damaged or stolen while in its possession. Such materials are considered to be in the Contractor's possession from the moment the Contractor either accepts delivery of the materials or signs a receipt accepting delivery of said materials until the Project is accepted by the City's Representative.
- (c) Before transporting any of the materials furnished or ordered by the City, the Contractor shall establish to the City's satisfaction that it has obtained insurance against losses, theft, damage, equal to or greater than the amounts spent by the City in securing said materials. It shall be incumbent upon the Contractor to verify the cost of materials.

(d) The City shall not be obligated to furnish materials in excess of the quantities, size, kind, and type set forth in the attached List of City Furnished Materials and List of Materials Ordered by the City. If the City furnishes, and the Contractor accepts, materials in excess thereof, the values of such excess materials shall be their actual cost as stated by the City.

(e) Upon delivery, the Contractor shall promptly receive, unload, transport, and handle all materials and equipment on the List of Materials Ordered by the City at its expense and shall be responsible for all shipping costs.

12.04. Materials and supplies shall be new and of good quality. Upon request, the Contractor shall supply proof of quality and manufacturer. No refurbished, reconditioned, or other previously utilized materials or supplies will be used without the prior signed authorization of City's Representative. The Contractor may utilize substitutes of equal quality and function only upon the prior written authorization of the City's Representative. The City's Representative may require documentation as to quality and function, including manufacturer's specifications, to insure that the proposed substitute is equal to the required material or supply. The City's Representative shall have sole discretion over the use of substitute materials and supplies. Contractor shall bear the risk of any delay in performance caused by submitting substitutions.

12.05. Only materials and equipment which are to be used directly in the Work shall be brought to and stored on the Project site by the Contractor. After equipment is no longer required for the Work, it shall be promptly removed from the Project site. Protection of construction material and equipment stored at the Project site from weather, theft, damage and all other perils is solely the responsibility of the Contractor.

13. ENTRY, OBSERVATION, TESTING & POSSESSION

13.01. The City reserves the right to enter the Project site or sites by such employee(s) or agent(s) as it may elect for the purpose of inspecting the work. The City further reserves the right to enter the Project site or sites for the purpose of performing such collateral work as the City may desire.

13.02. The City's Representative shall have the right, at all reasonable times, to observe and test the work. The Contractor shall make necessary arrangements and provide proper facilities and access for such observation and testing at any location where the work or any part thereof is in preparation or progress. The Contractor shall ascertain the scope of any observation that may be contemplated by City's Representative and shall give ample notice as to the time each part of the work will be ready for observation.

13.03. The City's Representative may require Contractor to remove, dismantle, or uncover completed work. If the work is not in accordance with the plans, specifications, or other Contract Documents, the Contractor shall pay the costs of repair and restoration of the work required to be removed, dismantled, or uncovered. Unless Contractor is obligated to provide advance notice of inspection, prior to covering up the work, and fails to do so, if the work is in accordance with the plans, specifications, and other Contract Documents, the City shall pay the costs of repair and restoration of the work.

13.04. City shall have the right to take possession of and use any completed or partially completed portions of the Project prior to the time for completing the entire Project or such portions which may not have expired. The parties agree and understand that possession and use shall not constitute an acceptance of any work not completed in accordance with this Agreement. Further, insurance changes required to keep Contractor's insurance in effect shall be the responsibility of Contractor.

14. REJECTED WORK

14.01. All work deemed not in conformity with this Agreement as determined by the City in its sole discretion, may be rejected by the City. City's Representative may reject any work found to be defective or not in accordance with the Contract Documents, regardless of the stage of the work's completion or the time or place of discovery of such defects or inconsistencies and regardless of whether City's Representative has previously accepted the work through oversight or otherwise. Neither observations nor inspections, tests, or approvals made by City's Representative, or other persons authorized under this Agreement to make such observations, inspections, tests, or approvals, shall relieve the Contractor from the obligation to perform the work in accordance with the requirements of this Agreement and the other Contract Documents.

14.02. If the work or any part thereof is rejected by the City, it shall be deemed by City's Representative as not in conformity with this Agreement. Any remedial action required, as set forth herein, shall be at the Contractor's expense, as follows:

- (a) The Contractor may be required, at the City's option, after notice from City's Representative, to remedy such work so that it shall be in full compliance with this Agreement. All rejected work or materials shall be immediately replaced in order to conform with this Agreement.
- (b) If the City deems it inexpedient to correct work damaged or not done in accordance with this Agreement, an equitable deduction from the agreed sum may be made by the City at the City's sole discretion.

15. SUBCONTRACTING & SUBCONTRACTORS

15.01. The Contractor agrees that it will retain personal control and will give its personal attention to the fulfillment of this Agreement. The Contractor further agrees that subletting of any portion or feature of the work or materials required in the performance of this Agreement shall not relieve the Contractor from its full obligation to the City as provided by this Agreement.

15.02. Subcontractors must be approved by City's Representative prior to hiring or beginning any work on the Project. If City's Representative judges any subcontractor to be failing to perform the work in strict accordance with the drawings and specifications, the Contractor, after due notice, shall discharge the same, but this shall in no way release the Contractor from its obligations and responsibility under this Agreement. Every subcontractor shall be bound by the terms and provisions of this Agreement and the Contract Documents as far as applicable to their work. The Contractor shall be fully responsible to the City for the acts and omissions of its subcontractors. Nothing contained herein shall create any contractual or employment relations between any subcontractor and the City.

16. PAYMENT

16.01. The City stipulates that it is an exempt organization as defined by the Limited Sales, Excise and Use Tax Act and, as such, is exempt from the payment of the sales tax on materials and supplies used in the performance of this Contract. The Contractor shall issue exemption certificates to its suppliers and Subcontractors in lieu of said sales tax for all such materials and supplies, and said exemption certificates must comply with the State Comptroller's Ruling No. 95-0.07 and shall be subject to the provision of the State Comptroller's Ruling No. 95-0.09, effective October 1, 1969.

16.02. Progress Payment Applications. The Contractor shall submit applications for payment as provided for herein. Applications for payment will be processed by the City's Representative. Before the first Application for Payment, the Contractor shall submit to the City a schedule of values allocated to various portions of the Work, prepared in such form and supported by such data to substantiate its accuracy as the City may require. This schedule, unless objected to by the City, shall be used as a basis for reviewing the Contractor's Applications for Payment. On or before the 15th day of each month, the Contractor shall submit to City's Representative, for approval or modification, a statement showing as completely as practicable the total value of the actual work performed by the Contractor and accepted by the City up to and including the last day of the *preceding* month. The statement shall also include the value of all materials not previously submitted for payment which have been delivered to the site but have not yet been incorporated into the work.

16.03. Progress Payments. On or before the **30th** calendar day following the City's receipt of a progress payment application made in conformity with Paragraph 16.02, the City shall pay to the Contractor the approved amount of the progress payment based on the Contractor's applications for payment, and the recommendation and approval of City's Representative. Prior to Substantial Completion, progress payments will be made in an amount equal to the percentage of work completed by the Contractor and approved by the City, but in each case less the aggregate of payments previously made, less retainage, and less amounts as City's Representative shall determine and the City may withhold in accordance with this Agreement. Upon Final Completion, including the delivery of all close out documents, such as "as built" drawings, warranties, guarantees, required additional materials, releases, operation and maintenance manuals, and acceptance of the work in accordance with this Agreement, the City shall pay the remainder of the balance due under this Agreement, less any sums withheld under other terms of this Agreement and less the retainage, which shall be retained for a period of thirty (30) calendar days from the date of Final Completion. Acceptance of retainage by Contractor shall constitute a Waiver and Release of all claims by Contractor.

16.04. Retainage. From each approved statement, the City shall retain until final payment, ten percent (10%), where the full contract amount is less than \$400,000.00, and five percent (5%), where the full contract amount is \$400,000.00 or more. The City may also retain from each approved statement any other sums authorized under the terms of this Agreement.

16.05. If the actual amount of work to be done and the materials to be furnished differ from estimates and where the basis for payment is the unit price method, then payment shall be for the actual amount of accepted work done and materials furnished on the Project.

16.06. Reduction in the scope or quantity of work on unit price items shall merely reduce the number of units. In the event that materials have been delivered prior to notice of such reduction, the City will have the option either to pay freight & transportation costs and any re-stocking charges actually incurred by the Contractor or to purchase the materials. The Contractor shall never be entitled to anticipated or lost profits on the deleted or reduced portion of a job, whether bid on a unit price or lump sum basis.

16.07. The Contractor shall have the sole obligation to pay any and all charges or fees and give all notices necessary to and incidental to the lawful prosecution of the work hereunder. The Contractor shall not and shall have no authority whatsoever to obligate the City to make any payments to another party nor make any promises or representation of any nature on behalf of the City, without the specific written approval of the City.

16.08. The Contractor shall include in the Contract Sum all allowances stated in the Contract Documents. Items covered by allowances shall be supplied for such amounts and by such persons or entities as the City may direct, but the Contractor shall not be required to employ persons or entities to whom the Contractor has reasonable objection.

16.09. Unless otherwise provided in the Contract Documents:

- (a) allowances shall cover the cost to the Contractor of materials and equipment delivered at the site and all required taxes, less applicable trade discounts;
- (b) Contractor's costs for unloading and handling at the site, labor, installation costs, overhead, profit and other expenses contemplated for stated allowance amounts shall be included in the Contract Amount but not in the allowances;
- (c) whenever costs are more than or less than allowances, the Contract Amount shall be adjusted accordingly by Change Order. The amount of the Change Order shall reflect (1) the difference between actual costs and the allowances under Paragraph 16.9(a) and (2) changes in the Contractor's costs under Paragraph 16.9(b).

16.10. **Suspension of Payments.** The City, at any time, may suspend monthly progress payments on the work if it determines that the projected liquidated damages may exceed retainage. The City, at any time, may suspend monthly progress payments if it believes that the Contractor will not complete the work due to actual default or that the Contractor has represented or done some act that indicates that it will not complete the work in accordance with this Agreement or within the time period submitted in its bid. Provided, however, City is in no way obligated to Contractor's surety to withhold payment pursuant to the provisions of this Paragraph.

16.11. **Withhold Funds.** Regardless of any bond, the City may, on account of subsequently discovered evidence and in addition to the retainage withheld under Paragraph 16.04, withhold funds or nullify all or part of any acceptance or certificate to such extent as may be necessary to protect itself from loss on account of any of the following, or as otherwise provided in this Agreement:

- (a) Defective work.
- (b) Claims made or reasonable evidence indicating probable filing of claims by unpaid vendors or other third parties.
- (c) Failure of the Contractor to make prompt payments to subcontractors for labor or material or materialmen.
- (d) Claims made or reasonable evidence indicating claims will be made for damage to another by the Contractor.
- (e) Claims made or reasonable evidence indicating claims will be made for damage to third parties, including adjacent property owners.
- (f) Claims made or reasonable evidence indicating claims will be made for unremedied damage to property owned by the City.
- (g) City's determination of an amount of liquidated damages.
- (h) Charges made for repairs to the Contractor's defective work or repairs made by the City to correct damage to other property.
- (i) Other amounts authorized under this Agreement or under any other agreement made between City and Contractor.

Provided, however, City is in no way obligated to Contractor's surety to withhold payment pursuant to the provisions of this Paragraph.

16.12. The Parties agree that the City or the state auditor, if state funds are used to fund this contract, may conduct an audit or investigation of any entity receiving funds from the City directly or indirectly through a subcontract under the contract. The acceptance of funds under the contract or subcontract acts as acceptance of the authority of the City or the state auditor to conduct an audit or investigation in connection with those funds. An entity that is the subject of an audit or investigation must provide the City or the state auditor with access to any information the City or the auditor considers relevant to the investigation.

17. EXTRA WORK CHARGES

17.01. No changes shall be made, nor will bills for changes, alterations, modifications, deviations, and extra orders be recognized or paid for except upon the written order from authorized personnel of the City.

17.02. For "Extra Work", as defined in Paragraph 1.07 and authorized through written change orders, and pursuant to Section 252.048(d) of the Texas Local Government Code, the original contract price may not be increased by more than ***twenty-five percent (25%)***. Written change orders that do not exceed ***twenty-five percent (25%)*** of the original contract amount may be made or approved by the City Manager or his delegate if the change order is less than ***Fifty Thousand Dollars (\$50,000.00)***. Changes in excess of ***Fifty Thousand Dollars (\$50,000.00)*** must be approved by the City Council prior to commencement of the services or work. **Any requests by the Contractor for a change to the Contract Amount shall be made prior to the beginning of the work covered by the proposed change or the right to payment for Extra Work shall be waived.** No course of conduct or dealings between the parties, nor implied acceptance of alterations or additions to the Work or changes to the Contract schedule shall be the basis for any claim for an increase in compensation or change in time. Any cost incurred by Contractor in connection with any Extra Work shall be included in Contractor's requested change order and Contractor's failure to include any such cost shall act to Waive and Release any claim for such non included cost.

17.03. The Contractor shall complete all work as specified or indicated in the Contract Documents. The Contractor shall complete all Extra Work in connection therewith. All work and materials shall be in strict conformity with the specifications. The Substantial Completion of the work shall not excuse the Contractor from performing all the work undertaken, whether of a minor or major nature, and thereby completing the Project in accordance with the Contract Documents. In the event that the Contractor fails to perform the work as required for Substantial Completion or Final Completion, the City may contract with a third party to complete the work and the Contractor shall assume and pay the costs of the performance of the work as contracted.

(a) It is agreed that the Contractor shall perform all Extra Work under the direction of City's Representative when presented with a written work order signed by City.

(b) **No claim for Extra Work of any kind will be allowed unless ordered in writing by the City.** In case any orders or instructions appear to the Contractor to involve Extra Work for which it should receive compensation or an adjustment in the construction time, it shall make written request to City's Representative for a written order from City authorizing such Extra Work.

(c) Should a difference of opinion arise as to what does or does not constitute Extra Work, or as to the payment therefor, and the City insists upon its performance, then the Contractor shall proceed with the work after making written requests for written orders in a change order and shall keep adequate and accurate account of the actual field costs therefor, as provided under Method C.

(d) It is also agreed that the compensation to be paid to the Contractor for performing Extra Work shall be determined by one or more of the following methods:

Method A - By agreed unit prices, or

Method B - By agreed lump sum, or

Method C - If neither Method A nor Method B is agreed upon before the Extra Work is commenced, then the Contractor shall be paid the actual field cost of the work.

(e) **Method A - Unit Prices.** The Contractor agrees to perform Extra Work for the unit prices in the Contractor's Proposal. The Contractor also agrees and warrants that when it is necessary to construct units not shown in the Contract Documents, it shall construct such units for a price arrived at as follows:

(1) The cost of materials shall be determined by the invoices;

(2) The cost of labor shall be the reasonable cost thereof, as determined by the City, but in no event shall it exceed an amount determined by calculating the ratio of the total labor costs to the total costs to the total material costs in the section of the Proposal involved, and multiplying the cost of materials for the unit in question by this ratio. Provided, however, that the ratio shall be calculated for only those units that are similar to the new unit for which a price is to be determined.

(f) **Method B - Lump Sum.** The lump sum shall be reasonably close to the amount for similar work previously done or combinations of similar units. Invoices for materials used shall be provided in support of the agreed lump sum.

(g) **Method C - Actual Field Costs.** The actual field cost is hereby defined to include the cost of all applicable workmen and laborers, as well as materials, supplies, teams, trucks, rentals on machinery and equipment, for the time actually employed or used for such Extra Work, plus actual transportation charges necessarily incurred, together with other costs reasonably incurred directly on account of such Extra Work, including social security, old age benefits, maintenance bonds, public liability, property damage, worker's compensation, and all other insurance as may be required by law or ordinances or required and agreed to by the City or City's Representative. City's Representative may direct the form in which accounts of the actual field costs shall be kept and records of these accounts shall be made available to City's Representative. Unless otherwise agreed upon, the prices for the use of machinery and equipment shall be determined by using one hundred percent (100%), unless otherwise specified, of the latest schedule of equipment and ownership expenses adopted by the Associated General Contractors of America. Where practical, the terms and prices for the use of machinery and equipment shall be incorporated in the written Extra Work order. Actual field costs shall not exceed the prevailing market price therefor within reasonable tolerances as determined by City's Representative. The amount due to Contractor for costs other than actual field costs shall be calculated in accordance with the following standards:

(1) No indirect or consequential damages will be allowed.

(2) All costs must be directly and specifically shown to be caused by a proven wrong. No recovery shall be based on a comparison by planned expenditures to total actual expenditures or on estimated losses of labor efficiency, or on a comparison of planned

manloading to actual manloading, or any other analysis that is used to show damages indirectly.

- (3) Damages are limited to extra costs specifically shown to have been directly caused by a proven wrong.
- (4) The maximum daily limit on any recovery for delay shall be the amount established by the Contractor for job overhead costs, defined in the pay applications, divided by the total number of days specified for completion called for in the original Contract. Absent an overhead amount in the Schedule of Values, the amount estimated by Contractor for job overhead cost shall be used.

18. TIME OF COMPLETION

18.01. The date of beginning, the time for Substantial Completion and Final Completion of work as specified in this Agreement are of the essence in this Agreement.

18.02. The work embraced by this Agreement shall be commenced on the date specified in the notice to proceed. Said notice to proceed will be given in written form or set by the City's Representative at the post-award conference.

18.03. The work shall be Substantially Completed within the time bid, which shall run from the date when the notice to proceed is given by City's Representative. The Contractor has bid **90 calendar days** for the time within which it shall reach Substantial Completion of the Project.

18.04. The work shall reach Final Completion and be ready for final payment within **thirty (30) calendar days** from the date of Substantial Completion.

19. SUBSTANTIAL COMPLETION

19.01. The Contractor shall notify City's Representative when, in the Contractor's opinion, the contract is Substantially Completed. Within ten (10) calendar days after the Contractor has given City's Representative written notice that the work has been Substantially Completed, City's Representative shall inspect the work for the preparation of a final punch list.

(a) If City's Representative and the City find that the work is not Substantially Completed, then they shall so notify the Contractor who shall then complete the work. City's Representative shall not be required to provide a list of unfinished work.

(b) If the City Representative and City find that the work is Substantially Completed, the City shall issue to the Contractor its certificate of Substantial Completion.

19.02. The Substantial Completion of the work shall not excuse the Contractor from performing all of the work undertaken, whether of a minor or major nature, and thereby completing the Project in accordance with the Contract Documents.

20. FINAL COMPLETION

20.01. Contractor shall notify the City's Representative when it believes that the work has reached Final Completion as defined in Paragraph 1.08. If the City's Representative and the City accept and deems such work Finally Complete, then Contractor shall be so notified and certificates of completion and acceptance, as provided herein, shall be issued. A complete itemized statement of this Agreement account, certified by the City's Representative as correct, shall then be prepared and delivered to Contractor. Contractor or City, as the case may be, shall pay the balance due as reflected by said statement within thirty (30) calendar days.

20.02. The Contractor shall procure all required certificates of acceptance or completions issued by state, municipal, or other authorities and submit the same to the City. The City may withhold any payments due under this Agreement until the necessary certificates are procured and delivered.

20.03. Neither the final payment nor any acceptance nor certificate nor any provision of this Agreement shall relieve the Contractor of any responsibility for faulty workmanship or materials. At the option of the City, the Contractor shall remedy any defects and pay for any damage to other work which may appear after final acceptance of the work.

21. DELAYS

21.01. The Contractor, in undertaking to complete the work within the times herein fixed, has taken into consideration and made allowance for all hindrances and delays incident to such work, whether growing out of delays in securing material or workmen or delays arising from inclement weather or otherwise.

21.02. The City may, in its sole discretion, delay the work during inclement weather in order to preserve the Project, insure safety of work forces, and the preservation of materials and equipment. In such event and upon a written request from the Contractor, the City may grant an extension of time pursuant to Paragraph 22 to offset for such stoppage of the work.

21.03. In the event of delays resulting from changes ordered in the work by the City or other delays caused by the City or for the City's convenience, the Contractor may apply to the City for recovery of incidental expenses resulting from increased storage costs or other costs necessary to protect the value of the work. In no event shall any consequential or other damages be allowed or any other charges or claims be made by the Contractor for hindrances or delays resulting from any other cause.

22. EXTENSIONS OF TIME

The Contractor has submitted its proposal in full recognition of the time required for the completion of this Project, taking into consideration all factors including, but not limited to the average climatic range and industrial conditions. The Contractor has considered the liquidated damage provision of this Agreement and understands and agrees that it shall not be entitled to, nor will it request, an extension of time for either Substantial Completion or Final Completion, except when the work has been delayed by one or more of the following:

- (1) an act or neglect of the City, the City's Representative, employees of the City, or other contractors employed by the City;
- (2) by changes ordered in the work, or reductions thereto approved in writing;

- (3) by "rain days" (days with rainfall in excess of one-tenth of an inch) during the term of this Agreement that exceed the average number of rain days for such term for this locality, both as determined by the Texas A&M University weather service; or
- (4) by other causes that the City and the Contractor agree may reasonably justify delay and that were beyond the Contractor's reasonable control and ability to estimate, predict, or avoid, such as delays caused by unforeseen labor disputes, fire, natural disasters, acts of war, and other rare and unpredictable events. This term does **not** include normal delays incident to the delivery of materials, tools, or labor that reasonably could have been predicted and/or accounted for in the Contractor's proposal or decision to bid.

If one or more of the foregoing conditions is present, the Contractor may apply in writing for an extension of time, within thirty (30) days of the occurrence of the event causing the delay, submitting therewith all written justification as may be required by the City's Representative. Within ten (10) calendar days after receipt of a written request for an extension of time, which is supported by all requested documentation, the City shall, in writing and in its sole discretion, grant or deny the request. Under no circumstances shall any extension of time by the City be valid and binding unless it is in writing and in conformity with the other terms of this Agreement.

23. LIQUIDATED DAMAGES

23.01. The time for the Substantial and Final Completion of the work described herein are reasonable times for the completion of each, taking into consideration all conditions, including but not limited to the average climatic conditions and usual industrial conditions prevailing in this locality. The amount of liquidated damages for the Contractor's failure to meet the deadlines for Substantial and/or Final Completion are fixed and agreed on by the Contractor because of the impracticability and extreme difficulty in fixing and ascertaining the actual damages that the City would in such an event sustain. The amounts to be charged are agreed to be damages the City would sustain and shall be retained by the City from current periodic estimates for payment or from final payment.

23.02. As a result of the difficulty in estimation, calculation and ascertainment of City's damages due to a failure of Contractor to achieve timely completion of the Work, if the Contractor should neglect, fail, or refuse to either Substantially Complete or Finally Complete the work within the time herein specified, or any proper extension thereof granted by the City's Representative pursuant to the terms of Paragraph 22 of this Agreement, then the Contractor does hereby agree as part of the consideration for the awarding of this Agreement that the City may permanently withhold from the Contractor's total compensation the sum of **Five Hundred and no/100 DOLLARS (\$500.00)** for each and every calendar day that the Contractor shall be in default after the time stipulated for Substantial Completion and/or Final Completion, not as a penalty, but as liquidated damages for the breach of this Agreement. It being specifically understood that the assessment of liquidated damages may be made for any failure to meet either or both of the deadlines specified for Substantial Completion and/or Final Completion.

24. CHARGES FOR INJURY OR REPAIR

24.01. The Contractor shall be liable for any damages incurred or repairs made necessary by reason of its work and/or caused by it. Repairs of any kind required by the City will be made and charged to the Contractor by the City.

24.02. The Contractor shall take the necessary precautions to protect any areas adjacent to its work.

24.03. The work specified consists of all work, materials, and labor required by the City to repair any damage to the property of the City, including but not limited to structures, roadways, curbs, parking areas, and sidewalks.

25. WARRANTY

25.01. Upon issuance of a certificate of Final Completion, the Contractor warrants for a period of one (1) year as follows:

The Contractor warrants that all labor and materials provided to the City under this Agreement shall be new unless otherwise approved in advance by City's Representative and that all work will be of good quality, free from faults and defects, and in conformance with this Agreement, the other Contract Documents, and recognized industry standards.

25.02. All work not conforming to these requirements, including but not limited to unapproved substitutions, may be considered defective.

25.03. This warranty is in addition to any rights or warranties expressed or implied by law and in addition to any consumer protection claims arising from misrepresentations by the Contractor.

25.04. Where more than a one (1) year warranty is specified for individual products, work, or materials, the longer warranty shall govern.

25.05. This warranty obligation shall be covered by any performance or payment bonds tendered in compliance with this Agreement.

25.06. **Defective Work Discovered During Warranty Period.** If any of the work is found or determined to be either defective, including obvious defects, or otherwise not in accordance with this Agreement within one (1) year after the date of the issuance of a certificate of Final Completion of the Work or a designated portion of the Work, whichever is longer, or within one (1) year after acceptance by the City of designated equipment, or within such longer period of time as may be prescribed by law or by the terms of any applicable special warranty required by this Agreement, the Contractor shall promptly correct the defective work at no cost to the City.

25.07. After receipt of written notice from the City to begin corrective work, the Contractor shall promptly begin the corrective work. The obligation to correct any defective work shall survive the termination of this Agreement. The guarantee to correct the defective work shall not constitute the exclusive remedy of City, nor shall other remedies be limited to the terms of either the warranty or the guarantee.

25.08. If within ten (10) calendar days after the City has notified the Contractor of a defect, failure, or abnormality in the work, the Contractor has not started to make the necessary corrections or adjustments, the City is hereby authorized to make the corrections or adjustments, or to order the work to be done by a third party. The cost of the work shall be paid by the Contractor or its surety.

25.09. The cost of all materials, parts, labor, transportation, supervision, special instruments, and supplies required for the replacement or repair of parts and for correction of defects shall be paid by the Contractor or by the surety.

25.10. The guarantee shall be extended to cover all repairs and replacements furnished, and the term of the guarantee for each repair or replacement shall be one (1) year after the installation or completion. The one (1) year warranty shall cover all work, equipment, and materials that are part of this Project, whether or not a warranty is specified in the individual section of the Contract Documents that prescribe that particular aspect of the work.

26. PAYMENT OF EMPLOYEES, SUBCONTRACTORS & SUPPLIERS

26.01. **Wage Rates.** Pursuant to Section 2258.023(a) of the Texas Government Code, wage rates paid by the Contractor and any subcontractor on this Project shall be not less than the general prevailing rate of per diem wages for work of a similar character in this locality as specified in the schedule of general prevailing rates of per diem wages attached hereto as Exhibit A.

26.02. **Statutory Penalty.** Pursuant to Section 2258.023(b) of the Texas Government Code, if the Contractor or any subcontractor violates the requirements of Paragraph 26.01, the Contractor or subcontractor as the case may be shall pay the City **Sixty Dollars (\$60.00)** for each worker employed for each calendar day or part of the day that the worker is paid less than the stipulated wage rates.

26.03. The Contractor and each subcontractor shall pay all of their employees engaged in work on the Project in full (less mandatory legal deductions) in cash or by check readily cashable, without discount, no less than once each week.

26.04. No later than the seventh (7th) calendar day following the payment of wages, the Contractor must file with City's Representative a certified, sworn, legible copy of such payroll. This shall contain the name of each employee, their classification, the number of hours worked on each day, rate of pay, and net pay. The affidavit shall state that the copy is a true and correct copy of such payroll and that no rebates or deductions (except as shown) have been made or will be made in the future from the wages therein shown.

26.05. **Payment of Subcontractors.** The Contractor shall be solely and exclusively responsible for compensating any of the Contractor's employees, subcontractors, materialmen and/or suppliers of any type or nature whatsoever and for insuring that no claims or liens of any type arising out of or incidental to the performance of any services performed pursuant to this Agreement are filed against any property owned by the City. In the event a statutory lien notice is sent to the City, the Contractor shall, where no payment bond covers the work, upon written notice from the City, immediately obtain a bond at its expense and hold the City harmless from any losses that may result from the filing or enforcement of any said lien notice. In the event that the Contractor defaults in the provision of the bond, the City may withhold such funds as are necessary to assure the payment of such claim until litigation determines to whom payment shall be made.

26.06. **Affidavit of Bills Paid.** Prior to Final Acceptance of the Project, the Contractor shall provide a notarized affidavit, attached as Exhibit E, stating that all bills for labor, materials, and incidentals incurred have been paid in full, that any claims from manufacturers, materialmen, and subcontractors have been released, and that there are no claims pending of which the Contractor has been notified.

27. INSURANCE

27.01. The Contractor shall procure and maintain at its sole cost and expense for the duration of this Agreement insurance against claims for injuries to persons or damages to property that may arise from or in connection with the performance of the work hereunder by the Contractor, its agents, representatives, volunteers, employees or subcontractors. The policies, coverages, limits and endorsements required are as set forth in Exhibit B.

28. BOND PROVISIONS

28.01. Pursuant to Section 2253.021 of the Texas Government Code, for all public works contracts with governmental entities, a payment bond is required if the Contract Amount exceeds \$50,000, and a performance bond is required if the Contract Amount exceeds \$100,000. Below those amounts, the City *may* require payment and/or performance bonds. In the event a performance or payment bond or both is required either by law or in the City's discretion, such bonds shall be executed in accordance with all requirements of Article 7.19-1 of the Texas Insurance Code, all other applicable law, and the following:

- (a) The Contractor shall execute performance and payment bonds for the full Contract Amount.
- (b) The bond surety shall be authorized under the laws of the State of Texas to provide a performance and payment bond and shall have attached proof of authorization of the surety to act in the performance and payment of bonds.
- (c) The Contractor shall provide original, sealed, and complete counterparts of the executed bonds in the forms required by the Contract Documents, which are attached as Exhibit C, together with valid original powers of attorney, **at the time of execution of this Agreement and prior** to the commencement of work. Copies of the executed bonds shall be attached hereto as **Exhibit C**.
- (d) The performance and payment bonds shall remain in effect for a period of one (1) year after Final Completion of the work and shall be extended for any warranty work to cover the warranty period.
- (e) If at any time during the execution of this Agreement in the required period thereafter, the bond or bonds become invalid or ineffective for any reason, the Contractor shall promptly supply within ten (10) days such other bond or bonds, which bond or bonds shall assure performance or payment as required.

28.02. The Contractor may make such changes and alterations as the City may require in the work or any part thereof without affecting the validity of this Agreement and any accompanying bond. If such changes or alterations diminish the quantity of the work to be done, they shall not constitute the basis for any claim for damages or anticipated profits. If the City makes changes or alterations that render useless any work already done or material already used in said work, then the City shall compensate the Contractor for any material or labor so used, and for any actual loss occasioned by such change due to actual expenses incurred in preparation for the work as originally planned, in accordance with the provisions of Article 17.

29. SURETY

29.01. If the Contractor has abandoned the Project or the City has terminated the contract for cause and the Contractor's Surety, after notice demanding completion is sent, fails to commence the completion of the work

in compliance with this Agreement, then the City at its option may provide for completion of the work in either of the following manners:

29.01.01. The City may employ such force of men and use of instruments, machinery, equipment, tools, materials, and supplies as said the City may deem necessary to complete the work and charge the expense of such labor, machinery, equipment, tools, materials, and supplies to said the Contractor, and the expense so charged shall be deducted and paid by the City out of such monies as may be due or that may thereafter at any time become due to the Contractor and Surety.

29.01.02. The City may, after notice published as required by law, accept sealed bids and let this Agreement for the completion of the work under substantially the same terms and conditions that are provided in this Agreement. In case of any increase in cost to the City under the new agreement as compared to what would have been the cost under this Agreement, such increase together with all of the City's damages due to Contractor's abandonment and/or default, including liquidated damages, as provided pursuant to Paragraph 38, entitled "TERMINATION FOR CAUSE" shall be charged to the Contractor and the surety shall be and remain bound therefor. However, should the cost to complete such new agreement prove to be less than that which would have been the cost to complete the work under this Agreement, the Contractor shall be credited therewith after all deductions are made in accordance with this Agreement.

29.02. Should the cost to complete the work exceed the Contract Amount and the Contractor fails to pay the amount due to the City within the time designated and there remains any machinery, equipment, tools, materials, or supplies on the site of the work, notice thereof, together with an itemized list of such equipment and materials, shall be mailed to the Contractor at its respective address designated in this Agreement; provided, however, that actual written notice given in any manner shall satisfy this condition. After mailing, or otherwise giving such notice, such property shall be held at the risk of the Contractor subject only to the duty of City's Representative to exercise ordinary care to protect such property. After fifteen (15) calendar days from the date of said notice, City's Representative may sell such machinery, equipment, tools, materials, or supplies and apply the net sum derived from such sale to the credit of the Contractor. Such sale may be made at either public or private sale, with or without notice, as City's Representative may elect. City's Representative shall release any machinery, equipment, tools, materials, or supplies which remain on the job site and belong to persons other than the Contractor to their proper owners.

29.03. In the event the account shows that the cost to complete the work is less than that which would have been the cost to City had the work been completed by the Contractor under the terms of this Agreement, or when the Contractor shall pay the balance shown to be due by them to the City, then all machinery, equipment, tools, materials, or supplies left on the site of the work shall be turned over to the Contractor.

30. COMPLIANCE WITH LAW

30.01. The Contractor's work and materials shall comply with all state and federal laws, municipal ordinances, regulations, codes, and directions of inspectors appointed by proper authorities having jurisdiction.

30.02. The Contractor shall perform and require all subcontractors to perform the work in accordance with applicable laws, codes, ordinances, and regulations of the State of Texas and the United States and in compliance with OSHA and other laws as they apply to its employees. In the event any of the conditions of the specifications violate the code for any industry, then such code conditions shall prevail.

30.03. The Contractor shall follow all applicable state and federal laws, municipal ordinances, and guidelines concerning soil erosion and sediment control throughout the Project and warranty term.

30.04. The Immigration Reform and Control Act (IRCA). The Contractor may not knowingly obtain the labor or services of an undocumented worker. The Contractor, not the City, must verify eligibility for employment as required by IRCA;

30.05. In accordance with Section 2155.4441 of the Texas Government Code, Contractor agrees that during the performance of this contract it shall purchase products and materials produced in Texas when they are available at a price and time comparable to products and materials produced outside this state;

31. SAFETY PRECAUTIONS

31.01. All safety measures, policies and precautions at the site are a part of the construction techniques and processes for which the Contractor shall be solely responsible. The Contractor is solely responsible for handling and use of hazardous materials or waste, and informing employees of any such hazardous materials or waste. The Contractor shall provide copies of all hazardous materials and waste data sheets to the Nacogdoches Fire Department marked "Attn.: Assistant Chief".

31.02. The Contractor has the sole obligation to protect or warn any individual of potential hazards created by the performance of the work set forth herein. The Contractor shall, at its own expense, take such precautionary measures for the protection of persons, property, and the work as may be necessary.

31.03. The Contractor shall be held responsible for all damages to property, personal injuries and/or death due to failure of safety devices of any type or nature that may be required to protect or warn any individual of potential hazards created by the performance of the work set forth herein; and when any property damage is incurred, the damaged portion shall immediately be replaced or compensated for by the Contractor at its own cost and expense.

31.04. Contractor agrees that it shall not transport to, use, generate, dispose of, or install at the Project site any Hazardous Substance (as defined in Paragraph 31.07, except in accordance with applicable Environmental Laws. Further, in performing the Work, Contractor shall not cause any release of Hazardous Substances into, or contamination of, the environment, including the soil, the atmosphere, any water course or ground water, except in accordance with applicable Environmental Laws (as hereafter defined at Paragraph 31.07). **In the event Contractor engages in any of the activities prohibited in this Paragraph 31.04 to the fullest extent permitted by law, Contractor hereby indemnifies and holds City and all of its respective officials, agents and employees harmless from and against any and all claims, damages, losses, causes of action, suits and liabilities of every kind, including, but not limited to, expenses of litigation, court costs, punitive damages and attorneys' fees, arising out of, incidental to or resulting from the activities prohibited in this Paragraph 31.04.**

31.05. In the event Contractor encounters on the Project site any Hazardous Substance, or what Contractor may reasonably believe to be a Hazardous Substance, and which is being introduced to the Work, or exists on the Project site, in a manner violative of any applicable Environmental Laws, Contractor shall immediately stop work in the area affected and report the condition to City in writing. The Work in the affected area shall not thereafter be resumed except by written authorization of City if in fact a Hazardous Substance has been encountered and has not been rendered harmless. In the event Contractor fails to stop the Work upon

encountering a Hazardous Substance at the Project site, **to the fullest extent permitted by law, Contractor hereby indemnifies and holds City and all of its officials, agents and employees harmless from and against any and all claims, damages, losses, causes of action, suits and liabilities of every kind, including, but not limited to, expenses of litigation, court costs, punitive damages and attorneys' fees, arising out of, incidental to or resulting from Contractor's failure to stop the Work.**

31.06. City and Contractor may enter into a separate agreement and/or Change Order for Contractor to remediate and/or render harmless the Hazardous Substance, but Contractor shall not be required to remediate and/or render harmless the Hazardous Substance absent such agreement. Contractor shall not be required to resume work in any area affected by the Hazardous Substance until such time as the Hazardous Substance has been remediated and/or rendered harmless.

31.07. For purposes of this Agreement, the term "Hazardous Substance" shall mean and include any element, constituent, chemical, substance, compound, or mixture, which are defined as a hazardous substance by any local, state or federal law, rule, ordinance, by-law, or regulation pertaining to environmental regulation, contamination, clean-up or disclosure, including, without limitation, The Comprehensive Environmental Response, Compensation and Liability Act of 1980 ("CERCLA"), The Resource Conservation and Recovery Act ("RCRA"), The Toxic Substances Control Act ("TSCA"), The Clean Water Act ("CWA"), The Clean Air Act ("CAA"), and the Marine Protection Research and Sanctuaries Act ("MPRSA"), The Occupational Safety and Health Act ("OSHA"), The Superfund Amendments and Reauthorization Act of 1986 ("SARA"), or other state superlien or environmental clean-up or disclosure statutes including all state and local counterparts of such laws (all such laws, rules and regulations being referred to collectively as "Environmental Laws"). It is the Contractor's responsibility to comply with this Paragraph 31.07 based on the law in effect at the time its services are rendered and to comply with any amendments to those laws for all services rendered after the effective date of any such amendments.

32. TRENCH SAFETY

The Contractor must comply with Texas law regarding trench excavation exceeding five feet in depth and in accordance with the following items:

32.01 The Contractor must comply with the requirements of Tex. Health & Safety Code Ann. §756.022-023 (Vernon 1992), as amended, and the requirements of 29 C.F.R., Sections 1926.650 through 1926.653 inclusive, "Excavation, Trenching and Shoring," of the Occupational Safety and Health Administration Standards, as amended.

32.02 The Contractor must include a separate pay item for trench safety complying with trench safety requirements, stating a unit price per linear foot of trench safety systems, as measured along the centerline of trench including manholes and other line structures.

32.03 Before beginning work on this project, the Contractor must submit to the City a complete trench safety program that complies with state and federal regulations. It is the sole duty, responsibility and prerogative of the Contractor, not the City, to determine the specific applicability of the designed trench safety systems to each field condition encountered on the project.

32.04 The Contractor must provide the City the name of the "competent person" required by OSHA standards to perform the trench safety inspections. The Contractor must make daily inspections to ensure

that the systems comply with all applicable laws and regulations, and must maintain a permanent record of daily inspections available for examination by the City or other government authority.

32.05 If evidence of possible cave-ins or slides is apparent, the Contractor must cease all work in the trench and surrounding area until the necessary precautions have been taken by the Contractor to safeguard personnel entering the trench.

33. INDEMNITY

33.01. CONTRACTOR SHALL PROTECT, DEFEND, HOLD HARMLESS AND INDEMNIFY THE CITY AND/OR ITS OFFICERS, AGENTS, EMPLOYEES, REPRESENTATIVES, CONTRACTORS, ASSIGNEES, AND OR/OR DESIGNEES FROM ANY AND ALL CLAIMS, DEMANDS, EXPENSES, LIABILITY, SUITS OR CAUSES OF ACTION, AND ALL RELATED COSTS, ATTORNEY FEES, AND EXPENSES FOR INJURY TO ANY PERSON, INCLUDING DEATH, AND FOR DAMAGE TO ANY PROPERTY, TANGIBLE OR INTANGIBLE, OR FOR ANY BREACH OF CONTRACT ARISING OUT OF OR IN ANY MANNER CONNECTED WITH THE WORK DONE BY ANY PERSON UNDER THIS CONTRACT. IT IS THE INTENT OF THE PARTIES THAT THIS PROVISION SHALL EXTEND TO, AND INCLUDE, ANY AND ALL CLAIMS, CAUSES OF ACTION OR LIABILITY CAUSED BY THE CONCURRENT, JOINT AND/OR CONTRIBUTORY NEGLIGENCE OF THE CITY, AN ALLEGED BREACH OF AN EXPRESS OR IMPLIED WARRANTY BY THE CITY OR WHICH ARISES OUT OF ANY THEORY OF STRICT OR PRODUCTS LIABILITY.

33.02 The defense of any claim shall be coordinated by Contractor with the City Attorney of the City of Nacogdoches, Texas when the City is named Defendant in any lawsuit and Contractor may not agree to any settlement without first obtaining the concurrence from the City Attorney. The Parties agree to furnish timely written notice to each other of any such claim.

33.03. The indemnifications contained in paragraphs 33.01 shall include but not be limited to the following specific instances:

(a) In the event the City is damaged due to the act, omission, mistake, fault or default of the Contractor, then the Contractor shall indemnify and hold harmless and defend the City for such damage.

(b) The Contractor shall indemnify and hold harmless and defend the City from any claims for payment for goods or services brought by any material suppliers, mechanics, laborers, or other subcontractors.

(c) The Contractor shall indemnify and hold harmless and defend the City from any and all injuries to or claims of adjacent property owners caused by the Contractor, its agents, employees, and representatives.

(d) The Contractor shall be responsible for any damage to the floor, walls, etc., caused by the Contractor's personnel or equipment during installation.

- (e) The Contractor shall also be responsible for the removal of all related debris.
- (f) The Contractor shall also be responsible for subcontractors hired by it.
- (g) The Contractor shall indemnify, hold harmless, and defend the City from any liability caused by the Contractor's failure to comply with applicable federal, state, or local regulations, that touch upon or concern the maintenance of a safe and protected working environment and the safe use and operation of machinery and equipment in that working environment, no matter where fault or responsibility lies.

33.04. The indemnification obligations of the Contractor under this section shall not extend to include the liability of any professional engineer, the architect, their consultants, and agents or employees of any of them arising out of (1) the preparation or approval of maps, drawings, opinions, reports, surveys, Change Orders, designs or specifications, or (2) the giving of or the failure to give directions or instructions by the professional engineer, the architect, their consultants, and agents and employees of any of them, provided such giving or failure to give is the primary cause of the injury or damage.

33.05. It is agreed with respect to any legal limitations now or hereafter in effect and affecting the validity or enforceability of the indemnification obligation under Paragraph 33.01, such legal limitations are made a part of the indemnification obligation and shall operate to amend the indemnification obligation to the minimum extent necessary to bring the provision into conformity with the requirements of such limitations, and as so modified, the indemnification obligation shall continue in full force and effect.

34. RELEASE

The Contractor assumes full responsibility for the work to be performed hereunder, and hereby releases, relinquishes, and discharges the City, its officers, agents, and employees from all claims, demands, and causes of action of every kind and character, including the cost of defense thereof, for any injury to or death of any person (whether employees of either party or other third parties) and any loss of or damage to any property (whether property of either of the parties hereto, their employees, or of third parties) that is caused by or alleged to be caused by, arising out of, or in connection with the Contractor's work to be performed hereunder. This release shall apply regardless of whether said claims, demands, and causes of action are covered in whole or in part by insurance, and in the event of injury, death, property damage, or loss suffered by the Contractor, any subcontractor, or any person or organization directly or indirectly employed by any of them to perform or furnish work on the Project, this release shall apply regardless of whether such injury, death, loss, or damage was caused in whole or in part by the negligence of the City.

35. PERMITS AND LICENSES

The Contractor shall secure and pay for all necessary permits and licenses, governmental fees, and inspections necessary for the proper execution and completion of the work. During this Agreement term and/or period during which the Contractor is working, it shall give all notices and comply with all laws, ordinances, rules, regulations, and lawful orders of any public authority bearing on the performance of the work.

36. ROYALTIES AND LICENSING FEES

The Contractor shall pay all royalties and licensing fees. The Contractor shall hold the City harmless and indemnify the City from the payment of any royalties, damages, losses or expenses including attorney's fees for suits, claims or otherwise, growing out of infringement or alleged infringement of patents, materials and methods used in the Project. It shall defend all suits or claims for infringement of any patent rights. Further, if the Contractor has reason to believe that the design, service, process, or product specified is an infringement of a patent, it shall promptly give such information to City's Representative.

37. BREACH OF CONTRACT & DAMAGES

37.01. The City shall have the right to declare the Contractor in breach of this Agreement for cause when the City determines that this Agreement is not being performed according to its understanding of the intent and meaning of this Agreement. Such breach shall not in any way invalidate, abrogate, or terminate the Contractor's obligations under this Agreement.

37.02. Without prejudice to any other legal or equitable right or remedy that the City would otherwise possess hereunder or as a matter of law, the City upon giving the Contractor five (5) calendar days prior written notice shall be entitled to damages for breach of contract, upon but not limited to the following occurrences:

- (a) If the Contractor shall fail to remedy any default after written notice thereof from City's Representative, as City's Representative shall direct; or
- (b) If the Contractor shall fail for any reason other than the failure by City's Representative to make payments called upon when due; or
- (c) If the Contractor commits a substantial default under any of the terms, provisions, conditions, or covenants contained in this Agreement.

38. TERMINATION FOR CAUSE

Without prejudice to any other legal or equitable right or remedy that the City would otherwise possess hereunder or as a matter of law, the City upon giving the Contractor five (5) calendar days prior written notice shall be entitled to terminate this Agreement in its entirety at any time for any of the following:

38.01. If the Contractor becomes insolvent, commits any act of bankruptcy, makes a general assignment for the benefit of creditors, or becomes the subject of any proceeding commenced under any statute or law for the relief of debtors and, after notice, fails to provide adequate assurance that it can remedy all of its defaults; or

38.02. If a receiver, trustee, or liquidator of any of the property or income of the Contractor shall be appointed; or

38.03. If the Contractor shall fail to prosecute the work or any part thereof with diligence necessary to insure its progress and completion as prescribed by the time schedules; or

38.04. If the Contractor shall fail to remedy any default within ten (10) calendar days after written notice thereof from City's Representative, as City's Representative shall direct; or

38.05. If the Contractor shall fail for any reason other than the failure by City's Representative to make payments called upon when due; or

38.06. If the Contractor abandons the Work.

38.07. If the Contractor commits a substantial default under any of the terms, provisions, conditions, or covenants contained in this Agreement.

39. TERMINATION FOR CONVENIENCE

39.01. The performance of the work may be terminated at any time in whole or, from time to time, in part, by the City for its convenience. Any such termination shall be effected by delivery to the Contractor of a written notice (notice of termination) specifying the extent to which performance of the work is terminated, and the date upon which termination becomes effective.

39.02. In the event of termination for convenience, the Contractor shall only be paid the reasonable value of the Work performed prior to the effective date of the termination notice and shall be further subject to any claim the City may have against the Contractor under other provisions of this Agreement or as a matter of law. In the event of termination for convenience, Contractor Waives and Releases any claim for lost profit, other than profit on Work performed prior to the effective date of such termination.

40. RIGHT TO COMPLETE

If this Agreement is terminated for cause, the City shall have the right but shall not be obligated to complete the work itself or by others; and to this end, the City shall be entitled to take possession of and use such equipment, without rental obligation therefor, and materials as may be on the job site, and to exercise all rights, options, and privileges of the Contractor under its subcontracts, purchase orders, or otherwise; and the Contractor shall promptly assign such rights, options, and privileges to City. If the City elects to complete the work itself or by others, pursuant to the foregoing, then the Contractor and/or Contractor's surety will reimburse City for all costs incurred by the City (including, without limitation, applicable, general, administrative expenses, field overhead, the cost of necessary equipment, materials, field labor, additional fees paid to architects, engineers, attorneys or others to assist the City in connection with the termination and liquidated damages) in completing and/or correcting work by the Contractor that fails to meet any requirement of this Agreement or the other Contract Documents.

41. CLOSE OUT

41.01. After receipt of a notice of termination, whether for cause or convenience, unless otherwise directed by City's Representative, the Contractor shall, in good faith and to the best of its ability, do all things necessary in the light of such notice to assure the efficient and proper closeout of the terminated work (including the protection of City's property). Among other things, the Contractor shall, except as otherwise directed or approved by City's Representative, do the following:

- (a) Stop the work on the date and to the extent specified in the notice of termination;
- (b) Place no further orders or subcontracts for services, equipment, or materials, except as may be necessary for completion of such portion of the work as is not terminated;

(c) Terminate all orders and subcontracts to the extent that they relate to the performance of the work terminated by the notice of termination;

(d) Assign to City's Representative, in the manner and to the extent directed by it, all of the right, title, and interest of the Contractor under the orders or subcontracts so terminated; in which case, City's Representative shall have the right to settle or pay any or all claims arising out of the termination of such orders and subcontracts;

(e) With the approval of City's Representative, settle all outstanding liabilities and all claims arising out of such termination, orders, and subcontracts;

(f) Deliver to City's Representative, when directed by City's Representative, all documents and all property, which if the work had been completed, Contractor would have been required to account for or deliver to City's Representative, and transfer title to such property to City's Representative to the extent not already transferred.

42. TERMINATION CONVERSION

Upon determination of Court of competent jurisdiction that termination of the Contractor pursuant to Paragraph 38 was wrongful and/or otherwise improper, such termination will be deemed converted to a termination for convenience pursuant to Paragraph 39 and Contractor's remedy for such termination shall be limited to the recovery of the payments permitted for termination for convenience as set forth in Paragraph 39.

43. HIRING

During the term of this Agreement and for a period of one (1) year thereafter, the Contractor agrees not to solicit for hire any employee or employees of the City that were associated with work specified under this Agreement. In the event that this provision is breached by the Contractor, the Contractor agrees to pay the City damages in the amount equal to twelve (12) months of the employee's total compensation plus any legal expenses associated with enforcement of this provision.

44. ASSIGNMENT

This Agreement and the rights and obligations contained herein may not be assigned by the Contractor without the prior written approval of the City.

45. EFFECTIVE DATE

The effective date of this contract shall be the date of award of the contract.

46. OTHER TERMS

46.01. **Invalidity.** If any provision of this Agreement shall be held to be invalid, illegal or unenforceable by a court or other tribunal of competent jurisdiction, the validity, legality, and enforceability of the remaining provisions shall not in any way be affected or impaired thereby. The parties shall use their best efforts to

replace the respective provision or provisions of this Agreement with legal terms and conditions approximating the original intent of the parties.

46.02. **Written Notice.** Unless otherwise specified, written notice shall be deemed to have been duly served if delivered in person to the individual or to a member of the firm or to any officer of the corporation for whom it is intended or if it is delivered or sent certified mail to the last business address as listed herein. Each party will have the right to change its business address by at least thirty (30) calendar days written notice to the other parties in writing of such change.

46.03. **Entire Agreement.** It is understood that this Agreement contains the entire agreement between the parties and supersedes any and all prior agreements, arrangements, or understandings between the parties relating to the subject matter. No oral understandings, statements, promises or inducements contrary to the terms of this Agreement exist. This Agreement cannot be changed or terminated orally. No verbal agreement or conversation with any officer, agent or employee of the City, either before or after the execution of this Agreement, shall affect or modify any of the terms or obligations hereunder.

46.04. **Amendment.** No amendment to this Agreement shall be effective and binding unless and until it is reduced to writing and signed by duly authorized representatives of both parties.

46.05. **Mediation.** After receipt of a Notice of Claim, the City may elect to refer the matter to the Architect, City's Representative or another party for review. Contractor will attend meetings called to review and discuss the Claims and mitigation of the problem, and shall furnish any reasonable factual backup for the Claim requested. The City may also elect to defer consideration of the Claim until the Work is completed, in which case the same review options shall be available to the City at the completion of the Work. At any stage, the City, at its sole discretion, is entitled to refer a Claim to mediation under the Construction Industry Mediation Rules of the American Arbitration Association, and, if this referral is made, Contractor will take part in the mediation process. The filing, mediation or rejection of a Claim does not entitle Contractor to stop performance of the Work. The Contractor shall proceed diligently with performance of the Contract during the pendency of any claim, excepting termination or under City's direction to stop the Work. Agreements reached in mediation shall be enforceable as settlement agreements in any court having jurisdiction thereof. The parties shall share the Mediator's fee and any filing fees equally and the Mediation shall be held in Nagadoches, Texas.

46.06. **Arbitration.** In the event of a dispute and upon the mutual written consent of both parties, the parties may agree to arbitration without waiving any of their other rights hereunder.

46.07. **Choice of Law and Place of Performance.** This Agreement has been made under and shall be governed by the laws of the State of Texas. Performance and all matters related thereto shall be in Nagadoches County, Texas, United States of America.

46.08. **Authority to do business.** The Contractor represents that it has a certificate of authority, authorizing it to do business in the State of Texas, a registered agent and registered office during the duration of this contract.

46.09. **Authority to Contract.** Each party has the full power and authority to enter into and perform this Agreement, and the person signing this Agreement on behalf of each party has been properly authorized and empowered to enter into this Agreement. The persons executing this Agreement hereby represent that they have authorization to sign on behalf of their respective corporations.

46.10. Contractor Affirmations: If this contract is funded in whole or in part by money from the State of Texas, State law requires the following certifications, representations and/or warranties. Regardless of funding by the State, by signature hereon affixed, the Contractor hereby certifies that:

- (a) Contractor has not given, offered to give, nor intends to give at any time hereafter any economic opportunity, future employment, gift, loan, gratuity, special discount, trip, favor, or service to a public servant in connection with this Contract
- (b) Contractor represents and warrants that it has no actual or potential conflicts of interest in the goods and or services described in the scope of work to this contract.
- (c) **Antitrust.** Pursuant to 15 U.S.C. §1, et seq. and Tex. Bus. & Comm. Code §15.01, et seq. neither the contractor nor the firm, corporation, partnership, or institution represented by the contractor, or anyone acting for such a firm, corporation or institution has violated the antitrust laws of this state, federal antitrust laws, nor communicated directly or indirectly the bid made to any competitor or any other person engaged in such line of business.
- (d) **Child Support.** Pursuant to §231.006(d), Texas Family Code, regarding child support, the Contractor certifies that the individual or business entity named in this Contract is not ineligible to receive the specified payment and acknowledges that the contract may be terminated, and payment may be withheld if this certification is inaccurate. Furthermore, any Contractor subject to §231.006, Gov't Code, must include names and Social Security numbers of each person with at least 25% ownership of the business entity submitting the bid. This information must be provided prior to award. Enter the Name & Social Security Numbers for each person below:

Name:	Social Security Number:
Name:	Social Security Number:
Name:	Social Security Number:

- (e) **Debarment.** Contractor certifies that Contractor and its principals are eligible to participate in this transaction and have not been subjected to suspension, debarment, or similar ineligibility determined by any federal, state or local governmental entity and that Contractor is in compliance with the State of Texas statutes and rules relating to procurement. Entities ineligible for state procurement are listed on the State of Texas Debarred Vendor List maintained by the Texas Comptroller of Public Accounts and the System for Award Management (SAM) maintained by the General Services Administration. Entities ineligible for federal procurement are listed at <http://www.sam.gov/content/exclusions>.
- (f) **Terrorism Watch List.** Contractor represents and warrants that it does not do business with Iran, Sudan or a foreign terrorist organization as prohibited by Texas Government Code 2252.152. Contractor certifies that it is not listed on the federal government's terrorism watch list as described in Executive Order 13224.
- (g) **Critical Infrastructure.** If Contractor will be granted direct or indirect access to a communication infrastructure system, cybersecurity system, electric grid, hazardous waste treatment system, or water treatment facility, Contractor certifies that neither it or its parent company, is (1) majority owned by

citizens or governmental entities of China, North Korea, Russia or any other country designated by the Governor under Government Code 2274.0103, or (2) headquartered in any of those countries.

- (h) **Convictions.** Under Sections 2155.006, 23155.0061 and 2261.053 of the Texas Government Code, Contractor certifies that it is not ineligible to receive the specified contract and may be terminated and payment withheld if this certification is inaccurate. These sections prohibit contracts that include proposed financial participation by an individual or business entity who has been convicted in the past five years of (a) violating a federal law or assessed a penalty in connection with a contract involving relief for Hurricane Rita, Hurricane Katrina, or any other disaster, as defined by §418.004, Gov't Code, occurring after September 24, 2005; and (b) of any offense related to the direct support or promotion of human trafficking.
- (i) **COVID Vaccinations.** Contractor certifies that it does not require its customers to provide any documentation certifying the Customer's COVID-19 vaccination or post-transmission recovery on entry to, or to receive service from the Contractor's business.
- (j) **Boycotts.** (1) To the extent this Contract is considered a Contract for goods or services subject to § 2270.002 Texas Government Code, Contractor verifies that it: (i) does not boycott Israel; and (ii) will not boycott Israel during the term of this Contract. (2) To the extent this Contract has a value of \$100,000 or more and Contractor is an organization, association, corporation, partnership, joint venture, limited partnership, limited liability partnership, or limited liability company, including a wholly owned subsidiary, majority-owned subsidiary, parent company, or affiliate of those entities or business associations, that exists to make a profit that employs 10 or more full time employees, Contractor certifies that it: (i) does not and will not boycott energy companies during the term of the contract (*See Texas Government Code 2274.002, et seq.*); and (ii) does not and will not discriminate against a firearm entity or firearm trade association (*See Texas Government Code 2274.002, et seq.*).

46.11. **Waiver.** Failure of any party, at any time, to enforce a provision of this Agreement shall in no way constitute a waiver of that provision nor in any way affect the validity of this Agreement, any part hereof, or the right of the City thereafter to enforce each and every provision hereof. No term of this Agreement shall be deemed waived or breach excused unless the waiver shall be in writing and signed by the party claimed to have waived. Furthermore, any consent to or waiver of a breach will not constitute consent to or waiver of or excuse of any other different or subsequent breach.

46.12. **Headings, Gender, Number.** The article headings are used in this Agreement for convenience and reference purposes only and are not intended to define, limit, or describe the scope or intent of any provision of this Agreement and shall have no meaning or effect upon its interpretation. Words of any gender used in this Agreement shall be held and construed to include any other gender, and words in the singular number shall be held to include the plural, and vice versa, unless the context requires otherwise.

46.13. **Agreement Read.** The parties acknowledge that they have had opportunity to consult with counsel of their choice, have read, understand and intend to be bound by the terms and conditions of this Agreement.

46.14. **Multiple Originals.** It is understood and agreed that this Agreement may be executed in a number of identical counterparts, each of which shall be deemed an original for all purposes.

46.15. **Notice of Indemnification.** City and Contractor hereby acknowledge and agree that this Agreement contains certain indemnification obligations and covenants.

MCKINNEY & MOORE OF TEXAS, LLC

CITY OF NACOGDOCHES

By: _____
Printed Name: _____
Title: _____
Date: _____

By: _____
City Manager
Date: _____

APPROVED AS TO FORM:

City Attorney
Date: _____

Exhibit A
DAVIS BACON WAGE RATES

General Decision Number: TX20250084 01/03/2025

Superseded General Decision Number: TX20240084

State: Texas

Construction Type: Heavy

Counties: Cass, Cherokee, Erath, Fannin, Franklin, Hood, Hopkins, Marion, Montague, Morris, Nacogdoches, Navarro, Palo Pinto, Panola, Rains, Red River, Somervell, Titus, Van Zandt and Wood Counties in Texas.

HEAVY CONSTRUCTION PROJECTS

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)(1).

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 \$17.75 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 2025.
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 \$13.30 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 2025.

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 <http://www.dol.gov/whd/govcontracts>.

Modification Number	Publication Date
0	01/03/2025

SUTX2009-129 04/21/2009

	Rates	Fringes
CEMENT MASON/CONCRETE FINISHER...	\$ 13.00 **	0.00
LABORER: Common or General.....	\$ 8.61 **	0.00
LABORER: Pipelayer.....	\$ 9.94 **	0.00
OPERATOR: Backhoe/Trackhoe.....	\$ 11.75 **	0.00
OPERATOR: Bulldozer.....	\$ 14.25 **	0.00
OPERATOR: Loader (Front End)....	\$ 11.52 **	0.00
TRUCK DRIVER.....	\$ 10.80 **	0.26

WELDERS - Receive rate prescribed for craft performing operation to which welding is incidental.

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** Workers in this classification may be entitled to a higher minimum wage under Executive Order 14026 (\$17.75) or 13658 (\$13.30). Please see the Note at the top of the wage determination for more information. Please also note that the minimum wage requirements of Executive Order 14026 are not currently being enforced as to any contract or subcontract to which the states of Texas, Louisiana, or Mississippi, including their agencies, are a party.

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 <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) (iii)).

The body of each wage determination lists the classifications and wage rates that have been found to be prevailing for the type(s) of construction and geographic area covered by the wage determination. The classifications are listed in alphabetical order under rate identifiers indicating whether the particular rate is a union rate (current union negotiated rate), a survey rate, a weighted union average rate, a state adopted rate, or a supplemental classification rate.

Union Rate Identifiers

A four-letter identifier beginning with characters other than "SU", "UAVG", "SA?", or "SC?" denotes that a union rate was prevailing for that classification in the survey. Example: PLUM0198-005 07/01/2024. PLUM is an identifier of the union whose collectively bargained rate 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. The date, 07/01/2024 in the example, is the effective date of the most current negotiated rate.

Union prevailing wage rates are updated to reflect all changes

over time that are reported to WHD in the rates in the collective bargaining agreement (CBA) governing the classification.

Union Average Rate Identifiers

The UAVG identifier indicates that no single rate prevailed for those classifications, but that 100% of the data reported for the classifications reflected union rates. EXAMPLE: UAVG-OH-0010 01/01/2024. UAVG indicates that the rate is a weighted union average rate. OH indicates the State of Ohio. The next number, 0010 in the example, is an internal number used in producing the wage determination. The date, 01/01/2024 in the example, indicates the date the wage determination was updated to reflect the most current union average rate.

A UAVG rate will be updated once a year, usually in January, to reflect a weighted average of the current rates in the collective bargaining agreements on which the rate is based.

Survey Rate Identifiers

The "SU" identifier indicates that either a single non-union rate prevailed (as defined in 29 CFR 1.2) for this classification in the survey or that the rate was derived by computing a weighted average rate based on all the rates reported in the survey for that classification. As a weighted average rate includes all rates reported in the survey, it may include both union and non-union rates. Example: SUFL2022-007 6/27/2024. SU indicates the rate is a single non-union prevailing rate or a weighted average of survey data for that classification. FL indicates the State of Florida. 2022 is the year of the 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. The date, 6/27/2024 in the example, indicates the survey completion date for the classifications and rates under that identifier.

?SU? wage rates typically remain in effect until a new survey is conducted. However, the Wage and Hour Division (WHD) has the discretion to update such rates under 29 CFR 1.6(c)(1).

State Adopted Rate Identifiers

The "SA" identifier indicates that the classifications and prevailing wage rates set by a state (or local) government were adopted under 29 C.F.R 1.3(g)-(h). Example: SAME2023-007 01/03/2024. SA reflects that the rates are state adopted. ME refers to the State of Maine. 2023 is the year during which the state completed the survey on which the listed classifications and rates are based. The next number, 007 in the example, is an internal number used in producing the wage determination.

The date, 01/03/2024 in the example, reflects the date on which the classifications and rates under the ?SA? identifier took effect under state law in the state from which the rates were adopted.

WAGE DETERMINATION APPEALS PROCESS

1) Has there been an initial decision in the matter? This can be:

- a) a survey underlying a wage determination
- b) an existing published wage determination
- c) an initial WHD letter setting forth a position on a wage determination matter
- d) an initial conformance (additional classification and rate) determination

On survey related matters, initial contact, including requests for summaries of surveys, should be directed to the WHD Branch of Wage Surveys. Requests can be submitted via email to davisbaconinfo@dol.gov or by mail to:

Branch of Wage Surveys
Wage and Hour Division
U.S. Department of Labor
200 Constitution Avenue, N.W.
Washington, DC 20210

Regarding any other wage determination matter such as conformance decisions, requests for initial decisions should be directed to the WHD Branch of Construction Wage Determinations. Requests can be submitted via email to BCWD-Office@dol.gov or by mail 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 an initial decision has been issued, then any interested party (those affected by the action) that disagrees with the decision can request review and reconsideration from the Wage and Hour Administrator (See 29 CFR Part 1.8 and 29 CFR Part 7). Requests for review and reconsideration can be submitted via email to dba.reconsideration@dol.gov or by mail 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 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.

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END OF GENERAL DECISION

Exhibit B
INSURANCE REQUIREMENTS

During the term of this Agreement Contractor's insurance policies shall meet the following requirements:

I. Standard Insurance Policies Required:

- A. Commercial General Liability
- B. Business Automobile Liability
- C. Umbrella / Excess Liability – required for contract amounts exceeding \$1,000,000
- D. Workers' Compensation
- E. Builder's Risk – provides coverage for contractor's labor and materials for a project during construction that involves a structure such as a building or garage. builder's risk policy shall be written on "all risks" form.

II. General Requirements Applicable to All Policies:

- A. Only Insurance Carriers licensed and admitted to do business in the State of Texas will be accepted.
- B. Deductibles shall be listed on the Certificate of Insurance and are acceptable only on a per occurrence basis for property damage only.
- C. "Claims Made" policies are not accepted.
- D. Each insurance policy shall be endorsed to state that coverage shall not be suspended, voided, canceled, reduced in coverage or in limits except after thirty (30) days prior written notice by certified mail, return receipt requested, has been given to the City of Nacogdoches.
- E. Upon request, certified copies of all insurance policies shall be furnished to the City of Nacogdoches.
- F. The City of Nacogdoches, its officials, employees and volunteers, are to be named as "Additional Insured" to the Commercial General, Umbrella and Business Automobile Liability policies. The coverage shall contain no special limitations on the scope of protection afforded to the City, its officials, employees or volunteers.
- G. Waiver of subrogation in a form at least as broad as ISO form 2404 shall be provided in favor of the City on all policies obtained by the Contractor in compliance with the terms of this Agreement.

III. Commercial General Liability

- A. General Liability insurance shall be written by a carrier with a "A:VIII" or better rating in accordance with the current Best Key Rating Guide.
- B. Limit of \$500,000.00 per occurrence for bodily injury and property damage with an annual

aggregate limit of \$1,000,000.00 which limits shall be endorsed to be per Project.

- C. Coverage shall be at least as broad as ISO form GC 00 01.
- D. No coverage shall be excluded from the standard policy without notification of individual exclusions being attached for review and acceptance.
- E. The coverage shall include but not be limited to the following: premises/operations with separate aggregate; independent contracts; products/completed operations; contractual liability (insuring the indemnity provided herein) Host Liquor Liability, Personal & Advertising Liability; and Explosion, Collapse, and Underground coverage.

IV. Business Automobile Liability

- A. Business Automobile Liability insurance shall be written by a carrier with a “A:VIII” or better rating in accordance with the current Best Key Rating Guide.
- B. Minimum Combined Single Limit of \$1,000,000.00 per occurrence for bodily injury and property damage.
- C. Coverage shall be at least as broad as Insurance Service’s Office Number CA 00 01.
- D. The Business Auto Policy must show Symbol 1 in the Covered Autos Portion of the liability section in Item 2 of the declarations page.
- E. The coverage shall include owned autos, leased or rented autos, non-owned autos, any autos and hired autos.
- F. Pollution Liability coverage shall be provided by endorsement MCS-90, with a limit of \$1,000,000.00.

V. Excess Liability

Umbrella form excess liability coverage following the form of the underlying coverage with a minimum limit of \$5,000,000.00 or the total value of the contract, whichever is greater, per occurrence/aggregate when combined with the lowest primary liability coverage, is required for contracts exceeding \$1,000,000 in total value.

- VI. Those policies set forth in Paragraphs III, IV, and V shall contain an endorsement naming the City as Additional Insured and further providing that the Contractor’s policies are primary to any self-insurance or insurance policies procured by the City. The additional insured endorsement shall be in a form at least as broad as ISO form GC 2026. Waiver of subrogation in a form at least as broad as ISO form 2404 shall be provided in favor of the City on all policies obtained by the Contractor in compliance with the terms of this Agreement. Contractor shall be responsible for all deductibles which may exist on any policies obtained in compliance with the terms of this Agreement. All coverage for subcontractors shall be subject to the requirements stated herein. All Certificates of Insurance and endorsements shall be

furnished to the City's Representative at the time of execution of this Agreement, attached hereto as Exhibit D, and approved by the City before work commences.

VII. Workers Compensation Insurance

- A. Pursuant to the requirements set forth in Title 28, Section 110.110 of the Texas Administrative Code, all employees of the Contractor, all employees of any and all subcontractors, and all other persons providing services on the Project must be covered by a workers compensation insurance policy: either directly through their employer's policy (the Contractor's or subcontractor's policy) or through an executed coverage agreement on an approved Texas Department of Insurance Division of Workers Compensation (DWC) form. Accordingly, if a subcontractor does not have his or her own policy and a coverage agreement is used, contractors and subcontractors must use that portion of the form whereby the hiring contractor agrees to provide coverage to the employees of the subcontractor. The portion of the form that would otherwise allow them not to provide coverage for the employees of an independent contractor may not be used.
- B. Workers compensation insurance shall include the following terms:
1. Employer's Liability minimum limits of \$1,000,000.00 for each accident/each disease/each employee are required.
 2. "Texas Waiver of Our Right to Recover From Others Endorsement, WC 42 03 04" shall be included in this policy.
 3. Texas must appear in Item 3A of the Workers Compensation coverage or Item 3C must contain the following: All States except those listed in Item 3A and the States of NV, ND, OH, WA, WV, and WY.
- C. Pursuant to the explicit terms of Title 28, Section 110.110(c) (7) of the Texas Administrative Code, the bid specifications, this Agreement, and all subcontracts on this Project must include the following terms and conditions in the following language, without any additional words or changes, except those required to accommodate the specific document in which they are contained or to impose stricter standards of documentation:

"A. Definitions:

Certificate of coverage ("certificate") – An original certificate of insurance, a certificate of authority to self-insure issued by the Division of Workers Compensation, or a coverage agreement (DWC-81, DWC-83, or DWC-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.

Duration of the 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.

Persons providing services on the project ("subcontractors" in § 406.096 [of the Texas Labor Code]) - 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. The Contractor shall provide coverage, based on proper reporting of classification codes and payroll amounts and filing of any coverage agreements, that meets the statutory requirements of Texas Labor Code, Section 401.011(44) for all employees of the Contractor providing services on the project, for the duration of the project.*
- C. The Contractor must provide a certificate of coverage to the governmental entity prior to being awarded the contract.*
- D. If the coverage period shown on the Contractor's current certificate of coverage ends during the duration of the project, the Contractor must, prior to the end of the coverage period, file a new certificate of coverage with the governmental entity showing that coverage has been extended.*
- E. The Contractor shall obtain from each person providing services on a project, and provide to the governmental entity:*
 - (1) a certificate of coverage, prior to that person beginning work on the project, so the governmental entity will have on file certificates of coverage showing coverage for all persons providing services on the project; and*
 - (2) no later than seven calendar days after receipt by the Contractor, a new certificate of coverage showing extension of coverage, if the coverage period shown on the current certificate of coverage ends during the duration of the project.*
- F. The Contractor shall retain all required certificates of coverage for the duration of the project and for one year thereafter.*
- G. The Contractor shall notify the governmental entity in writing by certified mail or personal delivery, within 10 calendar days after the Contractor knew or should have known, or any change that materially affects the provision of coverage of any person providing services on the project.*
- H. The Contractor shall post on each project site a notice, in the text, form and manner prescribed by the Division of Workers Compensation, informing all persons providing services on the project that they are required to be covered, and stating how a person may verify coverage and report lack of coverage.*

- I. *The Contractor shall contractually require each person with whom it contracts to provide services on a project, to:*
- (1) *provide coverage, based on proper reporting of classification codes and payroll amounts and filing of any coverage agreements, that meets the statutory requirements of Texas Labor Code, Section 401.011(44) for all of its employees providing services on the project, for the duration of the project;*
 - (2) *provide to the Contractor, prior to that person beginning work on the project, a certificate of coverage showing that coverage is being provided for all employees of the person providing services on the project, for the duration of the project;*
 - (3) *provide the Contractor, prior to the end of the coverage period, a new certificate of coverage showing extension of coverage, if the coverage period shown on the current certificate of coverage ends during the duration of the project;*
 - (4) *obtain from each other person with whom it contracts, and provide to the Contractor:*
 - (a) *A certificate of coverage, prior to the other person beginning work on the project; and*
 - (b) *A new certificate of coverage showing extension of coverage, prior to the end of the coverage period, if the coverage period shown on the current certificate of coverage ends during the duration of the project;*
 - (5) *retain all required certificates of coverage on file for the duration of the project and for one year thereafter;*
 - (6) *notify the governmental entity in writing by certified mail or personal delivery, within 10 calendar days after the person knew or should have known, of any change that materially affects the provision of coverage of any person providing services on the project; and*
 - (7) *Contractually require each person with whom it contracts to perform as required by paragraphs (a) - (g), with the certificates of coverage to be provided to the person for whom they are providing services.*
- J. *By signing this contract, or providing, or causing to be provided a certificate of coverage, the Contractor is representing to the governmental entity that all employees of the Contractor who will provide services on the project will be covered by workers' compensation coverage for the duration of the project; that the coverage will be based on proper reporting of classification codes and payroll amounts; and that all coverage agreements will be filed with the appropriate insurance carrier or, in the case of a self-insured, with the Commission's Division of Self-Insurance Regulation. Providing false or misleading information may subject the Contractor to administrative penalties, criminal penalties, civil penalties, or other civil actions.*
- K. *The Contractor's failure to comply with any of these provisions is a breach of contract by the*

Contractor that entitles the governmental entity to declare the contract void if the Contractor does not remedy the breach within ten calendar days after receipt of notice of breach from the governmental entity.”

- VIII. Certificates of Insurance shall be prepared and executed by the insurance company or its authorized agent, and shall contain the following provisions and warranties:
- A. The company is licensed and admitted to do business in the State of Texas.
 - B. The insurance policies provided by the insurance company are underwritten on forms that have been provided by the Texas State Board of Insurance or ISO.
 - C. All endorsements and insurance coverages according to requirements and instructions contained herein.
 - D. The form of the notice of cancellation, termination, or change in coverage provisions to the City of Nacogdoches.
 - E. Original endorsements affecting coverage required by this section shall be furnished with the certificates of insurance.

Exhibit C
PERFORMANCE AND PAYMENT BONDS

PERFORMANCE BOND

Project No. _____

THE STATE OF TEXAS

§
§

KNOW ALL MEN BY THESE PRESENTS:

THE COUNTY OF NACOGDOCHES

§

THAT WE, _____, as Principal, hereinafter called "Contractor" and the other subscriber hereto _____, as Surety, do hereby acknowledge ourselves to be held and firmly bound to the City of Nacogdoches, a municipal corporation, in the sum of **Three Hundred Sixty-One Thousand Two Hundred Forty-Three and 38/100 Dollars (\$ 361,243.38)** for the payment of which sum, well and truly to be made to the City of Nacogdoches and its successors, the said Contractor and Surety do bind themselves, their heirs, executors, administrators, successors, and assigns, jointly and severally.

THE CONDITIONS OF THIS OBLIGATION ARE SUCH THAT:

WHEREAS, the Contractor has on or about this day executed a Contract in writing with the City of Nacogdoches for **Construction Services for SWTP Filter 1 Rehabilitation Project** all of such work to be done as set out in full in said Contract Documents therein referred to and adopted by the City Council, all of which are made a part of this instrument as fully and completely as if set out in full herein.

NOW THEREFORE, if the said Contractor shall faithfully and strictly perform Contract in all its terms, provisions, and stipulations in accordance with its true meaning and effect, and in accordance with the Contract Documents referred to therein and shall comply strictly with each and every provision of the Contract, including all warranties and indemnities therein and with this bond, then this obligation shall become null and void and shall have no further force and effect; otherwise the same is to remain in full force and effect.

It is further understood and agreed that the Surety does hereby relieve the City of Nacogdoches or its representatives from the exercise of any diligence whatever in securing compliance on the part of the Contractor with the terms of the Contract, including the making of payments thereunder and, having fully considered its Principal's competence to perform the Contract in the underwriting of this Performance Bond, the Surety hereby waives any notice to it of any default, or delay by the Contractor in the performance of his Contract and agrees that it, the Surety, shall be bound to take notice of and shall be held to have knowledge of all acts or omissions of the Contractor in all matters pertaining to the Contract. The Surety understands and agrees that the provision in the Contract that the City of Nacogdoches shall retain certain amounts due the Contractor until the expiration of thirty days from the acceptance of the Work is intended for the City's benefit, and the City of Nacogdoches shall have the right to pay or withhold such retained amounts or any other amount owing under the Contract without changing or affecting the liability of the Surety hereon in any degree.

It is further expressly agreed by Surety that the City of Nacogdoches or its representatives are at liberty at any time, without notice to the Surety, to make any change in the Contract Documents and in the Work to be done thereunder, as provided in the Contract, and in the terms and conditions thereof, or to make any change in, addition to, or deduction from the work to be done thereunder; and that such changes, if made, shall not in any way vitiate the obligation in this bond and undertaking or release the Surety therefrom.

It is further expressly agreed and understood that the Contractor and Surety will fully indemnify and hold harmless the City of Nacogdoches from any liability, loss, cost, expense, or damage arising out of or in connection with the work done by the Contractor under the Contract. In the event that the City of Nacogdoches shall bring any

suit or other proceeding at law on the Contract or this bond or both, the Contractor and Surety agree to pay to the City the actual amounts of attorneys' fees incurred by the city in connection with such suit.

This bond and all obligations created hereunder shall be performable in NACOGDOCHES County, Texas. This bond is given in compliance with the provisions of Chapter 2253 of the Texas Government Code, as amended, which is incorporated herein by this reference. However, all of the express provisions hereof shall be applicable whether or not within the scope of said statute.

Notices required or permitted hereunder shall be in writing and shall be deemed delivered when actually received or, if earlier, on the third day following deposit in a United State Postal Service post office or receptacle, with proper postage affixed (certified mail, return receipt requested), addressed to the respective other party at the address prescribed in the Contract Documents, or at such other address as the receiving party may hereafter prescribe by written notice to the sending party.

IN WITNESS THEREOF, the said Contractor and Surety have signed and sealed this instrument on the respective dates written below their signatures and have attached current Power of Attorney.

ATTEST and SEAL: (if a corporation) (SEAL)
WITNESS: (if not a corporation)

(Name of Contractor)

By: _____
Name:
Title:

By: _____
Name:
Title:
Date:

ATTEST/WITNESS (SEAL)

(Full Name of Surety)

By: _____
Name:
Title:
Date:

(Address of Surety for Notice)

By: _____
Name:
Title:
Date:

REVIEWED:

THE FOREGOING BOND IS ACCEPTED
ON BEHALF OF
THE CITY OF NACOGDOCHES, TEXAS:

City Attorney's Office

City Manager

NOTE: Date of bonds must be equal to or after the date of execution by City.

TEXAS STATUTORY PAYMENT BOND

Project No. _____

THE STATE OF TEXAS

§

KNOW ALL MEN BY THESE PRESENTS:

THE COUNTY OF NACOGDOCHES

§

§

THAT WE, _____, as Principal, hereinafter called "Principal" and the other subscriber hereto _____, a corporation organized and existing under the laws of the State of _____, licensed to business in the State of Texas and admitted to write bonds, as Surety, herein after called "Surety", do hereby acknowledge ourselves to be held and firmly bound to the City of Nacogdoches, a municipal corporation, in the sum of **Three Hundred Sixty-One Thousand Two Hundred Forty-Three and 38/100 Dollars (\$ 361,243.38)** for payment whereof, the said Principal and Surety bind themselves, and their heirs, administrators, executors, successors and assigns jointly and severally.

THE CONDITIONS OF THIS OBLIGATION ARE SUCH THAT:

WHEREAS, Principal has entered into a certain contract with the City of Nacogdoches, dated the ____ day of _____, 20____, for **Construction Services for SWTP Filter 1 Rehabilitation Project** which contract is hereby referred to and made a part hereof as fully and to the same extent as if copied at length herein.

NOW THEREFORE, the condition of this obligation is such that if 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 to remain in full force and effect;

PROVIDED, HOWEVER, that this bond is executed pursuant to the provisions of Chapter 2253 of the Texas Government Code and all liabilities on this bond shall be determined in accordance with the provisions, conditions and limitations of said Code to the same extent as if it were copied at length herein.

IN WITNESS THEREOF, the said Principal and Surety have signed and sealed this instrument on the respective dates written below their signatures.

ATTEST and SEAL: (if a corporation) (SEAL)
WITNESS: (if not a corporation)

(Name of Contractor)

By: _____
Name:
Title:

By: _____
Name:
Title:
Date:

ATTEST/WITNESS (SEAL)

(Full Name of Surety)

By: _____
Name:
Title:
Date:

(Address of Surety for Notice)

By: _____
Name:
Title:
Date:

REVIEWED:

THE FOREGOING BOND IS ACCEPTED
ON BEHALF OF
THE CITY OF NACOGDOCHES, TEXAS:

City Attorney's Office

City Manager

NOTE: Date of bonds must be equal to or after the date of execution by City.

Exhibit D
CERTIFICATES OF INSURANCE AND ENDORSEMENTS

Exhibit E
FINAL AFFIDAVIT OF ALL BILLS PAID

FINAL BILLS PAID AFFIDAVIT
BY CONTRACTOR

BEFORE ME, the undersigned authority, personally appeared as _____,
(Name), known to me to be a credible person, and after
being by me duly sworn, upon oath stated and affirmed that: "My name is
_____ and I am the _____
(Name) (Title)
of _____", hereafter referred to in this affidavit as
(Firm)
"Contractor". Contractor's business address is _____,
(Address)
Texas, _____. The undersigned Contractor has personal knowledge of the facts
(Zip)
stated herein and has full authority to make the agreements in this affidavit on behalf of
Contractor.
Pursuant to and in accordance with a written contract between Contractor and
_____, collectively referred to as Owner, Contractor furnished
(Owner)
materials and labor for the construction, renovation, installation or repair of certain
improvements (the "Improvements"), being City of Nacogdoches contract for
_____.
(Project Name)

All work provided for under said written construction contract, together with all changes and supplements thereto, has been fully completed in accordance with the terms and provisions of said contract.

Contractor has paid each of its subcontractors, laborers, suppliers and materialmen in full for all labor and materials provided to Contractor for or in connection with the construction, renovation or repair of the Improvements.

Contractor is not aware of any unpaid bills, claims, demands or causes of action by any of its subcontractors, laborers, manufacturers, suppliers or materialmen for or in connection with the furnishing of labor materials, or both, for the construction, renovation or repair of the Improvements.

Contractor further understands that this Final Bills Paid Affidavit is being given pursuant to and in accordance with Section 53.085 of the Texas Property Code and that the

intentional, knowing or reckless making of a false or misleading statement in this Affidavit constitutes an offense under said Section and is a Class A misdemeanor.

Contractor hereby indemnifies and holds harmless the City of Nacogdoches from any and all claims, demands or causes of action, and any costs, expenses and attorney’s fees incurred in connection therewith, arising from or connected with, the statements and representations contained herein.

EXECUTED this ____ day of _____ , 20____.

CONTRACTOR:

By: _____

Name: _____

Title: _____

Notary’s Acknowledgement

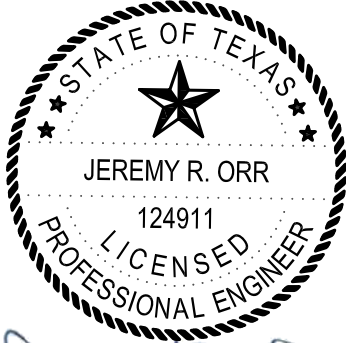
Before me, the undersigned authority, on this day personally appeared _____, who first being duly sworn by me to be the person whose name is subscribed to the foregoing Final Bills Paid Affidavit, acknowledged that he/she has the authority to make this Final Bills Paid Affidavit, and further acknowledged to me that he/she executed the same for the purpose and consideration therein expressed.

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

Exhibit F
PLANS, SPECIFICATIONS AND DRAWINGS

PROFESSIONAL SEALS AND CERTIFICATIONS

The Technical Specifications contained herein have been prepared by or under the direction of the following Design Professionals. Bidding and Contracting Documents and General Conditions have been prepared by KSA Engineers, Inc., in conjunction with the Technical Specifications contained herein and the Plans that are a part of the Contract Documents.



A handwritten signature in blue ink, appearing to read "Jeremy R. Orr", written over a horizontal line.

Jeremy R. Orr, P.E.

KSA Engineers, Inc.

TBPE Firm Registration No. F-1356

Rev	Description	Date
1	Issued for Construction	1-16-25

TECHNICAL SPECIFICATIONS TABLE OF CONTENTS

01 General Requirements

01 11 00	Summary of Work
01 22 00	Bid Item Descriptions
01 31 00	Coordination and Meetings
01 13 13	Project Coordination
01 32 16	Construction Progress Schedule
01 32 33	Photographic Documentation
01 33 00	Submittals
01 42 19	Reference Standards
01 45 00	Quality Control
01 45 23	Testing Services
01 50 00	Construction Facilities and Temporary Controls
01 60 00	Material and Equipment
01 75 16	Starting of Systems
01 77 00	Contract Closeout
01 78 23	Operation and Maintenance Data

02 Existing Conditions

02 41 13	Demolition
----------	------------

03 Concrete

03 11 13	Concrete Formwork
03 15 13	Construction Joints and Waterstops
03 21 00	Concrete Reinforcement
03 30 00	Cast-in-Place Concrete

32 Exterior Improvements

32 92 19 Seeding

33 Utilities

33 05 30 Location of Existing Utilities

46 Water Equipment

46 61 23 Filtration System

APPENDICES

Appendix 1 – Xylem/Leopold Underdrain Manufacturer's Scope of Supply

END OF TABLE OF CONTENTS

TECHNICAL SPECIFICATIONS

01 GENERAL REQUIREMENTS

SECTION 01 11 00 SUMMARY OF WORK

PART 1 GENERAL

1.1 SECTION INCLUDES

- A. Contract Description
- B. Work Sequence
- C. Contractor Use of Site and Premises

1.2 CONTRACT DESCRIPTION

- A. Improvements and modifications to the City of Nacogdoches Surface Water Treatment Plant shall include the following:
 - A. Filters 1 Improvements:
 - 1. Filter rehabilitation including removal disposal of existing filter media and filter underdrains and installation of new filter media and underdrain system for Filter 1.
 - B. Filters 5 – 10 Improvements:
 - 1. Removal and Replacement of the pressure transmitters associated with the filter effluent venturi flow meters on Filters 5-6 and 8-10 and integration of the new pressure transmitters into the existing SCADA system.

1.3 WORK SEQUENCE

- A. Construct Work in phases to accommodate Owner's operations and project integration requirements.
- B. During the construction period, coordinate construction schedule and operations with the Owner and Engineer.
- C. Contractor shall submit a construction schedule to the Engineer prior to commencing work on site. Contractor shall submit updated schedules monthly or when requested by the Owner or Engineer.

1.4 CONTRACTOR USE OF SITE AND PREMISES

- A. Limit use of site and premises to allow:
 - 1. Owner occupancy and operation of the Water Treatment Plant.
 - 2. Work by others and work by Owner.

- B. Owner will be operating the Water Treatment Plants continuously during the project. At no time shall Contractor's work prevent the Owner from operating and maintaining the plant facilities. Contractor shall make every effort practical to reduce impact of construction on Owner's operations. When significant impacts are expected the Contractor shall closely coordinate with Engineer and Owner.
- C. All Work shall be completed within the Owners property, and Owner acquired easements. The Contractor shall be responsible for any and all additional areas or easements required for construction activities beyond those areas provided.
- D. The Contractor shall be responsible for any and all damages caused by the Contractor's activities whether within the designated right-of-ways, Owner property, Owner acquired easements, and/or private property.

PART 2 PRODUCTS

Not Used.

PART 3 EXECUTION

Not Used.

END OF SECTION

SECTION 01 22 00 BID ITEM DESCRIPTIONS

PART 1 GENERAL

1.1 SECTION INCLUDES

- A. This section of the Specifications covers the components considered to be a portion of each pay item as may or may not be listed in the Proposal and is furnished to aid the Contractor in preparing his bid.
 - 1. Of necessity, the items described as components of the various items are discussed in a general manner only, describing the major pieces of equipment and/or materials.
 - 2. Any items and/or appurtenances not specifically mentioned shall be considered a portion of the bid item to which, in the opinion of the Engineer, its function is related.
 - 3. Failure to list all items and/or appurtenances does not relieve the Contractor from furnishing all apparatuses, devices, labor, or materials of whatever nature required for a complete and operating installation in accordance with the intent of the Contract Documents.
- B. The Contractor's bid price for each item listed in the Proposal shall include all cost associated with the completion of the project including equipment, materials, tools, labor, insurance, goods, supplies, safety, fuel, rentals, maintenance, repairs, permits, legal fees, licenses, direct costs, indirect costs, overhead, and profit.
- C. The successful Contractor shall, as soon as possible after award of the Contract, submit a list itemizing the components of each Lump Sum Bid Item and their respective costs to be used as an aid in the preparation of partial payments.
- D. The work called for by the Contract Documents shall be paid for under a single contract on the bases set forth in the Proposal. The total price bid shall constitute full compensation for all work indicated in the Contract Documents.
- E. Partial payments shall be made to the Contractor based on monthly estimates submitted to the Engineer for approval in accordance with the General and Supplemental Conditions. All estimates for partial payment shall be based on completed work and corresponding dollar amounts as provided in the Proposal and in accordance with the approved schedule of values.
- F. Unique or sole sourced items - "Tying or packaging" of equipment for the purpose of thwarting competition shall be considered to be in non-compliance with these Specifications. Manufacturers shall price items under each subsection or sections separately.

- G. The Contractor shall, as soon as possible, submit a list itemizing the components of each Lump Sum Bid Item and their respective costs to be used as an aid in the preparation of partial payments.

1.2 BASE BID

A. Mobilization, Insurance, and Bonds:

1. Item shall consist of all preparatory work and operations, including but not limited to insurance and bonds; those necessary for the movement of personnel, equipment, supplies, and incidentals to the project site; for the establishment of all temporary sanitation facilities, project signs, and other facilities necessary for work on the project; and for all work and operations which must be performed or costs incurred prior to beginning work on the various items on the project site as well as the cost to maintain insurance, bonds, personnel, equipment, supplies, and facilities for the duration of the Project.
2. All work covered by this section will be paid for at the contract lump sum price for Mobilization, Insurance, and Bonds.
3. Partial payments for this item will be made with the first and second partial pay estimates paid on the contract, and will be made at the rate of fifty percent (50%) of the lump sum price for "Mobilization, Insurance, and Bonds" on each of these partial pay estimates, PROVIDED THE AMOUNT BID FOR Mobilization, Insurance, and Bonds does not exceed five percent (5%) of the total amount bid for the contract.
4. Where the amount bid for Mobilization, Insurance, and Bonds exceeds five percent (5%) of the total amount bid for the contract, 2 ½ percent of the total amount bid will be paid on each of the first two partial pay estimates, and that portion exceeding five percent (5%) will be paid on the last partial pay estimate.

B. Filter Disinfection and Testing:

1. Item shall consist of furnishing all tools, equipment, materials, and labor necessary to disinfect a dual media filter in accordance with the latest version of AWWA C653, Section 4.4.3 prior to placing the filter back in service.
2. Disinfection is required for all portions of the facility that are either downstream from the filter influent or downstream from the first point of primary disinfectant in the treatment process as stated in AWWA C653.
3. Item shall include all cost associated with disinfection, sampling, lab analysis, and all laboratory fees in accordance with the Contract Documents.
4. Measurement and payment for this item shall be per each filter successfully disinfected as approved by the Engineer.

C. Filter Underdrain and Media Improvements - Filter 1:

1. Item shall consist of all Contractors cost associated with installation of new filter underdrain system and media for Filter No. 1 including but not limited to the following: removal and disposal of the existing filter media and underdrains, sawcutting, chipping, grouting, cleaning and preparation of existing filter floors for grouting, installation of the underdrain and media, anchor rods, unistrut, coordinating, unloading, storage, overhead, and profit.
2. The equipment and material cost for filter underdrains and media shall be paid for under the Filter Underdrain and Media Allowance. All items included in the specification and/or plans for the filter media and underdrain improvements not included in Leopold's scope of supply and services shall be included in the Contractor's bid price for this Bid Item.
3. Measurement and payment for this item shall be lump sum and paid based on the Engineer's estimated percent complete and the schedule of values as approved by the Engineer.

D. Filter Underdrain and Media Allowance – Filter 1:

1. The Allowance shall consist of Leopold furnishing equipment, materials, and start-up services for the new filter underdrain system and media for Filter No. 1 as shown in the plans and as stated in the attached scope of supply document in the Appendices.
2. The Contractor is responsible for all installation and items not listed in the scope of supply document. Any item not specifically addressed by the other bid items shall be considered subsidiary to the various bid items.
3. Measurement and payment for this item shall be based on reimbursement for paid receipts from the manufacturer paid and submitted by the Contractor with monthly pay request.
4. Upon completion of the project, any and all funds remaining in the Allowance shall be retained by the Owner.

E. Pressure Transmitter Replacement Allowance – Filters 5,6,8,10:

1. Item shall consist of furnishing all tools, equipment, materials, and labor necessary to remove and replace the pressure transmitters for the filter effluent flow meters as shown in the plans, including all necessary wiring, programming, software, screen and database development require to integrate the new pressure transmitters into the existing SCADA system.
2. The SCADA Specialist shall be Jeremy Sanches with AIC Automation 936-414-1933.

3. The Allowance is for the payment of the SCADA Specialist upon receipt of invoice from SCADA Specialist. Any and all funds remaining upon completion of the project shall be retained by the Owner.

F. Miscellaneous Allowance:

1. Item shall consist of miscellaneous extra work in accordance with the Contract Documents. No work shall be performed under this item without a prior written field order or change order executed by the Owner, Engineer, and Contractor.
2. Use of this allowance is at the sole discretion of the Owner. All or any unused portion shall be retained by Owner at the end of the project.

END OF SECTION

SECTION 01 31 00 COORDINATION AND MEETINGS

PART 1 GENERAL

1.1 SECTION INCLUDES

- A. Coordination and Project Conditions
- B. Field Engineering
- C. Preconstruction Meeting
- D. Progress Meetings

1.2 COORDINATION AND PROJECT CONDITIONS

- A. Coordinate scheduling, submittals, and Work of the various sections of the Project Manual to ensure efficient and orderly sequence of installation.
- B. Coordinate completion and clean-up of Work of separate sections in preparation for Substantial Completion.
- C. After Owner occupancy of premises, coordinate access to site for correction of defective Work and Work not in accordance with Contract Documents to minimize disruption of Owner's activities.

1.3 FIELD ENGINEERING

- A. Control datum for survey is that shown on Drawings.
- B. Verify set-backs and easements; confirm drawing dimensions and elevations.
- C. Provide field engineering services. Establish elevations, lines, and levels, utilizing recognized engineering survey practices.
- D. The Contractor is responsible for all construction staking and all associated costs.

1.4 PRECONSTRUCTION MEETING

- A. Engineer will schedule a meeting after Notice of Award.
- B. Attendance Required: Owner, Engineer, Contractor and major Subcontractors.
- C. Agenda:
 - 1. Distribution of Contract Documents.
 - 2. Submission of list of Subcontractors, list of Products, schedule of values, and progress schedule.
 - 3. Designation of personnel representing the parties in Contract and the Engineer.

4. Procedures and processing of field decisions, submittals, substitutions, applications for payments, proposal request, Change Orders, and Contract closeout procedures.
 5. Scheduling.
 6. Contractor's access to the site
 7. Use of premises by Owner and Contractor.
 8. Coordination of tie-ins.
 9. Owner's requirements.
 10. Application for Payment procedures.
 11. Procedures for testing.
 12. Procedures for maintaining record documents.
- D. Engineer to record minutes and distribute copies within five (5) days after meeting to participants.

1.5 PROGRESS MEETINGS

- A. Schedule and administer meetings throughout progress of the Work as deemed necessary by the Owner, Engineer, or the Contractor.
- B. Engineer will make arrangements for meetings, prepare agenda with copies for participants, and preside at meetings.
- C. Attendance Required: Job Superintendent, major subcontractors and suppliers, Owner, Engineer as appropriate to agenda topics for each meeting.
- D. Agenda:
 1. Review minutes of previous meetings.
 2. Review of Work progress.
 3. Field observations, problems, and decisions.
 4. Identification of problems, which impede planned progress.
 5. Review of submittals 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.

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. Engineer will record minutes and distribute copies within five (5) days after meeting to participants.

PART 2 PRODUCTS

Not Used

PART 3 EXECUTION

Not Used

END OF SECTION

SECTION 01 31 13 PROJECT COORDINATION

PART 1 GENERAL

1.1 SECTION INCLUDES

- A. Construction Mobilization
- B. Schedules
- C. Submittals
- D. Closeout Procedures.

1.2 CONSTRUCTION MOBILIZATION

- A. Cooperate with the Resident Project Representative in allocation of mobilization areas of site; for field offices and sheds, for access, traffic, and parking facilities.
- B. During construction, coordinate use of site and facilities through the Resident Project Representative.
- C. Coordinate with the Resident Project Representative's for intra-project communications; submittals, reports and records, schedules, coordination drawings, and recommendations; and resolution of ambiguities and conflicts.
- D. Coordinate with the Resident Project Representative for use of temporary utilities and construction facilities.
- E. Coordinate field engineering and layout work under instructions of the Resident Project Representative.

1.3 SCHEDULES

- A. Submit preliminary progress schedule in accordance with Section 01 33 00 coordinated with Project construction schedule.
- B. After review, revise and resubmit schedule to comply with revised Project schedule.
- C. During progress of work revise and resubmit with Applications for Payment.

1.4 SUBMITTALS

- A. Provide submittals to Project Coordinator for review and transmittal to Engineer.
- B. Submit preliminary shop drawings, product data and samples in accordance with Section 01 33 00 for review and compliance with Contract Documents, for field dimensions and clearances, for relation to available space, and for relation to work of separate contracts. Revise and resubmit as required.

- C. Submit applications for payment on AIA G702, EJCDC 1910-8-E, AIA G722 and G723, or Engineer approved forms for review and for transmittal to Engineer.
- D. Submit requests for interpretation of Contract Documents and obtain instructions through the Resident Project Representative.
- E. Process requests for substitutions, and change orders, through the Project Coordinator.
- F. Deliver closeout submittals for review and preliminary inspection reports, for transmittal to Engineer.

1.5 CLOSEOUT PROCEDURES

- A. Notify Resident Project Representative when Work is considered ready for Substantial Completion. Accompany Resident Project Representative on preliminary inspection to determine items to be listed for completion or correction in Contractor's Notice of Substantial Completion.
- B. Comply with Resident Project Representative's instructions to correct items of work listed in executed Certificates of Substantial Completion.
- C. Notify Resident Project Representative when Work is considered finally complete. Accompany Resident Project Representative on preliminary final inspection.
- D. Comply with Resident Project Representative's instructions for completion of items of Work determined by Engineer's final inspection.

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 REQUIREMENTS

- A. Prepare and submit a progress schedule for the Work and update the schedule on a monthly basis for the duration of the Project.
- B. Provide schedule in adequate detail to allow Owner to monitor the work progress, to anticipate the time and amount of Applications for Payment, and to relate submittal processing to sequential activities of the Work.
- C. Incorporate and specifically designate the dates of anticipated submission of submittals and the dates when submittals must be returned to the Contractor into the schedule.
- D. Assume complete responsibility for maintaining the progress of the Work per the submitted schedule.

1.2 SUBMITTALS

- A. Submit progress schedules in accordance with Section 01 33 00. Submit schedules within the following times:
 - 1. Preliminary schedule within 10 days after the Notice of Award. The schedule is to be available at the pre-construction conference.
 - 2. Detailed schedule at least 10 days prior to the first payment request.
- B. Submit progress schedules with Applications for Payment. Schedules may be used to evaluate the Applications for Payment. Failure to submit the schedule may cause delay in the review and approval of Applications for Payment.
- C. Submit PDF file and digital file (using Full P6 or MS Project).

1.3 SCHEDULE REQUIREMENTS

- A. Schedule is to be in adequate detail to:
 - 1. Assure adequate planning, scheduling, and reporting during the execution of the Work.
 - 2. Assure the coordination of the Work of the Contractor and the various Subcontractors and Suppliers.
 - 3. Assist in monitoring the progress of the work.
 - 4. Assist in evaluating proposed changes to Contract Time and project schedule.
 - 5. Assist the Owner in review of Contractor's Application for Payment.

- B. Provide the schedule in the form of a time scaled horizontal bar chart which indicates graphically the Work scheduled at any time during the Project. The graph is to indicate:
1. Complete sequence of construction by activity.
 2. Identification of the activity by structure, location, and type of Work.
 3. Chronological order of the start of each item of work.
 4. The activity start and stop dates.
 5. The activity duration.
 6. Successor and predecessor relationships for each activity. Group related activities or use lines to indicate relationships.
 7. A clearly indicated critical path. Indicate only one critical path on the schedule. The subsystem with the longest time of completion is the critical path where several subsystems each have a critical path. Float time is to be assigned to other subsystems.
 8. Projected percentage of completion, based on dollar value of the Work included in each activity as of the day Applications for Payment are due of each month.
- C. Update the schedule at the end of each monthly partial payment period to indicate the progress made on the project to that date.

1.4 SCHEDULE REVISIONS

- A. Submit a written report if the schedule indicates that the Project is more than thirty (30) days behind schedule. The report is to include:
1. Number of days Project is behind schedule.
 2. Narrative description of the steps to be taken to bring the Project back on schedule.
 3. Anticipated time required to bring the Project back on schedule.
- Submit a revised schedule indicating the action that the Contractor proposes to take to bring the Project back on schedule.
- B. Revise the schedule to indicate any adjustments in Contract Time approved by Change Order.
1. Revised schedule is to be included with Contract Modification Request for which an extension of time is requested.
 2. Failure to submit a revised schedule indicates that the modification shall have no impact on the ability of the Contractor to complete the project on time and that the cost associated with the change of additional plant or work force have been included in the cost proposed for the modification.

- C. Updating the project schedule to reflect actual progress is not considered a revision to the project schedule.
- D. Applications for Payment will not be recommended for payment without a revised schedule and if required, the report indicating the Contractor's plan for bringing the project back on schedule.

1.5 FLOAT TIME

- A. Define float time as the amount of time between the earliest start date and the latest start date of a chain of activities on the construction schedule.
- B. Float time is not for the exclusive use or benefit of either the Contractor or Owner.
- C. Contract time cannot be changed by the submission of this schedule. Contract Time can only be modified by approved Change Order.
- D. Schedule completion date must be the same as the contract completion date. Time between the end of construction and the contract completion date is to be indicated as float time.

END OF SECTION

SECTION 01 32 33 PHOTOGRAPHIC DOCUMENTATION

PART 1 GENERAL

1.1 WORK INCLUDED

- A. Provide a video recording of the Site prior to the beginning of construction.
 - 1. Record the condition of all existing facilities in or abutting the construction area including but not limited to buildings, streets, curb and gutter, utilities, driveways, fencing, landscaping, etc.
 - 2. Record after construction staking is complete but prior to any clearing where possible.
 - 3. Provide one copy of the recording, dated and labeled to the Engineer before the start of construction. Provide additional recording as directed by the Engineer or Resident Project Representative if the recording provided is not considered suitable for the purpose of recording conditions prior to construction.
- B. Furnish an adequate number of photographs of the Site to clearly depict the completed project.
 - 1. Provide a minimum of ten different views.
 - 2. Photograph a panoramic view of the entire project site.
 - 3. Photograph all significant areas of completed construction.
 - 4. Completion photographs are not to be taken until all construction trailers, excess materials, trash and debris have been removed.
- C. All photographs, video recordings and a digital copy of this media are to become the property of the Owner. Photographs or recordings may not be used for publication, or public or private display without the written consent of the Owner.

1.2 QUALITY ASSURANCE

- A. Provide clear photographs and recordings taken with proper exposure. View photographs and recordings in the field and take new photographs or recordings immediately if photos of an adequate print quality cannot be produced or video quality is not adequate. Provide photographs with adequate quality and resolution to permit enlargements.

1.3 SUBMITTALS

- A. Submit photographic documentation as record data in accordance with Section 01 33 00.

PART 2 PRODUCTS

2.1 PHOTOGRAPHS

- A. Provide photographs in digital format with a minimum resolution of 1280 X 960, accomplished without a digital zoom.
- B. Take photographs at locations acceptable to the Engineer and Resident Project Representative Provide a digital copy on a DVD of each photograph taken.
- C. Identify each digital file name with:
 - 1. Project name.
 - 2. Date, time, location, and orientation of the exposure.
 - 3. Description of the subject of photograph.

2.2 VIDEO RECORDING

- A. Provide digital format on DVD that can be played on Windows Media Player in common format in full screen mode.
- B. Identifying project on tape by audio or visual means.

END OF SECTION

SECTION 01 33 00 SUBMITTALS

PART 1 GENERAL

1.1 SECTION INCLUDES

- A. Submittal Procedures
- B. Construction Progress Schedules
- C. Product Data
- D. Shop Drawings
- E. Samples
- F. Design Data
- G. Test Reports
- H. Certificates
- I. Manufacturer's Instructions
- J. Manufacturer's Field Reports
- K. Erection Drawings

1.2 RELATED SECTIONS

- A. Section 01 45 00 - Quality Control: Manufacturer's field services and reports.
- B. Section 01 77 00 - Contract Closeout: Contract warranties, manufacturer's certificates and closeout submittals.

1.3 SUBMITTAL PROCEDURES

- A. All items shall be transmitted electronically and include a Contractor's review stamp.
- B. All items shall be submitted electronically. The preferred method of submission is utilizing the Newforma Info Exchange project page provided by KSA. KSA will provide a link to the project page for the Contractor to make submittals, to submit RFI's, and upload large files as necessary. There is no cost for using this service. If for some reason the Contractor cannot utilize the Newforma Info Exchange project page for submission, the Contractor shall submit one scanned copy of the submittal via the email to the Engineer.
- C. Transmittals
 - 1. An item that is resubmitted will retain the original number but with an added suffix starting with A.

2. Only one specification division should be covered by one letter of transmission and Newforma file transfer.
 3. Sufficient catalog information together with catalog cuts and technical data must be submitted to allow an evaluation to be made to determine whether or not the item in question is acceptable.
- D. Identify Project, Contractor, Subcontractor or supplier; pertinent drawing and detail number, and specification section number, as appropriate.
 - E. Schedule submittals to expedite the Project and coordinate submission of related items. For each submittal for review, allow fifteen (15) working days, excluding delivery time to and from the Contractor.
 - F. Identify variations from Contract Documents and Product or system limitations which may be detrimental to successful performance of the completed Work.
 - G. Provide 3" x 5" space for Contractor and Engineer review stamps.
 - H. When revised for resubmission, identify all changes made since previous submission.
 - I. Distribute copies of reviewed submittals as appropriate. Instruct parties to promptly report any inability to comply with requirements.

1.4 CONSTRUCTION PROGRESS SCHEDULES

- A. Submit initial schedule in duplicate within fifteen (15) days after date of Owner-Contractor Agreement.
- B. Revise and resubmit as required.
- C. Submit revised schedules with each Application for Payment, identifying changes since previous version.
- D. Submit a computer generated horizontal bar chart with separate line for each major portion of Work or operation, identifying first work day of each week.
- E. Show complete sequence of construction by activity, identifying Work of separate stages and other logically grouped activities. Indicate the early and late start, early and late finish, float dates, and duration.
- F. Indicate estimated percentage of completion for each item of Work at each submission.

1.5 PRODUCT DATA

- A. Product Data for Review:
 1. Submitted to Engineer for review for the limited purpose of checking for conformance with information given and the design concept expressed in the Contract Documents.

2. After review, provide copies and distribute in accordance with Submittal Procedures article above and for record documents purposes described in Section 01 77 00 – Contract Closeout.
- B. Product Data for Information:
1. Submitted for the Engineer’s knowledge as contract administrator or for the Owner.
- C. Product Data for Project Closeout:
1. Submitted for the Owner’s benefit during and after project completion.
- D. Submit the number of copies which the Contractor requires, plus three (3) copies which will be retained by the Engineer.
- E. Mark each copy to identify applicable products, models, options, and other data. Supplement manufacturers' standard data to provide information specific to this Project.
- F. Indicate Product utility and electrical characteristics, utility connection requirements, and location of utility outlets for service for functional equipment and appliances.
- G. After review distribute in accordance with the Submittal Procedures article above and provide copies for record documents described in Section 01 70 00 - Contract Closeout.

1.6 SHOP DRAWINGS

- A. Shop Drawings for Review:
1. Submitted to Engineer for review for the limited purpose of checking for conformance with information given and the design concept expressed in the contract documents.
 2. After review, produce copies and distribute in accordance with Submittal Procedures article above and for record documents purposes described in Section 01 77 00 – Contract Closeout.
- B. Shop Drawings for Information:
1. Submitted for the Engineer’s knowledge as contract administrator or for the Owner.
- C. Shop Drawings for Project Closeout:
1. Submitted for the Owner’s benefit during and after project completion.
- D. Indicate special utility and electrical characteristics, utility connection requirements, and location of utility outlets for service for functional equipment and appliances.

1.7 SAMPLES

A. Samples for Review:

1. Submitted to Engineer for review for the limited purpose of checking for conformance with information given and the design concept expressed in the contract documents.
2. After review, produce duplicates and distribute in accordance with Submittal Procedures article above and for record documents purposes described in Section 01 77 00 - Contract Closeout.

B. Samples for Information:

1. Submitted for the Engineer's knowledge as contract administrator or for the Owner.

C. Samples for Selection:

1. Submitted to Engineer for aesthetic, color, or finish selection.
2. Submit samples of finishes from the full range of manufacturer's standard colors, in custom colors selected, textures, and patterns for Engineer selection.
3. After review, produce duplicates and distribute in accordance with Submittal Procedures article above and for record documents purposes described in Section 01 77 00 - Contract Closeout.

D. Submit samples to illustrate functional and aesthetic characteristics of the Product, with integral parts and attachment devices. Coordinate sample submittals for interfacing work.

E. Include identification on each sample, with full Project information.

F. Submit the number of samples specified in individual specification sections; one of which will be retained by Engineer.

G. Reviewed samples which may be used in the Work are indicated in individual specification sections.

H. Samples will not be used for testing purposes unless specifically stated in the specification section.

1.8 DESIGN DATA

A. Submit for the Engineer's knowledge as contract administrator or for the Owner.

B. Submit for information for the limited purpose of assessing conformance with information given and the design concept expressed in the contract documents.

1.9 TEST REPORTS

A. Submit for the Engineer's knowledge as contract administrator or for the Owner.

- B. Submit test reports for information for the limited purpose of assessing conformance with information given and the design concept expressed in the contract documents.

1.10 CERTIFICATES

- A. When specified in individual specification sections, submit certification by the manufacturer, installation/application subcontractor, or the 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.

1.11 MANUFACTURER'S INSTRUCTIONS

- A. When specified in individual specification sections, submit printed instructions for delivery, storage, assembly, installation, start-up, adjusting, and finishing, to Engineer for delivery to owner in quantities specified for Product Data.
- B. Indicate special procedures, perimeter conditions requiring special attention, and special environmental criteria required for application or installation.
- C. Refer to Section 01 45 00 - QUALITY CONTROL, Manufacturer's Field Services article.

1.12 MANUFACTURER'S FIELD REPORTS

- A. Submit reports for the Engineer's benefit as contract administrator or for the Owner.
- B. Submit report in duplicate within 30 days of observation to Engineer for information.
- C. Submit for information for the limited purpose of assessing conformance with information given and the design concept expressed in the contract documents.

1.13 ERECTION DRAWINGS

- A. Submit drawings for the Engineer's benefit as contract administrator or for the Owner.
- B. Submit for information for the limited purpose of assessing conformance with information given and the design concept expressed in the contract documents.
- C. Data indicating inappropriate or unacceptable Work may be subject to action by the Engineer or Owner.

PART 2 PRODUCTS

Not Used.

PART 3 EXECUTION

Not Used.

END OF SECTION

SECTION 01 42 19 REFERENCE STANDARDS

PART 1 GENERAL

1.1 SECTION INCLUDES

- A. Quality Assurance

1.2 QUALITY ASSURANCE

- A. For Products or workmanship specified by association, trade or other consensus standards, comply with requirements of the standard, except when more rigid requirements are specified or are required by applicable codes.
- B. Conform to reference standard by date of issue current on date of Contract Documents.
- C. Obtain copies of standards when required by the Contract Documents.
- D. Maintain copy at project site during submittals, planning and progress of the specific work, until Substantial Completion.
- E. Should specified reference standards conflict with Contract Documents, request clarification from the Engineer before proceeding.
- F. Neither the contractual relationship, duties and responsibilities of the parties in Contract nor those of the Engineer shall be altered by the Contract Documents by mention or inference otherwise in any reference document.

PART 2 PRODUCTS

Not Used.

PART 3 EXECUTION

Not Used.

END OF SECTION

SECTION 01 45 00 QUALITY CONTROL

PART 1 GENERAL

1.1 SECTION INCLUDES

- A. Quality Assurance - Control of Installation
- B. Tolerances
- C. References and Standards
- D. Inspection and Testing Laboratory Services
- E. Manufacturers' Field Services

1.2 RELATED SECTIONS

- A. Section 01 42 19 - Reference Standards
- B. Section 01 33 00 - Submittals: Submission of manufacturer's instructions and certificates.
- C. Section 01 60 00 – Product Requirements: Requirements for material and product quality.

1.3 QUALITY ASSURANCE - CONTROL OF INSTALLATION

- A. Monitor quality control over suppliers, manufacturers, Products, services, site conditions, and workmanship, to produce Work of specified quality.
- B. Comply with manufacturers' instructions, including each step in sequence.
- C. Should manufacturers' instructions conflict with Contract Documents, request clarification from Engineer before proceeding.
- D. Comply with specified standards as minimum quality for the Work except where more stringent tolerances, codes, or specified requirements indicate higher standards or more precise workmanship.
- E. Perform Work by persons qualified to produce required and specified quality.
- F. Verify that field measurements are as indicated on shop drawings or as instructed by the manufacturer.
- G. Secure Products in place with positive anchorage devices designed and sized to withstand stresses, vibration, physical distortion, or disfigurement.

1.4 TOLERANCES

- A. Monitor fabrication and installation tolerance control of Products to produce acceptable Work. Do not permit tolerances to accumulate.
- B. Comply with manufacturers' tolerances. Should manufacturers' tolerances conflict with Contract Documents, request clarification from Engineer before proceeding.
- C. Adjust Products to appropriate dimensions; position before securing Products in place.

1.5 REFERENCES AND STANDARDS

- A. For Products or workmanship specified by association, trade, or other consensus standards, comply with requirements of the standard, except when more rigid requirements are specified or are required by applicable codes.
- B. Conform to reference standard by date of issue current on date of Contract Documents, except where a specific date is established by code.
- C. Obtain copies of standards where required by product specification sections.
- D. Neither the contractual relationships, duties, or responsibilities of the parties in Contract nor those of the Engineer shall be altered from the Contract Documents by mention or inference otherwise in any reference document.

1.6 INSPECTION AND TESTING LABORATORY SERVICES

- A. The Contractor shall be responsible for all costs associated with testing the proposed utilities as specified including but not limited to:
 - 1. Paint Testing: Measurement of dry film thickness, Holiday and Pinhole testing, and Hold Point inspections.
 - 2. Manhole Testing: Vacuum Testing of Manholes.
 - 3. Filter Underdrain Testing: Piezometer testing of the filter underdrains, sampling and testing for filter disinfection, and filter backwashing to demonstrate filter performance.
- B. The Owner may appoint, employ and pay for specified services of an independent firm to perform additional testing. The independent firm may perform tests and other services specified in individual specification sections and as required by the Engineer.
- C. Testing and source quality control may occur on or off the project site. Perform off-site testing as required by the Engineer or the Owner.
- D. Reports will be submitted by the independent firm to the Engineer and Contractor, in duplicate, indicating observations and results of tests and indicating compliance or non-compliance 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 prior to expected time for operations requiring services.
 2. Make arrangements with independent firm and pay for additional samples and tests required for Contractor's use.
- F. Testing does not relieve Contractor to perform Work to contract requirements.
- G. Re-testing required because of non-conformance to specified requirements shall be performed by the same independent firm on instructions by the Engineer. Payment for re-testing will be charged to the Contractor by deducting testing charges from the Contract Sum/Price.

1.7 MANUFACTURERS' 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, start-up of equipment, test, adjust and balance of equipment as applicable, and to initiate instructions when necessary.
- B. Submit qualifications of observer to Engineer thirty (30) days in advance of required observations. Observer subject to approval of Engineer.
- C. Report observations and site decisions or instructions given to applicators or installers that are supplemental or contrary to manufacturers' written instructions.
- D. Refer to Section 01 33 00 - SUBMITTALS, MANUFACTURER'S FIELD REPORTS article.

PART 2 PRODUCTS

Not Used.

PART 3 EXECUTION

3.1 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 specifications sections.
- D. Verify that utility services are available, of the correct characteristics and in the correct locations.

3.2 PREPARATION

- A. Clean substrate surfaces prior to applying next material or substance.
- 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 any new material or substance in contact or bond.

END OF SECTION

SECTION 01 45 23 TESTING SERVICES

PART 1 GENERAL

1.1 SECTION INCLUDES

- A. Selection and Payment
- B. Quality Assurance
- C. Agency Responsibilities
- D. Agency Reports
- E. Limits on Testing Authority
- F. Contractor Responsibilities
- G. Schedule of Tests

1.2 RELATED SECTIONS

- A. Section 01 33 00 - Submittals: Manufacturer's certificates.
- B. Section 01 77 00 - Contract Closeout: Project record documents.

1.3 REFERENCES

- A. ASTM C802 - Practice for Conducting an Interlaboratory Test Program to Determine the Precision of Test Methods for Construction.
- B. ASTM C1021 - Practice for Laboratories Engaged in the Testing of Building Sealants.
- C. ASTM C1077 - Practice for Laboratories Testing Concrete and Concrete Aggregates for Use in Construction and Criteria for Laboratory Evaluation.
- D. ASTM D290 - Recommended Practice for Bituminous Mixing Plant Inspection.
- E. ASTM D3740 - Practice for Evaluation of Agencies Engaged in Testing and/or Inspection of Soil and Rock as Used in Engineering Design and Construction.
- F. ASTM D4561 - Practice for Quality Control Systems for an Inspection and Testing Agency for Bituminous Paving Materials.
- G. ASTM E329 - Practice for Use in the Evaluation of Inspection and Testing Agencies as Used in Construction.
- H. ASTM E543 - Practice for Determining the Qualification of Nondestructive Testing Agencies.

- I. ASTM E548 - Practice for Preparation of Criteria for Use in the Evaluation of Testing Laboratories and Inspection Bodies.
- J. ASTM E699 - Practice for Criteria for Evaluation of Agencies Involved in Testing, Quality Assurance, and Evaluating Building Components in Accordance with Test Methods Promulgated by ASTM Committee E6.

1.4 SELECTION AND PAYMENT

- A. The Owner may employ and pay for services of an independent testing agency or laboratory to perform specified testing.
- B. Employment of testing agency or laboratory in no way relieves Contractor of obligation to perform Work in accordance with requirements of Contract Documents.

1.5 QUALITY ASSURANCE

- A. Laboratory: Authorized to operate in the State of Texas.
- B. Laboratory Staff: Maintain a full time registered Engineer on staff to review services.
- C. Testing Equipment: Calibrated at reasonable intervals with devices of an accuracy traceable to either National Bureau of Standards or accepted values of natural physical constants.

1.6 AGENCY RESPONSIBILITIES

- A. Test samples of mixes submitted by Contractor.
- B. Provide qualified personnel at site. Cooperate with Engineer and Contractor in performance of services.
- C. Perform specified sampling and testing of Products in accordance with specified standards.
- D. Ascertain compliance of materials and mixes with requirements of Contract Documents.
- E. Promptly notify Engineer and Contractor of observed irregularities or non-conformance of Work or Products.
- F. Perform additional tests required by Engineer.
- G. Attend preconstruction meetings and progress meetings.

1.7 AGENCY REPORTS

- A. After each test, promptly submit two copies of report to Engineer and to Contractor.
- B. 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 Specifications Section
6. Location in the 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 AUTHORITY

- A. Agency or laboratory may not release, revoke, alter, or enlarge on requirements of Contract Documents.
- B. Agency or laboratory may not approve or accept any portion of the Work.
- C. Agency or laboratory may not assume any duties of Contractor.
- D. Agency or laboratory has no authority to stop the Work.

1.9 CONTRACTOR RESPONSIBILITIES

- A. Deliver to agency or laboratory at designated location, adequate samples of materials proposed to be used which require testing, along with proposed mix designs.
- B. Cooperate with laboratory personnel and provide access to the Work and to manufacturers' facilities.
- C. Provide incidental labor and facilities:
 1. To provide access to Work to be tested.
 2. To obtain and handle samples at the site or at source of Products to be tested.
 3. To facilitate tests.
 4. To provide storage and curing of test samples.
- D. Notify Engineer and laboratory 24 hours prior to expected time for operations requiring testing services.

1.10 SCHEDULE OF TESTS

A. Individual Specification Sections: Tests required and standards for testing.

PART 2 PRODUCTS

Not Used.

PART 3 EXECUTION

Not Used.

END OF SECTION

SECTION 01 50 00 CONSTRUCTION FACILITIES AND TEMPORARY CONTROLS

PART 1 GENERAL

1.1 SECTION INCLUDES

- A. Temporary Utilities: Electricity, telephone service, water, and sanitary facilities.
- B. Temporary Controls: Barriers, enclosures and fencing, protection of the Work, and water control.
- C. Construction Facilities: Access roads, parking, progress cleaning, project signage, and temporary buildings.

1.2 TEMPORARY SANITARY FACILITIES

- A. Provide and maintain required facilities and enclosures at time of project mobilization.

1.3 BARRIERS

- A. Provide barriers to prevent unauthorized entry to construction areas and to protect existing facilities and adjacent properties from damage from construction operations.
- B. Provide barricades and covered walkways required by governing authorities for public rights-of-way.
- C. Provide protection for plants and trees designated to remain. Replace damaged plants and trees.
- D. Protect non-owned vehicular traffic, stored materials, site, and structures from damage.

1.4 WATER CONTROL

- A. Grade site to drain. Maintain excavations free of water. Provide, operate, and maintain pumping equipment.
- B. Protect site from puddling or running water. Provide water barriers as required to protect site from soil erosion.

1.5 PROTECTION OF INSTALLED WORK

- 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.
- C. Prohibit traffic from landscaped areas.

1.6 SECURITY

- A. Provide security and facilities to protect Work from unauthorized entry, vandalism or theft.
- B. Coordinate with Owner's security program.

1.7 ACCESS ROADS

- A. Construct and maintain temporary roads accessing public thoroughfares to serve construction area.
- B. Extend and relocate as Work progress requires. Provide detours necessary for unimpeded traffic flow.
- C. Provide and maintain access to fire hydrants, free of obstructions.
- D. Provide means of removing mud from vehicle wheels before entering streets.
- E. Designated existing on-site roads may be used for construction traffic.

1.8 PARKING

- A. When site space is not adequate, provide additional off-site parking.

1.9 PROGRESS CLEANING AND WASTE REMOVAL

- A. Maintain areas free of waste materials, debris, and rubbish. Maintain site in a clean and orderly condition.
- B. Collect and remove waste materials, debris and rubbish from site periodically and dispose off-site.

1.10 PROJECT IDENTIFICATION

- A. Provide two (2) four feet wide by four feet high project sign of exterior grade plywood and wood frame construction, painted, with exhibit lettering by professional sign painter to Engineer's design and colors.
- B. List title of Project, names of Owner, Engineer, and Contractor.
- C. Erect on site at location established by Owner.
- D. No other signs are allowed without Owner permission except those required by law.
- E. Refer to sign detail in these specifications.

1.11 REMOVAL OF UTILITIES, FACILITIES, AND CONTROLS

- A. Remove temporary utilities, equipment, facilities, and materials prior to Substantial Completion inspection.
- B. Remove underground installations to a minimum depth of two (2) feet. Grade site as indicated.

- C. Clean and repair damage caused by installation or use of temporary work.
- D. Restore permanent facilities used during construction to specified condition.

PART 2 PRODUCTS

Not Used.

PART 3 EXECUTION

Not Used.

END OF SECTION

SECTION 01 60 00 MATERIAL AND EQUIPMENT

PART 1 GENERAL

1.1 SECTION INCLUDES

- A. Transportation and Handling
- B. Storage and Protection
- C. Product Options
- D. Substitutions

1.2 TRANSPORTATION AND HANDLING

- A. Transport and handle Products in accordance with manufacturer's instructions.
- B. Promptly inspect shipments to ensure that Products comply with requirements, quantities are correct, and Products are undamaged.
- C. Provide equipment and personnel to handle Products by methods to prevent soiling, disfigurement, or damage.

1.3 STORAGE AND PROTECTION

- A. Store and protect Products in accordance with manufacturers' instructions.
- B. Store with seals and labels intact and legible.
- C. Store sensitive Products in weather tight, climate controlled, enclosures in an environment favorable to Product.
- D. For exterior storage of fabricated Products, place on sloped supports above ground.
- E. Provide 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 a well-drained area. Prevent mixing with foreign matter.
- H. Provide equipment and personnel to store Products by 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.

1.4 PRODUCT OPTIONS

- A. Products Specified by Reference Standards or by Description Only: Any Product meeting those standards or description.
- B. Products Specified by Naming One or More Manufacturers: Products of manufacturers named and meeting specifications, no options or substitutions allowed.
- C. Products Specified by Naming One or More Manufacturers with a Provision for Substitutions: Submit a request for substitution for any manufacturer not named in accordance with the following article.

1.5 SUBSTITUTIONS

- A. Engineer will consider requests for Substitutions only within thirty (30) days after date established in Notice to Proceed.
- B. Substitutions may be considered when a Product becomes unavailable through no fault of the Contractor.
- C. Document each request with complete data substantiating compliance of proposed Substitution with Contract Documents.
- D. A request constitutes a representation that the Contractor:
 - 1. Has investigated proposed Product and determined that it meets or exceeds the quality level of the specified Product.
 - 2. Will provide the same warranty for the Substitution as for the specified Product.
 - 3. Will coordinate installation and make changes to other Work, which may be required for the Work to be complete with no additional cost to Owner.
 - 4. Waives claims for additional costs or time extension, which may subsequently become apparent.
 - 5. Will reimburse Owner and Engineer for review or redesign services associated with re-approval by authorities.
- 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 the Contract Documents.
- F. Substitution Submittal Procedure:
 - 1. Submit three (3) copies of request for Substitution for consideration. Limit each request to one proposed Substitution.
 - 2. Submit shop drawings, product data, and certified test results attesting to the proposed Product equivalence. Burden of proof is on the Contractor.
 - 3. The Engineer will notify Contractor of decision to accept or reject request.

PART 2 PRODUCTS

Not Used.

PART 3 EXECUTION

Not Used.

END OF SECTION

SECTION 01 75 16 STARTING OF SYSTEMS

PART 1 GENERAL

1.1 SECTION INCLUDES

- A. Starting Systems
- B. Demonstration and Instructions
- C. Testing, Adjusting, and Balancing

1.2 RELATED SECTIONS

- A. Section 01 45 00 - Quality Control: Manufacturers field reports.
- B. Section 01 77 00 - Contract Closeout: System operation and maintenance data and extra materials.

1.3 STARTING SYSTEMS

- A. Coordinate schedule for start-up of various equipment and systems.
- B. Notify Engineer seven (7) days prior to start-up of each item.
- C. Verify that each piece of equipment or system has been checked for proper lubrication, drive rotation, belt tension, control sequence, and for conditions which may cause damage.
- D. Verify tests, meter readings, and specified electrical characteristics agree with those required by the equipment or system manufacturer.
- E. Verify that wiring and support components for equipment are complete and tested.
- F. Execute start-up under supervision of applicable manufacturer's representative in accordance with manufacturers' instructions.
- G. When specified in individual specification Sections, require manufacturer to provide authorized representative to be present at site to inspect, check, and approve equipment or system installation prior to start-up, and to supervise placing equipment or system in operation.
- H. Submit a written report in accordance with Section 01 33 00 that equipment or system has been properly installed and is functioning correctly.

1.4 DEMONSTRATION AND INSTRUCTIONS

- A. Demonstrate operation and maintenance of Products to Owner's personnel two (2) weeks prior to date of Substantial Completion.

- B. Demonstrate Project equipment and instruct in a classroom environment and instructed by a qualified manufacturers' representative who is knowledgeable about the Project.
- C. For equipment or systems requiring seasonal operation, perform demonstration for other season within six (6) months.
- D. Utilize operation and maintenance manuals as basis for instruction. Review contents of manual with Owners' personnel in detail to explain all aspects of operation and maintenance.
- E. Demonstrate start-up, operation, control, adjustment, troubleshooting, servicing, maintenance, and shutdown of each item of equipment at agreed time at equipment location.
- F. Prepare and insert additional data in operations and maintenance manuals when need for additional data becomes apparent during instruction.
- G. The amount of time required for instruction on each item of equipment and system is that specified in individual sections.

1.5 TESTING, ADJUSTING, AND BALANCING

- A. Owner will appoint and employ services of an independent firm to perform testing, adjusting, and balancing. Contractor shall pay for services.
- B. Reports will be submitted by the independent firm to the Engineer indicating observations and results of tests and indicating compliance or non-compliance with the requirements of the Contract Documents.

PART 2 PRODUCTS

Not Used.

PART 3 EXECUTION

Not Used.

END OF SECTION

SECTION 01 77 00 CONTRACT CLOSEOUT

PART 1 GENERAL

1.1 SECTION INCLUDES

- A. Closeout Procedures
- B. Final Cleaning
- C. Project Record Documents
- D. Operation and Maintenance Data
- E. Spare Parts and Maintenance Products
- F. Warranties
- G. Maintenance Service

1.2 RELATED SECTIONS

- A. Section 01 50 00 - Construction Facilities and Temporary Controls

1.3 CLOSEOUT PROCEDURES

- A. Submit written certification that Contract Documents have been reviewed, Work has been inspected, and that Work is complete in accordance with Contract Documents and ready for Engineer's review.
- B. Provide submittals to Engineer that are required by governing or other authorities.
- C. Submit final Application for Payment identifying total adjusted Contract Sum, previous payments, and sum remaining due.

1.4 FINAL CLEANING

- A. Execute final cleaning prior to final project assessment.
- B. Clean debris from drainage systems.
- C. Clean site; sweep paved areas, rake clean landscaped surfaces.
- D. Remove waste and surplus materials, rubbish, and construction facilities from the site.
- E. Remove all temporary facilities and structures.

1.5 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.
- 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 utilized.
 3. Changes made by Addenda and modifications.
- F. Record Drawings and Shop Drawings: Legibly mark each item to record actual construction including:
1. Measured horizontal and vertical locations of underground utilities and appurtenances, referenced to permanent surface improvements.
 2. Field changes of dimension and detail.
 3. Details not on original Contract drawings.
- G. Submit documents to Engineer prior to final Application for Payment.

1.6 WARRANTIES

- A. Provide duplicate notarized copies.
- B. Execute and assemble transferable warranty documents from Subcontractors, suppliers and manufacturers.
- C. Provide Table of Contents and assemble in three D side ring binder with durable plastic cover.
- D. Submit prior to final Application for Payment.

- E. For items of Work delayed beyond date of Substantial Completion, provide updated submittal within ten (10) days after acceptance, listing date of acceptance as start of warranty period.
- F. The Contractor shall guarantee for one (1) year from the date of final acceptance that the work will be free from defects in materials and workmanship unless otherwise noted.

1.7 MAINTENANCE SERVICE

- A. Furnish service and maintenance of components indicated in specification sections for one (1) year from date of Final Acceptance during the warranty period.
- B. Examine system components at a frequency consistent with reliable operation. Clean, adjust and lubricate as required.
- C. Include systematic examination, adjustment and lubrication of components. Repair or replace parts whenever required. Use parts produced by the manufacturer of the original component.
- D. Maintenance service shall not be assigned or transferred to any agent or Subcontractor without prior written consent of the Owner.
- E. Grade areas to ensure minimal settlement of pipe trench. Provide erosion control devices as specified.

PART 2 PRODUCTS

Not Used.

PART 3 EXECUTION

Not Used.

END OF SECTION

SECTION 01 78 23 OPERATION AND MAINTENANCE DATA

PART 1 GENERAL

1.1 SECTION INCLUDES

- A. Quality Assurance
- B. Format
- C. Contents, Each Volume
- D. Manual for Equipment and Systems
- E. Instructions of Owner Personnel
- F. Submittals

1.2 RELATED SECTIONS

- A. Section 01 33 00 - Submittals: Submittals procedures. Shop drawings, product data, and samples.
- B. Section 01 45 00 - Quality Control: Manufacturers' instructions.
- C. Section 01 16 00 - Material and Equipment: Systems demonstration.
- D. Section 01 77 00 - Contract Closeout: Contract closeout procedures, project record documents.
- E. Section 01 77 00 - Warranties
- F. Individual Specifications Sections: Specific requirements for operation and maintenance data.

1.3 QUALITY ASSURANCE

- A. Prepare instructions and data by personnel experienced in maintenance and operation of described products.

1.4 FORMAT

- A. Prepare data in the form of an instructional manual.
- B. Binders: Commercial quality, 8½ x 11 inch three D side ring binders with durable plastic covers; 2 inch maximum ring size. When multiple binders are used, correlate data into related consistent groupings.
- C. Cover: Identify each binder with typed or printed title OPERATION AND MAINTENANCE INSTRUCTIONS; identify title of Project; identify subject matter of contents.

- D. Provide tabbed dividers for each separate product and system, with typed description of product and major component parts of equipment.
- E. Text: Manufacturer's printed data, or typewritten data on 24-pound paper.
- F. Drawings: Provide with reinforced punched binder tab. Bind in with text; fold larger drawings to size of text pages.
- G. Contents: Prepare a Table of Contents for each volume, with each Product or system description identified, 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. Identify 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.
 - 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. Photocopies of warranties and bonds.

1.5 CONTENTS, EACH VOLUME

- A. Table of Contents: Provide title of Project; names, addresses, and telephone numbers of Engineer, Sub-consultants, and Contractor with name of responsible parties; schedule of products and systems, indexed to content of the volume.
- B. For Each Product or System: List names, addresses and telephone numbers of Subcontractors and suppliers, including local source of supplies and replacement parts.
- C. Product Data:

1. Mark each sheet to clearly identify specific products and component parts, and data applicable to installation.
 2. Delete inapplicable information.
- D. Drawings:
1. Supplement product data to illustrate relations of component parts of equipment and systems, to show control and flow diagrams.
 2. Do not use Project Record Documents as maintenance drawings.
- E. Typed Text:
1. As required to supplement product data.
 2. Provide logical sequence of instructions for each procedure, incorporating manufacturer's instructions specified in Section 01 45 00.
- F. Warranties: Bind in copy of each.

1.6 MANUAL FOR MATERIALS AND FINISHES

- A. Building Products, Applied Materials, and Finishes:
1. Include product data, with catalog number, size, composition, and color and texture designations.
 2. Provide information for re-ordering custom manufactured Products.
- B. Instructions for Care and Maintenance: Include manufacturer's recommendations for cleaning agents and methods, precautions against detrimental agents and methods, and recommended schedule for cleaning and maintenance.
- C. Moisture Protection and Weather Exposed Products:
1. Include product data listing applicable reference standards, chemical composition, and details of installation.
 2. Provide recommendations for inspections, maintenance, and repair.
- D. Additional Requirements: As specified in individual Product specification sections.
- E. Provide a listing in Table of Contents for design data, with tabbed fly sheet and space for insertion of data.

1.7 MANUAL FOR EQUIPMENT AND SYSTEMS

- A. Each Item of Equipment and Each System:

1. Include description of unit or system, and component parts.
 2. Identify function, normal operating characteristics, and limiting conditions.
 3. Include performance curves, with engineering data and tests, and complete nomenclature and model number of replaceable parts.
- B. Panel board Circuit Directories: Provide electrical service characteristics, controls, and communications; typed.
- C. Include color-coded wiring diagrams as installed.
- D. Operating Procedures:
1. Include start-up, break-in, and routine normal operating instructions and sequences.
 2. Include regulation, control, stopping, shutdown, and emergency instructions.
 3. Include summer, winter, and any special operating instructions.
- E. Maintenance Requirements: Include routine procedures and guide for preventative maintenance and troubleshooting; disassembly, repair, and re-assembly instructions; and alignment, adjusting, balancing, and checking instructions.
- F. Provide servicing and lubrication schedule, and list of lubricants required.
- G. Include manufacturer's printed operation and maintenance instructions.
- H. Include sequence of operation by controls manufacturer.
- I. Provide original manufacturer's parts list, illustrations, assembly drawings, and diagrams required for maintenance.
- J. Provide control diagrams by controls manufacturer as installed.
- K. Provide Contractor's coordination drawings, with color-coded piping diagrams as installed.
- L. Provide charts of valve tag numbers, with location and function of each valve, keyed to flow and control diagrams.
- M. Provide list of original manufacturer's spare parts, current prices, and recommended quantities to be maintained in storage.
- N. Include test and balancing reports as specified in Section 01 45 00.
- O. Additional Requirements: As specified in individual Product specification sections.

- P. Provide a listing in Table of Contents for design data, with tabbed dividers and space for insertion of data.

1.8 INSTRUCTIONS OF OWNER PERSONNEL

- A. Before final inspection, instruct Owner's designated personnel in operation, adjustment, and maintenance of products, equipment, and systems, at agreed upon times.
- B. For equipment requiring seasonal operation, perform instructions for other seasons within six (6) months.
- C. Use operation and maintenance manuals as basis for instruction.
- D. Review contents of manual with personnel in detail to explain all aspects of operation and maintenance.
- E. Prepare and insert additional data in Operation and Maintenance Manual when need for such data becomes apparent during instruction.

1.9 SUBMITTALS

- A. Submit two (2) 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 one (1) copy of completed volumes fifteen (15) days prior to final inspection.
 - 1. This copy will be reviewed and returned after final inspection, with Engineer comments.
 - 2. Revise content of all document sets as required prior to final submission.
- D. Submit two (2) sets of revised final volumes in final form within ten (10) days after final inspection.

PART 2 PRODUCTS

Not Used.

PART 3 EXECUTION

Not Used.

END OF SECTION

02 EXISTING CONDITIONS

SECTION 02 40 10 DEMOLITION

PART 1 GENERAL

1.1 DEMOLITION

- A. The Contractor shall furnish all labor, materials, equipment and incidentals required to provide all dismantling, modifications, and salvage work required, as shown on the Drawings and specified herein.
- B. The Contractor shall comply with applicable laws, codes, ordinances and regulations, and shall obtain and pay for necessary permits.
- C. The Contractor shall remove from site and legally dispose of dismantled materials, trash, debris, etc. except any items specifically indicated to be reused and any items designated to be salvaged for Owner's own purposes. Such items shall be carefully removed under the Contract and moved to an area designated by the Owner on the project site. All disposal shall be at a TCEQ permitted waste disposal facility.
- D. All other materials removed under the modification work and not called for to be reused returned over to the Owner on the project shall be disposed of legally, off the site, by Contractor, who shall, upon removal from site, have the rights of salvage of materials.
- E. The Contractor shall visit the site of the work and examine the premises so as to fully understand all of the existing conditions relative to the work. No increase in cost or extension of performance time will be considered for failure to know the conditions of the site and structures.
- F. The Contractor shall be responsible for removing and modifying piping and structures in such a sequence that there will be no disruption of operations. The Contractor's construction schedule, to be provided per Section 01 32 16 shall include demolition work at times that meet the construction sequencing issues presented in Contract Documents.

1.2 CARE, PROTECTION AND REPAIR

- A. The Contractor is cautioned to exercise great care in protecting existing structures and property of the Owner while proceeding with work of this Section and the entire Contract. All damage shall be repaired at once to the satisfaction of the Engineer. All such repairs shall be at the expense of the Contractor and no claims for additional payment will be accepted.

1.3 CONDITIONS OF STRUCTURES

- A. The Owner and the Engineer assume no responsibility for the actual condition of the piping and equipment to be demolished or modified.
- B. Conditions existing at the time of inspection for bidding purposes will be maintained by the Owner insofar as practicable. However, slight variations may occur prior to the start of demolition work.

- C. The Engineer may, upon inspection, direct the Contractor to repair or replace deteriorated or damaged structures, piping or mechanical equipment as extra work. Extra work, if any, will be performed and paid for in accordance with other portions of this Project Manual.

1.4 TRAFFIC AND ACCESS

- A. Special attention of the Contractor is directed towards maintaining safe and convenient access at all times to and through the existing facilities, properties and public access for manufacturing, commercial and private operations, other personnel and associated vehicles.

1.5 TO BE REMOVED BY CONTRACTOR

- A. The following shall be removed during the course of this construction project and properly disposed of offsite by the contractor.
 - 1. Existing filter underdrains, media, and grout.
- B. Contractor shall be responsible for removing materials off-site to a legal TCEQ permitted facility. A waste manifest shall be given to the Owner for disposed of materials

PART 2 PRODUCTS

Not Used.

PART 3 EXECUTION

3.1 MANNER OF CONDUCTING WORK

- A. Execute work in careful, orderly manner. Provide and maintain barriers, dust screens, warning lights as may be necessary to protect persons and property. Perform work with utmost care, using tools and methods that will not transfer any heavy shocks to adjacent structures to remain in service and in place. Take all possible care to avoid vibration and other disturbance. Conduct work in a manner giving prime consideration to, but not necessarily limited by:
 - 1. Protection of public and Owner's personnel.
 - 2. Protection from weather.
 - 3. Control of noise, shocks, vibration.
 - 4. Control of dirt and dust.
 - 5. Maintenance of orderly access.
 - 6. Protection of existing structures or portions thereof to remain.
 - 7. Coordination and cooperation with Owner.
- B. Debris shall not be allowed to accumulate.
- C. No fires will be permitted on site.
- D. The use of explosives will not be permitted on the project.

- E. Provide temporary support and shoring as required for existing materials until new work is installed.
- F. Pollution Controls. Use water sprinkling, temporary enclosures, and other suitable methods to limit dust and dirt rising and scattering in air to lowest practical level. Comply with governing regulations pertaining to environmental protection.
 - 1. Do not use water when it may create hazardous or objectionable conditions such as ice, flooding, and pollution.
 - 2. Clean adjacent structures and improvements of dust, dirt, and debris caused by demolition operations, as directed by Owner or governing authorities. Return adjacent areas to condition existing prior to start of work.
 - 3. Prior to demolition inside existing structures, provide covers consisting of plastic sheeting and framing over existing pumps, motors, switchgear and control panels. Maintain covers during demolition operations.

3.2 MODIFICATIONS

- A. Modification consists of demolition as required, removing, replacing, or altering existing concrete. Also included is such work as plugging pipe and wall openings, the removal of portions of an existing structure, and construction of additions to existing structures.

3.3 CONSTRUCTION METHODS

- A. Explosives. The use of explosives will not be permitted for any purposes.
- B. Fires. Fires are not permitted on this project
- C. Modifications of Existing Structures.
 - 1. Where only a portion of the existing structure is to be removed, special care shall be taken to prevent damage to that portion that will remain in place. Portions of concrete structures to be removed shall be saw-cut or cored in order to minimize impact loads on the remaining structure. No "headache" balls or other swinging weights may be used. Where not connecting to new structures, the existing concrete shall be removed to neat lines as shown on the Plans or as established by the Engineer, and reinforcing steel shall be saw-cut and removed to a depth of 2 inches from the finished surface and coated, or as noted on the Drawings. The new openings shall be patched and finished with nonshrink nonmetallic grout or other treatment as required to function as intended.
 - 2. Execute cutting and demolition by methods which will prevent damage to other work, and will provide proper surfaces to receive installation of repairs. Torch cutting will not be permitted.
 - 3. Where physical cutting is required, cut work with sawing and grinding tools, not with hammering and chopping tools. Unless otherwise specified, core drill or saw cut openings through all concrete work. Core drilling shall be done utilizing diamond bits. Corners shall not be over-cut without prior written approval from the Engineer.
 - 4. Where a portion of the existing concrete is to be removed and new concrete is to

be added, a minimum of 1-inch saw-cut is required to provide a straight, neat edge at the surface. Care shall be taken to maintain existing reinforcement where indicated on the plans.

5. Patch with seams which are durable and as invisible as possible. Restore exposed finishes of patched areas and, where necessary, extend finish restoration onto retained work, adjoining, in a manner which will eliminate evidence of patching.
 6. Take care in the removal of equipment and materials to be salvaged to prevent damage to such.
- D. Piping Demolition. Piping shall be disconnected, dismantled, and removed as required and in such a manner as to minimize distributing or damaging adjacent facilities. Where indicated on the Contract Drawings piping shall be properly restrained as specified.
- E. Disposal. All removed material, debris, and rubbish resulting from the demolition operations shall be removed from the site and disposed by and at the expense of the Contractor. Metallic items removed from the site shall be recycled or delivered to a steel mill, ferrous foundry, or similar facility, where material will be scrapped. Under no circumstances shall any other use be made of the removed material, nor shall they be reused in another installation. Contractor shall submit a Construction Waste Management Plan. Contractor shall also maintain Waste Management Reports and CWM Closeout Documentation.
- F. Structural Members. Carefully remove and lower structural steel, cast-iron framing and heavy timbers.
- G. Pavement Repair. Repair existing access paving and/or sidewalks that is disturbed as a result of demolition procedures, including haul-off. Replacement shall include repair of the existing subgrade and surface course. The new materials shall be of the same type and thickness as the existing materials.

END OF SECTION

03 CONCRETE

SECTION 03 11 13 CONCRETE FORMWORK

PART 1 GENERAL

1.1 SECTION INCLUDES

- A. Formwork for cast-in place concrete, with shoring, bracing and anchorage.
- B. Openings for other work.
- C. Form accessories.
- D. Form stripping.

1.2 RELATED SECTIONS

- A. Section 03 21 00- Concrete Reinforcement.
- B. Section 03 30 00- Cast-in-Place Concrete.

1.3 REFERENCES

- A. ACI 117 – Tolerances for Construction and Materials
- B. ACI 301 - Structural Concrete for Buildings.
- C. ACI 318 - Building Code Requirements for Reinforced Concrete.
- D. ACI 347 - Recommended Practice for Concrete Formwork.
- E. PS 1 - Construction and Industrial Plywood.

1.4 DESIGN REQUIREMENTS

- A. Design, engineer and construct formwork, shoring and bracing to conform to design and code requirements; resultant concrete to conform to required shape, line and dimension.

1.5 SUBMITTALS

- A. Submit under provisions of Section 01 33 00, SUBMITTALS.
- B. Shop Drawings: Indicate pertinent dimensions, materials, bracing, and arrangement of joints and ties.
- C. Product Data: Provide data on void form materials and installation requirements.

1.6 QUALITY ASSURANCE:

- A. Perform Work in accordance with ACI 347, 301, 318.

1.7 QUALIFICATIONS:

- A. Design formwork under direct supervision of a Professional Structural Engineer experienced in design of this work and licensed in the State of Texas.

1.8 REGULATORY REQUIREMENTS:

- A. Conform to applicable code for design, fabrication, erection and removal of formwork.

1.9 FIELD SAMPLES:

- A. Coordinate with requirements stated in Sections 03 21 00, CONCRETE REINFORCEMENT and 03 30 00, CAST-IN-PLACE CONCRETE.

1.10 DELIVERY, STORAGE, AND HANDLING

- A. Deliver void forms and installation instructions in manufacturer's packaging.
- B. B. Store off ground in ventilated and protected manner to prevent deterioration from moisture.

1.11 COORDINATION

- A. Coordinate work under provisions of Section 01 31 13, PROJECT COORDINATION.
- B. Coordinate this Section with other Sections of work, which require attachment of components to formwork.
- C. If formwork is placed after reinforcement resulting in insufficient concrete cover over reinforcement, request instructions from Engineer before proceeding.

PART 2 PRODUCTS

2.1 MATERIALS

A. Forms

- 1. Forms shall be of wood, metal, highly water resistant plywood, or other material approved by the Engineer.
- 2. Forms for sections greater than 18" thick shall be of wood.
- 3. Form surfaces shall be smooth and free from irregularities, dents, sags, or holes when used for permanently exposed surfaces.
- 4. Bolts and rods used for internal ties shall be so arranged that, when the forms are removed, all metal will not be less than 2" from any concrete surface.
- 5. Wire ties will not be permitted where concrete surface will be exposed to weathering, and discoloration would be objectionable.
- 6. Exposed concrete shall have approved form liners of masonite or plywood, or shall be constructed of smooth surfaced plywood.
- 7. Forms offsets for exposed concrete shall meet Class A requirements. All other form offsets shall meet Class C requirements.

B. Corner Forms

- 1. Corner forms forming $\frac{3}{4}$ " chamfers or as otherwise specified on plans, shall be used on all outside corners that are to be exposed in the finished structure.
- 2. Chamfer forms shall be molded plastic or polyvinyl chloride radius or chamfer strips. Use one style of form throughout the project.

C. Rustication and Score Line Strips

1. Rustication and score line strips shall be a non-absorbent material such as extruded polyvinyl chloride, plastic, fiberglass or metal or they may be milled from good quality lumber and well-sealed to prevent moisture absorption.
 2. Wood strips may not have protruding splinters, which may become embedded in the concrete.
 3. Sealing wood shall be accomplished by immersion or brushing on two coats of form coating.
- D. Form Ties
1. Form ties for concrete shall have an approved waterstop barrier to prevent seepage of moisture along the ties.
 2. The ends of the tie metal after breaking off shall be minimum of 1½" from the finished wall face.
 3. Submit samples to the Engineer for review.

PART 3 EXECUTION

3.1 EXAMINATION:

- A. Verify lines, levels and centers before proceeding with formwork.
- B. Ensure that dimensions agree with drawings.

3.2 ERECTION - FORMWORK

- A. Erect formwork, shoring and bracing to achieve design requirements, in accordance with requirements of ACI 301.
- B. Provide bracing to ensure stability of formwork. Shore or strengthen formwork subject to over stressing by construction loads.
- C. Arrange and assemble formwork to permit dismantling and stripping. Do not damage concrete during stripping. Permit removal of remaining principal shores.
- D. Align joints and make watertight. Keep form joints to a minimum.
- E. Obtain approval before framing openings in structural members, which are not indicated on Drawings.
- F. Provide fillet and chamfer strips on external corners of beams, joists, and columns.
- G. Install void forms in accordance with manufacturer's recommendations. Protect forms from moisture or crushing.

3.3 APPLICATION - FORM RELEASE AGENT

- A. Apply form release agent on formwork in accordance with manufacturer's recommendations.
- B. Apply prior to placement of reinforcing steel, anchoring devices, and embedded items.
- C. Do not apply form release agent where concrete surfaces will receive special finishes or applied coverings, which are effected by agent.
- D. Soak inside surfaces of untreated forms with clean water.

- E. Keep surfaces coated prior to placement of concrete.

3.4 INSERTS, EMBEDDED PARTS, AND OPENINGS

- A. Provide formed openings where required for items to be embedded in passing through concrete work.
- B. Locate and set in place items, which will be cast directly into concrete.
- C. Coordinate with work of other sections in forming and placing openings, slots, reglets, recesses, sleeves, bolts, anchors, other inserts, and components of other Work.
- D. Install accessories in accordance with manufacturer's instructions, straight, level, and plumb.
- E. Ensure items are not disturbed during concrete placement.
- F. Install waterstops continuous without displacing reinforcement.
- G. Heat seal joints watertight.
- H. Provide temporary ports or openings in formwork where required to facilitate cleaning and inspection.
- I. Locate openings at bottom of forms to allow flushing water to drain.
- J. Close temporary openings with tight fitting panels, flush with inside face of forms, and neatly fitted so joints will not be apparent in exposed concrete surfaces.

3.5 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 clean-out ports.
- E. During cold weather, remove ice and snow from within forms.
- F. Do not use de-icing salts.
- G. Do not use water to clean out forms, unless formwork and concrete construction proceed within heated enclosure.
- H. Use compressed air or other means to remove foreign matter.

3.6 FORMWORK TOLERANCES

- A. Construct formwork to maintain tolerances required by ACI 301.
- B. Camber slabs and beams $\frac{1}{4}$ inch per 10 feet in accordance with ACI 301.

3.7 FIELD QUALITY CONTROL

- A. Inspect erected formwork, shoring, and bracing to ensure that work is in accordance with formwork design, and that supports, fastenings, wedges, ties, and items are secure.
- B. Do not reuse forms that are worn or damaged beyond repair. Do not patch formwork.

3.8 FORM REMOVAL

- A. Do not remove forms or bracing until concrete has gained sufficient strength to carry its own weight and imposed loads.
- B. Loosen forms carefully. Do not wedge pry bars, hammers, or tools against finish concrete surfaces scheduled for exposure to view.
- C. Store removed forms in manner that surfaces to be in contact with fresh concrete will not be damaged. Discard damaged forms.
- D. Forms or shores for supported slabs and beams shall not be removed until the concrete, so supported, has acquired 70 percent of its design strength; except where loads other than the dead weight of the concrete are added, the shores shall not be removed until 24 hours after the concrete has obtained 90 percent of its design strength.
- E. Forms shall be removed immediately after expiration of the lapsed time specified above or sooner, if required by the Engineer, where concrete is to receive a rubbed finish.

END OF SECTION

SECTION 03 15 13 CONSTRUCTION JOINTS AND WATERSTOPS

PART 1 GENERAL

1.1 SUMMARY

- A. Install construction joints, expansion joints, and place waterstops where shown on the Drawings, as specified herein, and as needed for a complete and proper installation.

1.2 RELATED SECTIONS

- A. Section 01 33 00 - Submittals.

1.3 SUBMITTALS

- A. Comply with pertinent provisions of Section 01 33 00 - SUBMITTALS.
- B. Product data: Within 30 calendar days after the Contractor has received the Owner's Notice to Proceed, submit:
 - 1. Materials list of items proposed to be provided under this Section;
 - 2. Manufacturer's specifications and other data needed to prove compliance with the specified requirements.

1.4 QUALITY ASSURANCE

- A. Use adequate numbers of skilled workmen who are thoroughly trained and experienced in the necessary crafts and who are completely familiar with the specified requirements and the methods needed for proper performance of the work of this Section.

PART 2 PRODUCTS

2.1 POLYVINYL PLASTIC WATERSTOP

- A. Waterstops shall be installed in all construction joints with water or other liquid on one side of joint and at other locations as required by the Plans. All waterstops shall be continuous throughout their length.
- B. Pre-molded expansion joint filler strips shall be non-extruding type conforming to current AASHTO Designation M153.
- C. The waterstops shall be heavy duty polyvinyl waterstop conforming to Corps of Engineers Specification CRD-C-572, latest edition, as manufactured by Serviced Products Division of W.R. Grace and Company; Vinylstops by Sonneborn-Contech; W.R. Meadows, Inc.; Vinylex Corporation; or an approved equal of the same type and material and approximately equal in dimensions and weight but not necessarily of exactly the same shape.
- D. Waterstops shall be "Rib Type" with a center bulb, 6-inches wide, capable of resisting a maximum pressure load of 65 feet of water, unless otherwise shown on Plans.

- E. "Expansion Type" waterstops shall be of ribbed construction, 6-inches wide, with a capacity for 1-inch of movement.
- F. All waterstops shall be installed so that ½ its width will be embedded on one side of the joint and ½ on the other. The Contractor shall employ a method of holding the waterstop in position for the first pour that is satisfactory to the Engineer. The method selected must insure that the waterstop will be held securely in true vertical or horizontal position and in straight alignment in the joint.
- G. Care shall be exercised to insure that the waterstop is completely encompassed in good mortar.

PART 3 EXECUTION

3.1 JOINTS IN WATERSTOPS

- A. All waterstops shall be continuous and so joined at all points of contact in the same plane, or at intersections with waterstops in different planes, as to form a complete barrier to the passage of water through any construction, contraction, or expansion joint.
- B. Joints in the waterstops, whether made for the purpose of continuity in a straight strip or for the purpose of securing a watertight junction between strips in different planes, shall be made by heat welding as hereinafter specified.
- C. Joints in PVC waterstops shall be made by heating the two surfaces to be jointed until the material has softened to the point where it is just short of being fluid and then bringing the two softened surfaces together with a slight rubbing motion followed by firmly pressing them together so that a solid and tight bond is made.
- D. The joints in strips of waterstop made in the above manner shall be such that the entire cross section of the joint shall be dense, homogenous and free of all porosity. All finished joints shall have a tensile strength of not less than 75 percent of the material of the strip as extruded.
- E. The heating of the surfaces to be joined shall be done by means of an electric splicing iron designed for the specified purpose and controlled by means of a voltage regulator.
- F. In use, the heat of the hot plate shall be so regulated as to prevent too rapid melting and accompanying charring of the waterstop material.
- G. The use of makeshift hot plates will not be permitted nor will other means of heating the strips to be joined be allowed except in a case of emergency, as determined by the Engineer.
- H. The Contractor shall provide such jigs as will assist in making the joints in a proper and workmanlike manner and in holding the strips so that the alignment of jointed strips is correct and angles are true to those required.
- I. Prior to embedment, all joints in the waterstop strips will be inspected by the Engineer

and any found defective shall be remedied without delay.

3.2 PROTECTION OF WATERSTOP BETWEEN POURS

- A. The Contractor shall take such steps as are necessary to protect exposed waterstops in the interim period between concrete pours.

3.3 EXPANSION JOINTS

- A. Expansion joints of the size and type shown on the Plans, or specified herein, shall be placed in concrete pavement or structure as shown on the Plans.
- B. Preformed Asphalt Fiber Joint Material: Asphalt fiber sheet filler shall consist of preformed strips of inert material impregnated with asphalt. It shall be of the thickness shown on the Plans or indicated in these Specifications.
 - 1. The sheet filler shall conform to the requirements of AASHTO Specification M-59 with the following additional provisions.
 - 2. The sheet filler shall be of such character that it will not be deformed by ordinary handling during hot weather nor become hard and brittle in cold weather. It shall be of a tough, resilient, durable material not affected by weathering.
- C. Hot Poured Rubberized Tar Joint Sealer: Hot poured rubberized mastic sealer shall consist of a mixture of durable, elastic rubber, coal tar pitch, and other materials which will form a resilient and adhesive compound capable of effectively sealing concrete joint surfaces against repeated expansion and contraction. The material shall be installed in accordance with the manufacturer's directions.

3.4 CONSTRUCTION JOINTS

- A. Location of all construction joints shall be approved by the Engineer. Maximum length of wall pours shall be 40 feet. Maximum height of wall pours shall be 18 feet. In watertight structures, continuous PVC waterstop shall be provided in the construction joints or as shown on the plans. Bottom slabs and wall footings for concrete structures that will hold water shall be poured monolithically without cold joints or other discontinuities or weakened areas. Radial control joints consisting of ½ inch to ¾ inch wide troweled grooves shall be required at 60° increments in circular slabs. Such joints shall be caulked with epoxy joint sealer after the concrete is cured and prior to placement of grout topping if required. All cracks greater than 0.05-inches wide not located in control joints shall be sealed by cutting a bevel groove on the water side of the crack ½ inch to ¾ inch wide and caulking with epoxy sealant. Crack widths shall be measured at the concrete surface.
 - 1. Construction joints shall be formed as indicated on the Drawings or as approved or directed by the Engineer. Where indicated or required, dowel rods shall be used. All concrete at the joints shall have been in place not less than 12 hours, and longer if so directed by the Engineer, before concrete resting thereon is placed. Before placing is resumed, or commenced, excess water and laitance shall be removed, and concrete shall be cut away, where necessary, to insure a strong

dense concrete at the joint. In order to secure adequate bond, the surface of concrete already in place shall be cleaned, roughened, and then spread with a ½ inch layer of mortar of the same cement-sand ratio as is used in the concrete, immediately before the new concrete is deposited. The unit of operation is not to exceed 50 feet in any horizontal direction, unless otherwise required by the drawings or herein specified. Construction joints, if required, shall be located near the mid-point spans for slabs, beams, or girders. Joints in columns or piers shall be made at the underside of the deepest beam or girder at least 5 hours before any overhead work is placed thereon. Joints not shown or specified shall be so located as to least impair strength and appearance of work. Vertical joints in wall footings shall be reduced to a minimum. Placement of concrete shall be at such a rate that surfaces of concrete not carried to joints levels will not have attained initial set before additional concrete is placed thereon. Girders, beams and slabs shall be placed in one operation. To insure a level straight joint in exposed vertical surfaces, a strip of dressed lumber may be tacked to the inside of the forms at the construction joint. The concrete shall be poured to a point 1" above the underside of the strip. The strip shall be removed 1 hour after concrete has been placed and any irregularities in the joint line leveled off with a wood float and all laitance removed.

3.5 ADHESIVE WATERSTOP

- A. Adhesive waterstop shall be used only where specifically shown on the plans and is not considered an acceptable alternative to PVC waterstop.
- B. Preformed plastic waterstop shall meet or exceed all requirements of Federal Specification SS-S-00210, "Sealing Compound, Preformed Plastic for Expansion Joints", Type I or Type II. Such plastic waterstop shall be equal to SYNKO-FLEX as manufactured by Synko-Flex Products, Inc., Houston, Texas, or equal, and shall meet the following requirements.
- C. The plastic waterstop shall be produced from blends of refined hydrocarbon resins and plasticizing compounds reinforced with inert mineral filler, and shall contain no solvents, irritating fumes or obnoxious odors. The plastic waterstop shall not depend on oxidizing, evaporating or chemical action for its adhesive or cohesive strength. It shall be supplied in extruded form of suitable cross-section and of a size to seal the joint areas of concrete sections. The plastic waterstop shall be protected by a suitable removable two-piece wrapper. The two-piece wrapper shall be so designed that ½ may be removed longitudinally without disturbing the other half, to facilitate application of the sealing compound. The flexible plastic waterstop shall also meet the requirements as stated in the following table:

<u>Composition</u>	<u>Test Method</u>	<u>Min</u>	<u>Max</u>
Bitumen (petroleum plastic content)	ASTM D 4	50	70
Ash-Inert Mineral Matter	AASHTO T 111	30	
50 Volatile Matter	ASTM D 6	--	2.0

<u>Property</u>	<u>Test Method</u>	<u>Min</u>	<u>Max</u>
Specific Gravity @ 77°F.	ASTM D 71	1.20	1.30
Ductility @ 77°F. (cm)	ASTM D 113	5.0	--
Softening Point	ASTM D 36	320°F	--
Penetration 77°F. (150 gms) 5 sec.	ASTM D 217	50	120

END OF SECTION

SECTION 03 21 00 CONCRETE REINFORCEMENT

PART 1 GENERAL

1.1 SECTION INCLUDES

- A. Reinforcing steel bars, wire fabric and accessories for cast-in-place concrete.

1.2 RELATED SECTIONS

- A. Section 03 11 13 - Concrete Formwork.
- B. Section 03 30 00 - Cast-in-Place Concrete.

1.3 REFERENCES

- A. ACI 117 – Tolerances for Concrete Construction and Materials.
- B. ACI 301 - Structural Concrete for Buildings.
- C. ACI 318 - Building Code Requirements For Reinforced Concrete.
- D. ACI SP-66 - American Concrete Institute - Detailing Manual.
- E. ANSI/ASTM A82 - Cold Drawn Steel Wire for Concrete Reinforcement.
- F. ANSI/ASTM A184 - Fabricated Deformed Steel Bar Mats for Concrete Reinforcement.
- G. ANSI/ASTM A185 - Welded Steel Wire Fabric for Concrete Reinforcement.
- H. ANSI/ASTM A496 - Deformed Steel Wire Fabric for Concrete Reinforcement.
- I. ANSI/ASTM A497 - Welded Deformed Steel Wire Fabric for Concrete Reinforcement.
- J. ANSI/AWS D1.4 - Structural Welding Code for Reinforcing Steel.
- K. ASTM A615 - Deformed and Plain Billet Steel Bars for Concrete Reinforcement.
- L. ASTM A767 - Zinc-Coated (Galvanized) Bars for Concrete Reinforcement.
- M. ASTM A775 - Epoxy-Coated Reinforcing Steel Bars.
- N. ASTM D3963 - Epoxy-Coated Reinforcing Steel.
- O. AWS D12.1 - Welding Reinforcement Steel, Metal Inserts and Connections in Reinforced Concrete Construction.
- P. CRSI - Concrete Reinforcing Steel Institute - Manual of Practice.
- Q. CRSI - Placing Reinforcing Bars.
- R. ASTM A884 - Epoxy-Coated Steel Wire and Welded Wire Fabric for Reinforcement.

1.4 SUBMITTALS

- A. Submit under provisions of Section 01 33 00, SUBMITTALS.
- B. Shop Drawings: Indicate bar sizes, spacings, locations, and quantities of reinforcing steel and wire fabric, bending and cutting schedules, and supporting and spacing devices.
- C. Manufacturer's Certificate: Certify that products meet or exceed specified requirements.

1.5 QUALITY ASSURANCE

- A. Perform Work in accordance with CRSI - Manual of Standard Practice, ACI 301, ACI SP-66, ACI 318.
- B. Submit certified copies of mill test report of reinforcement materials analysis.
- C. Provide Engineer with access to fabrication plant to facilitate inspection of reinforcement.
- D. Provide notification of commencement and duration of shop fabrication in sufficient time to allow inspection.
- E. Store steel reinforcement above ground on platforms, skids or other supports.

1.6 QUALIFICATIONS

- A. Design reinforcement under direct supervision of a Professional Structural Engineer experienced in design of this work and licensed in the State of Texas.
- B. Welders' Certificates: Submit under provisions of Section 01 33 00, SUBMITTALS, Manufacturer's Certificates, certifying welders employed on the Work, verifying AWS qualification within the previous 12 months.

1.7 COORDINATION

- A. Coordinate work under provisions of Section 01 31 13, PROJECT COORDINATION.
- B. Coordinate with placement of formwork, formed openings and other Work.

PART 2 PRODUCTS

2.1 REINFORCEMENT

- A. Reinforcing Steel: ASTM A615, 60 yield grade; deformed billet steel bars.
- B. Welded Steel Wire Fabric: ASTM A185 or ASTM A497 Deformed Type.

2.2 ACCESSORY MATERIALS

- A. Tie Wire: Minimum 16 gage annealed steel.
- B. Special Chairs, Bolsters, Bar Supports, Spacers Adjacent to Weather Exposed Concrete Surfaces: Plastic coated steel, Stainless steel type; size and shape as required.

2.3 FABRICATION

- A. Fabricate concrete reinforcing in accordance with CRSI Manual of Practice, ACI SP-66, ACI 318, ANSI/ASTM A184.
- B. Reinforcement bars shall be bent cold to the shapes indicated on the Plans.
- C. Fabrication tolerances, fabrication, and detailing of steel reinforcement shall conform to ACI – 315.
- D. Steel reinforcement shall be of the type and size, cut to lengths and bent to shapes as indicated on the Plans.

- E. Unless otherwise indicated, hooks, laps, splices, embedment lengths, and other details of reinforcement shall be provided as set forth in the ACI Building Code (ACI – 318) to develop the full tensile strength of the bar.
- F. Welding may not be used except with the specific approval of the Engineer. Welding, when approved, shall conform to ANSI/AWS D12.1.
- G. No splices of bars, except when shown on the Plans, will be permitted without the approval of the Engineer.
- H. Welded wire fabric shall be lap spliced a minimum of 2" plus the bar spacing.
- I. Splices in reinforcing bars shall conform to the general requirements of the ACI Code, except rung tension reinforcement splices, which should be a minimum of 40 bar diameters.
- J. Splices should be staggered where possible or increase by 30 percent.

PART 3 EXECUTION

3.1 PLACEMENT

- A. Place, support and secure reinforcement against displacement by ties of annealed wire, or suitable clips at intersections.
 - a. Do not deviate from required position.
 - b. Placing tolerances shall conform to ACI – 318.
- B. Nails shall not be driven into the wall forms to support reinforcement nor shall any other device used for this purpose come in contact with the form on the waterside of any water containing structure.
- C. Metal devices used to provide the required clear distances from reinforcing steel to waterside of concrete surfaces shall be galvanized, or shall be as approved by the Engineer.
- D. The main reinforcement of slabs in contact with the ground shall be supported in its proper position, as indicated on Plans, by means of precast cement mortar blocks (composed of one part cement to two parts sand), of approved dimensions, resting on the slabs' sub-base.
- E. The slab reinforcement shall not be used to support planking or runways used in placing concrete.
- F. Bending of bars embedded in hardened concrete will not be permitted except when specifically approved by the Engineer for the field condition encountered.
- G. Floor slabs, galleries, deck slabs, beams, metal chairs, spacers and other metal accessories necessary to provide the required clear distances and proper alignment and spacing between bars shall be galvanized or shall have plastic protective covering over portions in contact with forms.
- H. Clean reinforcement free of scale, loose or flaky rust or other foreign material, including oil, mud or coating that will reduce bond to concrete.
- I. Accommodate placement of formed openings.

J. Maintain concrete cover around reinforcing as follows:

Slabs:

1½ inches	in general, top and bottom.
1½ inches	at surfaces troweled as floor finish, walkway, or driveway.
2 inches	on bottom for slabs over water

Footings:

2 inches	at top of footings.
3 inches	at bottom, sides, and end of footings.

Walls:

2 inches	on surfaces against earth.
1 inch	on interior surfaces.

Beams and Girders:

2 inches	minimum to stirrup steel.
2½ inches	minimum to longitudinal steel.

Columns:

2 inches	in general, to main vertical reinforcement.
2 ½ inches	to main reinforcement on surfaces in contact with water.

END OF SECTION

SECTION 03 30 00 CAST-IN-PLACE CONCRETE

PART 1 GENERAL

1.1 SECTION INCLUDES

- A. Mix design requirements for cast-in-place concrete consisting of Portland cement, aggregate, water, and admixtures.
- B. Formwork, reinforcement, joints, and placing requirements for cast-in-place concrete.
- C. Types of cast-in-place concrete specified: Normal weight concrete.
- D. Repairing concrete surface defects.
- E. Finishing concrete surfaces.
- F. Curing cast-in-place concrete, including slabs.

1.2 RELATED SECTIONS

- A. Section 03 11 13 - Concrete Formwork: Formwork and accessories.
- B. Section 03 21 00 - Concrete Reinforcement.

1.3 REFERENCES

- A. Texas Department of Transportation Standard Specifications for Construction and Maintenance of Highways, Streets, and Bridges, 2014 Edition.
- B. ACI 301 - Structural Concrete for Buildings.
- C. ACI 302 - Guide for Concrete Floor and Slab Construction.
- D. ACI 304 - Recommended Practice for Measuring, Mixing, Transporting and Placing Concrete.
- E. ACI 305R - Hot Weather Concreting.
- F. ACI 306R - Cold Weather Concreting.
- G. ACI 308 - Standard Practice for Curing Concrete.
- H. ACI 318 - Building Code Requirements for Reinforced Concrete.
- I. ANSI/ASTM D994 - Preformed Expansion Joint Filler for Concrete (Bituminous Type).

- J. ANSI/ASTM D1190 - Concrete Joint Sealer, Hot-Poured Elastic Type.
- K. ANSI/ASTM D1751 - Preformed Expansion Joint Fillers for Concrete Paving and Structural Construction (Non-extruding and Resilient Bituminous Types).
- L. ANSI/ASTM D1752 - Preformed Sponge Rubber and Cork Expansion Joint Fillers for Concrete Paving and Structural Construction.
- M. ASTM A615--Deformed and Plain Billet Steel Bars for Concrete Reinforcement.
- N. ASTM B221 - Aluminum and Aluminum-Alloy Extruded Bars, Rods, Wire, Shapes, and Tubes.
- O. ASTM C31 - Making and Curing Concrete Test Specimens in the Field.
- P. ASTM C33 - Concrete Aggregates.
- Q. ASTM C39--Compressive Strength of Cylindrical Concrete Specimens.
- R. ASTM C94 - Ready-Mixed Concrete.
- S. ASTM C143--Slump of Portland Cement Concrete.
- T. ASTM C150 - Portland Cement.
- U. ASTM C172--Sampling Freshly Mixed Concrete.
- V. ASTM C173--Air Content of Freshly Mixed Concrete by the Volumetric Method.
- W. ASTM C260 - Air Entraining Admixtures for Concrete.
- X. ASTM C330 - Light Weight Aggregates For Structural Concrete.
- Y. ASTM C494 - Chemicals Admixtures for Concrete.

1.4 SUBMITTALS

- A. Submit under provisions of Section 01 33 00, SUBMITTALS.
- B. Certificates: Mill certificates for bulk cement.
- C. Product Data: Manufacturer's product data sheets for admixtures and bonding agents
- D. Submit test data on proposed design mixes for each type of concrete to be used in the Project to verify that Specification requirements are met or exceeded.
- E. Mix Designs:

1. Submit mix designs for each specified concrete and grout type. Design data shall include the name of the concrete supplier; manufacturer/supplier and type of cement used; size and type of aggregate; proportional weights of cement, aggregate, and water per cubic yard of concrete; name and quantity of admixture used.

1.5 PROJECT RECORD DOCUMENTS

- A. Submit under provisions of Section 01 77 00.
- B. Accurately record actual locations of embedded utilities and components which are concealed from view.

1.6 QUALITY ASSURANCE

- A. Project Controls: Provide necessary controls during evaluation of material, mix designs, production and delivery of concrete, placement, compaction, finishing and curing necessary to assure that Work will be accomplished in such a manner to produce the Work in accordance with Contract Documents.
- B. Perform Work in accordance with ACI 301.
- C. Acquire cement and aggregate from same respective source for all Work.
- D. Conform to ACI 305R when concreting during hot weather.
- E. Conform to ACI 306R when concreting during cold weather.

1.7 DELIVERY, STORAGE, AND HANDLING

- A. Materials shall be delivered, stored, and handled in a manner to prevent deterioration, contamination, or any other circumstance that would be harmful to cast-in-place concrete.

1.8 FIELD SAMPLES

- A. Construct and erect a field sample for architectural concrete surfaces receiving special treatment or finish as result of formwork.
- B. Sample Panel: Sufficient size to indicate special treatment or finish required.
- C. If requested by Engineer, cast concrete against sample panel. Obtain acceptance of resultant surface finish prior to erecting formwork.
- D. Locate where directed.

- E. Accepted sample panel is considered basis of quality for the finished work. Keep sample panel exposed to view for duration of concrete work.
- F. Accepted sample may not remain as part of the Work.

1.9 PROJECT CONDITIONS

- A. Do not place concrete during rain, sleet, or snow unless protection is provided and approved by the Engineer.
- B. Coordinate concrete placement schedule with other related work.
- C. Notify Engineer at least 24 hours before placement.

1.10 COORDINATION

- A. Coordinate the placement of joint devices with erection of concrete formwork and placement of form accessories.

PART 2 PRODUCTS

2.1 CONCRETE MATERIALS

- A. Cement: ASTM C150, Type I/II, Type I – Only type of one brand of cement shall be used for exposed concrete.
- B. Coarse Aggregates: Shall consist of gravel, crushed gravel, crushed stone, air-cooled blast furnace slag, or a combination thereof, conforming to ASTM C-33 with a maximum size of 1½-inches. Where required due to minimum spacing of reinforcing steel, maximum size of coarse aggregate shall be reduced to 1-inch with prior written approval of the Engineer.
- B. Fine Aggregate: Shall conform to ASTM C-33 and shall be washed river sand composed of clean, uncoated grains of strong materials.
- C. Abrasive aggregates shall be equal to fine (c.f.) “Alumdum” aggregate as manufactured by Norton Company, Worcester, Mass. or “Frictex NS” as manufactured by Sonneborn - Contech. Use only as approved by Engineer.
- D. Water: Potable water free from detrimental chemicals and solids that will decrease the strength of the concrete.
- E. Embedded Items: Embedded items shall be of the size and type shown or as needed for the application.
- F. Curing Materials: Curing materials shall be burlap, impervious sheets, or membrane-forming compounds.

- G. Dowels: Plain carbon steel bars, minimum yield point of 60,000 psi for use in slabs on grade.
- H. Expansion Joint Filler Strips: Premolded nonextruding, resilient bituminous or non bituminous type for use in concrete paving or construction, thickness as shown.
- I. Form Materials: Wood, metal or other Engineer approved materials that will produce the specified finishes without adversely affecting the concrete surfaces.
- J. Form Coating: Nonstaining form oil or form-release agent that will not deleteriously affect concrete surfaces nor impair subsequent applications.
- K. Form Ties: Metal, factory-fabricated removable snap-off type, that will not leave holes less than 1/4 inch nor more than 1 inch deep and not more than 1 inch in diameter.
- L. Joint Sealant: As approved by Engineer for sealing joints in concrete against moisture infiltration.
- M. Reinforcement: Bar reinforcement shall be deformed, Grade 60 conforming to ASTM A615. Mesh reinforcement shall be welded wire fabric with wires at right angles to each other.
- N. Bonding Agent: As approved by Engineer.
- O. Admixtures: Air-entraining, retarders, and other admixtures as approved by Engineer

2.2 ADMIXTURES

- A. A retarding admixture, conforming to ASTM C-494, pre-tested with job materials under job conditions, may be used if approved by Engineer, whenever necessary to prevent cold joints due to the quantity of concrete placed, to permit revibration of the concrete, to offset the effects of high concrete temperature rise.

2.3 ACCESSORIES

- A. Curing Compound: Concrete curing compound shall be of a nature and composition not deleterious to concrete and shall be of a standard and uniform quality ready for use as shipped by the manufacturer. At the time of use, the curing compound shall be in a thoroughly stirred condition. Curing compounds shall not be diluted by the addition of solvent or thinners, or be altered in any manner without the specific approval of and in a manner prescribed by the manufacturer. Curing compound shall conform to the requirements of ASTM C-309 Type 1.
 - 1. The curing compound shall be sufficiently transparent and free from color so that there will be no permanent change in the color of the concrete. The compound shall contain, however, a temporary dye of sufficient color to make the membrane clearly visible for a period of at least four hours after application.

- B. Cement Grout: Cement based grout shall be used for grouting work except as otherwise specified.
- C. Nonshrink Cement-Based Grout: Grout for setting equipment, columns and other bases and anchor bolts shall be non-shrink cement based grout. Nonshrink cement-based grout shall consist of pre-measured, prepackaged materials supplied by the manufacturer, requiring only the addition of potable water. The manufacturer's instructions shall be printed on the outside of each bag.
 - 1. The manufacturer shall submit information verifying the cement-based grout exhibits the following properties:
 - a. Nonshrink -- No shrinkage (0.0%) and a maximum 4.0 percent expansion when tested in accordance with ASTM C-827. No shrinkage (0.0%) and a maximum of 0.2 percent expansion in the hardened state when tested in accordance with CRD-C 621.
 - b. Compressive Strength -- A minimum 28-day compressive strength of 5,000 psi when tested in accordance with ASTM C-109.
 - c. Setting Time -- A minimum initial set time of 60 minutes when tested in accordance with ASTM C-191.
 - d. Composition -- No metallic particles (aluminum powders, iron filings) or expansive cement.
 - 2. The contractor shall perform all grouting in accordance with the manufacturer's recommendations. Technical service shall be supplied upon request.
 - 3. Grout shall be Five Star Grout, as manufactured by U.S. Grout Corporation, Fairfield, CT or equal.
- D. Nonshrink Epoxy-Based Grout: Nonshrink Epoxy-based Grout shall be a pourable, 100 percent solids epoxy system consisting of three, pre-measured, prepackaged components: resin, hardener, and specially-blended aggregate. Resin component shall not contain any non-reactive dilutents. Variation of component ratios is not permitted unless specifically recommended by the manufacturer.
- E. The manufacturer shall submit information verifying the epoxy grout exhibits the following properties:
 - 1. Grout for bonding new cement to old, setting reinforcing dowels into pre-drilled holes and/or pressure grouting shall be an epoxy grout mixed in accordance with the manufacturer's instructions.
 - 2. Non-shrink - No shrinkage (0.0%) and a maximum 4.0 percent expansion when tested in accordance with ASTM C-827.

3. Compressive Strength - A minimum compressive strength of 10,000 psi in seven days when tested according to ASTM C-579, Method B.
 4. Heat Development - A maximum 100°F peak exotherm in a 2" diameter x 4" high sample when tested at 75°F material and laboratory temperatures.
 5. Thermal Coefficient - A maximum 30×10^{-6} in./in./°F thermal coefficient when tested according to ASTM C-531.
- F. The contractor shall perform all grouting in accordance with the manufacturer's recommendations. Technical service shall be supplied upon request.
 - G. Grout shall be Five Star Epoxy Grout, as manufactured by U.S. Grout Corporation, Fairfield, CT or equal.
 - H. Drypack Mortar: Drypack mortar shall be composed of approximately one part Type II Portland cement, one and one-half to two parts sand, two to three fluid ounces water reducing densifier per sack of cement, aluminum powder as required for shrinkage control, and sufficient water to make a stiff workable mix. Sand, cement, water, and water reducing densifier shall be as specified for concrete.

2.4 CONCRETE MIX QUALITY AND CONTROL

- A. Design: Concrete shall be composed of Portland cement, fine aggregate, coarse aggregate and water. All concrete shall be designed by an approved testing laboratory in accordance with the ACI Standard Recommended Practice for Selecting Proportions for Concrete (ACI-211) to produce the strength for each class of concrete specified, and with slumps and maximum sizes of coarse aggregate in accordance with the requirements outlined below. The concrete shall be so designed that the concrete materials will not segregate and excessive bleeding will not occur. Any costs to the testing laboratory for designing concrete mixes shall be borne by the Contractor.
- B. Prior to placing any concrete, the Contractor shall submit for review mix designs for each specified concrete and grout type. Design data shall include the name of the concrete supplier; manufacturer/supplier and type of cement used; size and type of aggregate; proportional weights of cement, aggregate, and water per cubic yard of concrete; name and quantity of admixture used. Trial batches shall be made and the following data shall be submitted: 1-seven day, 1-fourteen day, and 1-twenty-eight day compressive strength test for each mix at various slumps; and percent of air content for each mix. No deviation for accepted mix designs will be permitted without prior written approval by the Engineer.
- C. Concrete Class: Concrete mixes shall be proportioned to obtain the following characteristics:
 1. Class "A" Concrete:

- a. Concrete mix shall have a minimum compressive strength of 3,500 psi at 28 days with a minimum of 5 bags of cement per cubic yard.
 - b. Air Content shall be 4% ± 1%.
 - c. Maximum Water Cement Ratio shall be 0.45.
2. Class "B" Concrete:
- a. Concrete mix shall have a minimum compressive strength of 2,000 psi at 28 days.
 - b. Maximum Water Cement Ratio shall be 0.60.

D. Refer to structural drawings for concrete mix designs for the structural concrete to be used for foundations, beams, slabs, and footings.

E. Concrete shall be Class "A", unless specified otherwise.

F. MAXIMUM SLUMPS FOR VARIOUS TYPES OF CONSTRUCTION

<u>Types of Construction</u>	<u>Hand Placed Maximum*</u>	<u>High Frequency Vibrator Used Maximum*</u>
Reinforced Foundation Walls & Footings	4"	2"
Slabs, Beams, and Reinforced Walls	4"	3"
Building Columns	4"	3"
Pavements	3"	2"

*Where conflicting requirements exist, the more rigid requirements shall be followed. Should specified reference standards conflict with Contract Documents, request clarification from the Engineer before proceeding.

G. The slump shall not exceed the maximum specified above for the type of construction for which it is to be used. The 28-day compressive strength determined in accordance with current ASTM Specifications C-39 and C-31 and with specimens cured in accordance with C-31 shall not be less than that shown above for the specified class of concrete. No water will be added after the amount specified by the mix design.

H. If admixtures are used, slump shall be as approved by Engineer.

I. Production of Concrete: All ready-mixed concrete shall be batched, mixed and transported in accordance with "Specifications for Ready-Mixed Concrete (ASTM C-94)". Plant equipment and facilities shall conform to the "Check List for Certification of Ready-Mixed Concrete Production Facilities" of the National Ready-Mixed Concrete Association.

J. Laboratory Testing: The Owner shall engage an independent testing laboratory to conduct concrete tests. Unless otherwise informed the Contractor will be responsible for sampling

concrete for test cylinders, recording, providing all materials required, and for making all slump tests in the field directed by the Engineer. All costs in connection with work performed by the laboratory shall be paid by the Owner. When cylinder reports indicate concrete does not meet strength requirements delineated in the Contract Documents, the Contractor shall be responsible for the costs of developing a redesign of the concrete mix.

- K. At least one test shall be made on fresh concrete for each 60 cubic yards of each class of concrete (or fraction thereof) placed on any one day and in any event, not less than one test for each class of concrete each day it is used. Testing shall be done in accordance with the following ASTM Specifications, latest edition:

1. C-172 - Standard Method of Sampling Fresh concrete
2. C-31 - Standard Method of Making and Curing Concrete Compression & Flexure Test Specimens in the Field
3. C-39 - Standard Method of Test of Compressive Strength of Molded concrete Cylinders
4. C-143 - Standard Method of Slump Test for Consistency of Portland Cement Concrete

- L. Before any concrete is poured, the Contractor shall construct a storage box in accordance with ASTM Specification C-31. Each set of tests shall consist of one slump test and three compression test cylinders. All cylinders shall be kept in the storage box for the first 24 hours. The three cylinders shall be laboratory cured and tested for adequacy of the design for strength of the concrete in accordance with ASTM Specification C-31. One cylinder shall be tested at seven days and two at twenty-eight days.

- M. Failure of Concrete to Meet Strength Requirements: The concrete shall be considered acceptable if, for any one class of concrete, the average of all tests or any five consecutive tests is equal to or greater than the specified strength, provided that no more than one test of the five falls between 90 percent and 100 percent of the specified strength. The only cylinders to be used for determination of concrete acceptability will be those laboratory cured and tested at twenty-eight days. When it appears the tests of laboratory-cured cylinders will fail to meet these requirements, the Engineer may require changes in the proportions of concrete for the remainder of the work in order to meet the strength requirements. In addition, the Engineer may also require additional curing not to exceed a total of twenty-one days on portions of the concrete already poured.

- N. The Engineer may also require tests in accordance with Methods of Securing, Preparing and Testing Specimen from Hardened Concrete for Compressive and Flexural Strengths (ASTM Specifications C-42) when the concrete cylinder tests fail to meet strength requirements. In the event there still is question as the quality of the concrete in the structure, the Engineer may require load tests for that portion where the questionable concrete has been placed. Such load tests will be made as outlined in Chapter 20 of American Concrete Institute Building Code. (ACI 318-71), and shall be at the expense of the Contractor.

- O. Removal of Under Strength Concrete: If the above tests indicate that a particular batch of previously placed concrete is under strength, the Engineer may direct that the under strength batch be removed and replaced. The removal of the under strength concrete shall also include the removal of concrete that has obtained the required strength if the Engineer deems this necessary to obtain structural or visible continuity when the concrete is replaced.
- P. The removal, and replacement of any under strength concrete, shall be made at no additional cost to the Owner. This shall include any new formwork required or any reinforcing steel that may be required. The Owner shall not be charged any additional costs for any extra work that is required because of the failure of any concrete to meet the minimum test requirements.

PART 3 EXECUTION

3.1 EXAMINATION

- A. Verify requirements for concrete cover over reinforcement as referenced in Section 03 21 00 are met.
- B. Verify that anchors, seats, plates, reinforcement and other items to be cast into concrete are accurately placed, positioned securely, and will not cause hardship in placing concrete.

3.2 PREPARATION BEFORE PLACING

Water shall be removed from excavations before concrete is deposited. Hardened concrete, wood chips, shavings, and other debris shall be removed from interior of forms and inner surfaces of mixing and conveying equipment. Wood forms shall be oiled or, except in freezing weather, wetted with water in advance of pouring. Contractor shall verify that all reinforcement is properly placed, aligned, and secured prior to pouring concrete and shall coordinate with Resident Project Representative.

3.3 CONVEYING

Concrete shall be conveyed from mixer to forms as rapidly as practicable and by methods which will prevent segregation and loss of ingredients. It shall be deposited as nearly as practicable in its final position. Chutes used shall be such that concrete slides in them and does not flow. Chutes, if permitted, shall have a slope of less than 1 on 2. Where a vertical drop greater than 5 feet is necessary, placement shall be through elephant trunks or similar devices to prevent segregation.

3.4 PLACING

Concrete shall be placed before initial set has occurred and in no event after it has contained its water content for more than 30 minutes. Unless otherwise specified, all concrete shall be placed upon clean, damp surfaces free from running water, or upon properly consolidated fills, but never upon soft mud or dry, porous earth. The concrete shall be compacted and worked in an approved manner into all corners and angles of the forms and around reinforcement and embedded fixtures

as to prevent segregation of the coarse aggregate. Construction of forms for the lifts of vertical walls shall be such as to make all parts of the walls easily accessible for the placement, spading, and consolidation of the concrete as specified herein.

3.5 VIBRATION

All concrete shall be placed with the aid of mechanical vibration equipment as approved by the Engineer. Vibration shall be transmitted directly to the concrete; in no case shall it be transmitted through forms. The duration of vibration at any location in the forms shall be held to the minimum necessary to produce thorough compaction. Vibrations shall be supplemented by forking or spading by hand, and adjacent to the forms on exposed faces in order to secure smooth, dense and even surfaces, with particular care being taken to prevent coarse aggregate from becoming set too near any surfaces that are to receive rubbed finish.

3.6 CONSTRUCTION JOINTS

Construction joints shall be in accordance with Section 03 15 13 - Construction Joints and Waterstops. Waterstops shall be installed in all construction joints below grade or in liquid containing structures as noted on the plans. Install as per Section 03 15 13 - Construction Joints & Waterstops.

3.7 PATCHING

Any concrete which is not formed as shown on the Plans, or for any reason is out of alignment or level or shows a defective surface shall be considered as not conforming with the intent of these Specifications and shall be removed from job by Contractor at his expense, unless the Engineer grants permission to patch defective area, which shall be done in accordance with the following procedures. Permission to patch any such area shall not be considered a waiver of the right of the Engineer to require complete removal of defective work if patching does not, in the opinion of the Engineer, satisfactorily restore quality and appearance of surface. Suitable non-shrink, latex or epoxy mortar shall be used for patching and repairing defective surface if directed by the Engineer.

- A. After removing forms, all concrete surfaces shall be inspected and any poor joints, void, stone pockets, all tie holes, or other defective areas shall be patched, if permitted by the Engineer. Where necessary, defective areas shall be chipped away to a depth of not less than 1" with edges perpendicular to the surface. Area to be patched and a space at least 6" wide entirely surrounding it shall be wetted to prevent absorption of water from the patching mortar. A grout of equal parts Portland cement and sand, with sufficient water to produce a brushing consistency, shall then be well brushed into the surface followed immediately by the patching mortar. The patch shall be made of the same material and of approximately the same proportions and shall not be richer than one part cement to three parts sand. White Portland cement shall be substituted for a part of the gray Portland cement to match color of the surrounding concrete. The proportion of white and gray cements shall be determined by making a trial patch. The amount of mixing water shall be as little as consistent with the requirements of handling and placing. The mortar shall be retempered without the addition of water by allowing it to stand for a period of one hour during which time it shall be mixed occasionally with a trowel to prevent setting.

- B. The mortar shall be thoroughly compacted into place and screeded off so as to leave patch slightly higher than surrounding surface. It shall then be left undisturbed for a period of one to two hours to permit initial shrinkage before being finally finished. The patch shall be finished in such a manner as to match the adjoining surface. On exposed surfaces where unlined forms have been used, the final finish shall be obtained by striking off the surface with a straightedge spanning the patch and held parallel to the direction of the form marks.
- C. Tie holes left by withdrawal of rods or the holes left by removal of ends of ties shall be filled solid with mortar after first being thoroughly wetted.

3.8 SLABS ON GRADE

The Contractor shall insure that subgrade has been thoroughly compacted and leveled prior to concrete placement. Sprinkle all sub-grades with water no more than half an hour prior to placing concrete.

- A. Place vapor barrier below interior slabs unless noted otherwise. Sprinkling of fill is not necessary when using vapor barrier. Lap vapor barrier 6" in direction of pour, and seal laps with specified mastic. Repair all ruptures of the vapor barrier that might occur before or during concrete pour.
- B. The Contractor shall insure that all reinforcing steel is located properly prior to pour, and that steel will not be vertically displaced during the pour.

3.9 EDGING

Edges exposed to view on the outside of structures, footings, pads and slabs, and all those in the inside of structures shall be chamfered, unless otherwise approved by the Engineer. Chamfer shall be at an angle of 45 degrees, as shown on the Plans. If so required by the Engineer, however, the Contractor shall provide square edges for any portion of the work.

3.10 SLAB FINISHES

- A. Exterior Walks: The top surface shall be "slip-resistant" as follows:

The surface shall be steel troweled as noted in Paragraph C below, and have a final finish applied by brushing lightly with a soft bristle brush to form a slightly roughed surface.
- B. Interior slabs that are to receive a finish floor covering (this does not include ceramic tile covering) shall be finished by tamping the concrete with special tools to force the coarse aggregate below the surface, then screeding and floating with straightedges to bring the surface to the required finish level. While the concrete is still green but sufficiently hardened to bear a man's weight without deep imprint, it shall be wood floated to a true and even plane with no coarse aggregate visible. Sufficient pressure shall be used on the wood floats to bring moisture to the surface. After surface moisture has disappeared, surfaces shall be steel-trowelled to a smooth, even, impervious finish, free from trowel marks. After cement has set enough to ring the trowel, surface of all slabs shall be given a second steel trowelling to a burnished finish.

- C. Interior slabs to receive fill or mortar setting bed shall be finished by tamping concrete with special tools to force coarse aggregate below the surface, and screeded with straightedges to bring surface to required finish plane. Surface shall be left roughened sufficiently to produce good bond with topping material.
- D. Top and bottom slabs of all structures and water carrying conduits except as noted otherwise on the Plans shall be finished as follows: The top of the slab shall be screeded to grade and cross section; lightly tamped as required to bring up a good bed of mortar for finishing and re-screeded as necessary. The surface shall then be finished with a wood float and leveling darby. No further finish will be required on top slabs of structures or conduits which are to be buried. In the case of all exposed top slabs of structures and conduits, they shall be given a final wood float and a light broomed, slip resistant finish to a uniform surface which conforms with accuracy to required shape, slope and grade. Slabs shall be edged as appropriate.
- E. All interior floor slabs shall be "slip resistant finish", unless called out otherwise, as follows: The top surface shall be steel trowelled as noted in Paragraph B above and have a final finish applied by brushing lightly with a soft bristle brush to form a slightly roughed surface.
- F. The floor surfaces of basins in which raking mechanisms are to be installed shall be finished, as indicated on the Plans, by sweeping in cement grout with the mechanism. The cement grout to be used shall be composed of one part Portland cement and two parts sand by weight.

The sweeping-in process shall be performed in the presence of the Engineer or the Engineer's Representative or, if necessary, under the supervision of a factory representative of the equipment manufacturer.

The slab upon which the grout is to be applied shall be finished in accordance with the provisions of Paragraph D above except that after leveling and floating, it shall be raked in such a manner as to provide a good bond for the grout. Before grout is deposited on the slab, it shall be thoroughly cleaned, wet down with clean water, and lightly dusted with neat cement immediately prior to placement of the grout.

- G. Concrete Hardener shall be applied to the floors where scheduled to be exposed concrete. Concrete surfaces to be treated must be thoroughly set and dry, clean and free of dust. Three applications of "lapidolith", "saniseal", "hornolith", "vitrox", or Engineer approved equal liquid are required, using one gallon per 100 square feet for the complete treatment. Apply hardener strictly according to the manufacturer's printed instructions. Any substitution for the specified hardeners must be of the magnesium fluosilicate or zinc fluosilicate types.

3.11 FINISH OTHER THAN FLOORS

- A. All top surfaces, other than slabs, not covered by forms, and which are not to be covered by additional concrete or fill shall receive a wood float finish without additional mortar. Care shall be taken that no excess water is present when the finish is made. Other surfaces shall be brought to finished elevations and left true and regular. All exposed interior concrete shall be grouted smooth and give a cement wash of one part light colored

Portland cement and two parts fine aggregate mixed with water to consistency of thick paint. Grout shall be cork or wood floated to fill all pits, air bubbles, and surface holes. Excess grout shall be scraped off with a trowel and rubbed with burlap to remove any visible grout film. Surface shall be kept damp during setting period. The finish for any area shall be completed in same day and the limits of a finished area shall be made at natural breaks in finished surface.

- B. Rubbed Finish: Unless otherwise indicated, all faces (except top surfaces of slabs) exposed to view, such as walls, grade beams, columns, beams, canopy soffits and fascias, etc. shall be finished as follows:

Forms shall be removed, as specified in Section 03 11 13 - Concrete Formwork, and all fins removed, off-sets leveled, damaged places and depressions resulting from the removal of metal ties or other causes shall be carefully pointed with a mortar of sand and cement in the proportion which has been employed for the particular class of concrete treated. The surface film of all such pointed places shall be carefully removed before setting occurs. After the point has set sufficiently to permit it, all exposed surfaces shall be dampened and rubbed with a No. 16 carborundum stone, to a smooth even plane. Final rubbing shall be done with a No. 30 carborundum stone, or an abrasive of equal quality, to obtain an entire surface of a smooth texture and uniformity in color. Mortar or grout worked up during rubbing shall be promptly removed by sacking with burlap or other suitable means so that no visible grout film or paste will remain. A cement wash or plaster coat shall not be used. All surfaces shall be finished uniformly smooth and washed clean. The rubbed finish for any area shall be completed in the same day and the limits of a finished area shall be made at natural breaks in the finished surface. If the Contractor does not provide suitable surface finish using carborundum stones specified above the Engineer, without additional cost to the Owner, may require to use of a power operated grinding machine to produce the desired finish.

3.12 CURING

- A. Unformed concrete surfaces shall be water cured to prevent check of the fresh concrete surface. Where drying conditions are severe, as determined by the Engineer, fog sprays shall be employed to prevent checking of the fresh concrete surface. Fog spraying shall be continued as specified until the finished surface has attained sufficient strength to permit flooding or covering with burlap mats. Where drying conditions are not severe, as determined by the Engineer, unformed concrete surfaces shall be covered with wet burlap mats as soon as the concrete has sufficiently set, and shall thereafter be kept under wet burlap.

Formed surfaces, both interior and exterior, shall be water cured by water sprays or under burlap mats beginning as soon as the forms are stripped. Prior to stripping of forms, the concrete and forms shall be kept moist by the water sprays.

Unless otherwise specified, surfaces shall be water cured for seven days after the concrete is placed.

After 48 hours of water cure, and with the acceptance of the Engineer, the curing of concrete surfaces may be completed by the curing compound method. Curing compounds shall be applied in strict conformance with the manufacturer's instructions. If the compound is applied to a surface which is later to be painted, the Contractor shall thoroughly sandblast the surface to remove all vestiges of the compound prior to concrete finishing. Curing compound shall not be used on any surfaces against which additional concrete or other finishing materials are to be bonded.

- B. In all concrete structures, Class A concrete made with normal Portland cement shall be prevented from drying for at least the first seven days after placing. Whenever the temperature of the surrounding air is between 40°F and 60°F, adequate provision shall be made for maintaining the temperature of concrete above 60°F or the moist curing period shall be extended to insure a compressive strength corresponding to that which would be secured under provisions of the previous part of this paragraph.
- C. Whenever the temperature of surrounding air is below 40°F, all Class A concrete shall be maintained at a temperature of not less than 50°F for at least 72 hours for normal concrete or for as much more time as is necessary to insure proper rate of curing of the concrete. The housing, covering or other protection used in connection with curing shall remain in place and intact at least 24 hours after the artificial heating is discontinued. No salt or other chlorides shall be used for prevention of freezing.
- D. Protection from the Sun: All concrete shall be adequately protected from injurious action of sun in a manner satisfactory to the Engineer.
- E. Temperature Control: During and at the conclusion of the specified curing period, means shall be provided to insure that the temperature of the air immediately adjacent to the concrete does not fall more than 3°F in any one hour nor more than 30°F in any 24 hours.

3.13 CONCRETING IN COLD WEATHER

When the atmospheric temperature may be expected to drop below 40°F at the time concrete is delivered to the work site, during placement, or at any time during the curing period, the following provisions also shall apply:

- A. The temperature of the concrete at the time of placing shall not be less than 50°F nor more than 90°F. The temperature of neither aggregates nor mixing water shall be more than 100°F just prior to mixing with the cement.
- B. When the daily minimum temperature is less than 40°F, concrete structures shall be insulated or housed and heated after placement. The temperature of the concrete and air adjacent to the concrete shall be maintained at not less than 50°F nor more than 90°F for the duration of the curing period.
- C. Methods of insulating, housing, and heating the structure shall conform to "Recommended Practice for Cold Weather Concreting," ACI Standard 306.
- D. When dry heat is used to protect concrete, means of maintaining an ambient humidity of at least 40 percent shall be provided unless the concrete has been coated with curing

compound as specified in Section 21 or is covered tightly with an approved impervious material.

3.14 CONCRETING IN HOT WEATHER

When climatic or other conditions are such that the temperature of the concrete may reasonably be expected to exceed 90°F at the time of delivery at the work site, during placement, or during the first 24 hours after placement, the following provisions also shall apply:

- A. The Contractor shall maintain the temperature of the concrete below 90°F during mixing, conveying, and placing. Methods used shall conform to "Recommended Practice for Hot Weather Concreting," ACI Standard 305.
- B. The concrete shall be placed in the work immediately after mixing. Truck mixing shall be delayed until only time enough remains to accomplish it before the concrete is placed.
- C. Exposed concrete surfaces, which tend to dry or set too rapidly, shall be continuously moistened by means of fog sprays or otherwise protected from drying during the time between placement and finishing, and after finishing.
- D. Finishing of slabs and other exposed surfaces shall be started as soon as the condition of the concrete allows and shall be completed without delay.
- E. Concrete surfaces exposed to the air shall be covered as soon as the concrete has hardened sufficiently and shall be kept continuously wet for at least the first 48 hours of the curing period, and for the entire curing period unless curing compound is applied as specified.
- F. Formed surfaces shall be kept completely and continuously wet for the duration of curing period (prior to, during, and after form removal) or until curing compound is applied as specified.

3.15 INSERTS AND EMBEDDING

- A. Inserts: Where pipes, castings or conduits are to pass through the walls, the Contractor shall place such pipes or castings in the forms before pouring the concrete, or in special cases, with the express consent of the Engineer or as specified, he shall build accepted boxes in the forms to make openings for subsequent insertion of such pipes, castings or conduits as required by the Engineer. To withstand water pressure and to insure watertightness around the openings so formed, the boxes shall be provided with continuous keyways and waterstop all the way around, and they shall have a slight flare to facilitate grouting and the escape of entrained air during grouting. Before placing the grout, the concrete surfaces and the surfaces of the insert shall be coated with an epoxy bonding compound. Mixing and application of the bonding agent and time of placement of the grout shall be in accordance with the manufacturer's directions.

Additional reinforcement shall be provided around large openings, as shown on the Plans. The pipes, castings or conduits as specified shall be grouted in place by pouring in non-shrink epoxy based grout under a head of at least 4". The grout shall be poured or rammed or joggled into place to fill completely the space between pipes, castings or conduits, and

the sides of the openings so as to obtain the same water-tightness as the wall itself. The grouted castings shall then be water cured as specified herein. The grouting material so placed shall be surfaced when the forms are removed to give a uniform appearance to the wall if such wall be exposed to view.

- B. Embedding: The Contractor shall set accurately and hold in exact position in the forms until the concrete is poured and set, all gate frames, gate thimbles, special castings, channels or other metal parts that are to be embedded in the concrete; and he shall set accurately all inserts and anchor or other bolts necessary for the attaching of piping, valves, metal sash and equipment. All nailing blocks, plugs, strips and the like, necessary for the attachment of trim, finish and similar work shall be furnished and placed by the Contractor.

Block-outs may be used for embedded items, with the prior written consent of the Engineer. Where block-outs are allowed, non-shrink cement based grout shall be used to seal the embedded items.

In lieu of embedding anchor bolts and other items to be anchored in the concrete, the Contractor will be permitted, with prior written acceptance of the Engineer, to drill holes in hardened concrete and install the anchor bolts and other items with non-shrink epoxy based grout. Drilling or coring holes shall be done by rotary drill with diamond boring or coring bits. Bonding mortar or grout shall be epoxy bonding adhesive grout or epoxy bonding adhesive mortar. Holes shall be blown clean and dry before installation of embedded items. Before insertion, both the hole and the item to be embedded shall be coated with bonding compound. Studs of equal size and length may be substituted for anchor bolts if nut fasteners are used. When accepted by the Engineer, three-part compounded expansion shields may be used for anchorage of minor miscellaneous metal.

3.16. DRYPACK MORTAR

Where surfaces are required to be built up with mortar, such surfaces shall be thoroughly roughened by brushing, completely cleaned, and coated with appropriate bonding compound before the application of the required mortar. The mortar shall be applied immediately following the application of the bonding compound in bands or strips to form a compact durable covering of the required thickness and shall be free from lumps and depression. Construction joints in the mortar shall be sloped to thin edges and, before application is resumed, the joint shall be thoroughly cleaned. Drypack mortar shall be used for built-up surfaces, setting miscellaneous metal items, and correcting minor repairs and imperfections.

No mortar shall be applied during freezing weather unless adequate protection is provided.

The mortar shall be cured as specified for concrete.

3.17. MODIFICATION OF EXISTING CONCRETE

Where the work indicated on the Plans requires modification of existing concrete structures or concrete poured over six months previously to be removed or modified, the existing concrete shall be cut accurately to the lines required in the presence of the Engineer or the Engineer's Representative. Concrete faces exposed to view shall be cut with a concrete saw. The cutting shall be accomplished in a manner that preserves, free from cracks or other injuries, those parts of the existing structure that are to remain. Where the cut surface is to be left exposed, it shall be cleaned

and faced with non-shrink grout and finished to match adjacent surface. Where new concrete or mortar is to be placed against existing concrete surfaces or surfaces that have been cut, such surfaces shall be thoroughly cleaned by sandblasting, and coated with bonding compound just prior to the placement of the new concrete. Bonding compounds shall be as specified herein. Depth of saw cut should be $\frac{3}{4}$ " minimum. Unless otherwise indicated on the Plans or specified, continuity of reinforcing steel shall be obtained by either exposing bars to provide sufficient laps with new bars or by welding existing bars with new bars as specified. Where indicated, existing bars shall be exposed and fully developed by; embedding in new concrete.

3.18 PROTECTION AND REPAIR OF CONCRETE CONSTRUCTION

All surfaces shall be protected against injury. During the first 72 hours after placing the concrete, any wheeling, working or walking on the concrete shall not be permitted. All slabs subject to wear shall be covered with a layer of sand or other suitable material as soon as the concrete has set. Sisalcraft paper or other similar tough waterproof paper may also be used, provided all joints between adjacent strips of paper are carefully sealed. This does not alter the requirements for proper curing as specified herein.

No concrete slabs or top surfaces or walls shall be placed during rain unless acceptable protective shelter is provided, and during such weather, all concrete placed within the preceding 12 hours shall be protected with waterproof canvas or other suitable coverings. These shall be provided and kept ready at hand.

Immediately after the removal of forms, all concrete shall be inspected, and all pour joints, rough sections or rock pockets containing loose materials such size and shape as will form a 1" key for cement mortar fill. Before the mortar is applied, the surface of the existing concrete shall be coated with epoxy bonding compound. All form tie holes and small imperfections shall be filled. The fill for small imperfections and form ties shall consist of cement mortar composed of one part cement well mixed with three parts of the fine aggregate by volume and just enough water so that the mortar will stick together on being molded into a ball by slight pressure of the hands; and it shall be thoroughly compacted into place. Where the area or volume of defective concrete is large, it may be repaired by; reforming the surface and filling the opening with concrete. For such major repairs, the filling shall be reinforced and doweled securely to the old concrete, neatly finished to match the surface and texture of the adjacent concrete. All patches shall be cured as accepted by the Engineer.

END OF SECTION

32 EXTERIOR IMPROVEMENTS

SECTION 32 92 19 SEEDING

PART 1 GENERAL

1.1 SECTION INCLUDES:

- A. Preparation of subsoil.
- B. Placing topsoil.
- C. Seeding, Hydroseeding, mulching, and fertilizer.
- D. Maintenance.

1.2 REFERENCES:

- A. FS O-F-241 - Fertilizers, Mixed, Commercial.
- B. Texas Seed Law.

1.3 DEFINITIONS:

- A. Weeds: Include Dandelion, Jimsonweed, Quackgrass, Horsetail, Morning Glory, Rush Grass, Mustard, Lambsquarter, Chickweed, Cress, Crabgrass, Canadian Thistle, Nutgrass, Poison Oak, Blackberry, Tansy Ragwort, Bermuda Grass, Johnson Grass, Poison Ivy, Nut Sedge, Nimble Will, Bindweed, Bent Grass, Wild Garlic, Perennial Sorrel, and Brome Grass.

1.4 MAINTENANCE DATA:

- A. Submit under provisions of Section 01 33 00, SUBMITTALS.
- B. Maintenance Data: Include maintenance instructions, cutting method and maximum grass height; types, application frequency, and recommended coverage of fertilizer.

1.5 QUALITY ASSURANCE:

- A. Provide seed mixture in containers showing percentage of seed mix, year of production, net weight, date of packaging, and location of packaging.
- B. All seed shall be labeled in accordance with the current rules and regulations of the Texas Seed Law and shall be free of noxious weeds as listed by the Board.
- C. All legumes must be inoculated with an approved culture as per the manufacturer's recommendations.

1.6 REGULATORY REQUIREMENTS:

- A. Comply with all regulatory agencies for fertilizer and herbicide composition.

1.7 DELIVERY, STORAGE, AND HANDLING

- A. Deliver, store, protect and handle products to site under provisions of Section 01 16 00, MATERIAL AND EQUIPMENT.
- B. Deliver grass seed mixture in sealed containers unless otherwise authorized by the Engineer in writing. Seed in damaged packaging is not acceptable.
- C. Seed, which has become wet, moldy, or otherwise damaged in transit or storage will not be acceptable.
- D. Deliver fertilized in waterproof bags showing weight, chemical analysis, and name of manufacturer.

1.8 COORDINATION:

- A. Coordinate work under provisions of Section 01 31 13, PROJECT COORDINATION

1.9 MAINTENANCE SERVICE:

- A. Furnish maintenance of seeded areas for two (2) months from Date of Substantial Completion.

PART 2 PRODUCTS

2.1 SEED MIXTURE

- A. Normal Application Seed Mixture (For Installation Between 5:1 and 6:1 inclusive, unless otherwise approved by the Engineer).

<u>Seed</u>	<u>Minimum Seed Purity (Percent)</u>	<u>Minimum Germination (Percent)</u>	<u>Rate of Application (lb./acre)</u>
Common Bermuda, hulled	95.0%	85.0%	90

- B. Hydromulch, Seed, Lime, and Fertilizer (Slopes 0% to 5%)

1. In the areas shown on the plans, or as directed by the Engineer, apply the normal seed mixture using a hydroseeder along with the following components:
 - a. Seed, as noted above for normal seed mixture.
 - b. Fertilizer, as described below
 - c. Liquid Lime, as described below
 - d. Enviro-Tak fiber mulch binder, at a rate of 60 lbs. per acre.
 - e. Fiber mulch at a rate of 2,000 lbs. per acre.
2. The contractor shall install a micronutrient such as Turfblend, or equal, at the rate suggested by the supplier.

3. In addition to slopes between 0% and 5%, this mixture shall be applied to all areas receiving bonded fiber matrix mulch.
- C. Plaster/cellulose fiber much, Seed, Lime, and Fertilizer (Slopes >5%)
1. In the areas shown on the plans, or as directed by the Engineer, apply the normal seed mixture using a hydroseeder along with the following components:
 - a. Seed, as noted above for normal seed mixture.
 - b. Fertilizer, as described below.
 - c. Liquid Lime, as described below.
 - d. Plaster/cellulose fiber mulch, as describe below.
 2. The contractor shall install a micronutrient such as Turfblend, or equal, at the rate suggested by the supplier.
- D. Creeping Red Fescue or perennial rye: 50 percent.
- 2.2 SOIL MATERIALS:
- A. Topsoil: As specified in Section 31 22 19, Finish Grading.
- 2.3 ACCESSORIES
- A. Liquid Lime:
1. Liming will be required for all area when the normal seed mixture is applied.
 2. The lime to be used shall be liquid lime and shall be applied at a rate of 5 gallons per acre.
 3. The liquid lime shall be flowable dolomitic limestone ground to a fineness whereby 100% will pass through a 300-mesh screen.
 4. The liquid lime shall be applied at the same time as the seed and fertilizer with the use of a hydroseeder.
- B. Mulching Material:
1. Oat or wheat straw, free from weeds, foreign matter detrimental to plant life, and dry. Hay or chopped cornstalks are acceptable.
- C. C. Plaster/cellulose Fiber Mulch:
1. Plaster/cellulose fiber mulch shall be a mixture of plaster and natural cellulose fiber mulch.
 2. The plaster shall consist of naturally-occurring high purity processed gypsum and necessary additives, such as retarders and accelerators and water to form a

cementitious binder that will produce a protective crust-like barrier within 4 to 8 hours after application.

3. The gypsum shall be produced from a quarried or mined source.
4. In addition, the gypsum shall be processed to be composed of a crushed, dry calcium sulfate hemihydrate ($\text{CA SO}_4 \cdot 1/2 \text{ H}_2\text{O}$) having a purity of not less than 88%.
5. The processed gypsum plus the necessary additives shall be furnished in bags or bulk and be accompanied by bills of lading and shipping invoices stating the gypsum purity content, dry weight, and source of manufacture.
6. Processed gypsum, which has become partially air set, lumpy, or caked prior to use will be rejected.
7. The cellulose fiber mulch shall be produced from grinding clean, whole wood chips, or fiber produced from ground newsprint with a labeled ash content not to exceed 7%.

D. Fertilizer:

1. FS O-F-241, Type I, Grade A; recommended for grass, with fifty percent of the elements derived from organic sources; of proportion necessary to eliminate any deficiencies of topsoil to the following proportions:
2. The contractor shall have a turf analysis performed for the topsoil (4 maximum).
3. Based upon the results of the turf analysis, the following fertilizer requirement may be adjusted to suit the existing topsoil.
 - a. Fertilizer shall be thirty percent (30%) nitrogen, thirty percent (30%) phosphorous, and thirty percent (30%) potash commercial fertilizer and shall be spread at the minimum rate of 650 lbs. per acre.
 - b. In addition, trace elements such as K-Mag may be required if the need is shown by the turn analysis.

E. Water:

1. Clean, fresh and free of substances or matter, which could inhibit vigorous growth of grass.
2. The Contractor shall water the seed and fertilizer as he deems necessary to establish the grass, at no expense to the Owner.
3. No water is available at the Landfill for construction purposes.

F. Prevent contamination.

PART 3 EXECUTION

3.1 EXAMINATION:

- A. Verify that 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 a 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 a minimum depth of 4 inches 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.

3.4 FERTILIZING

- A. Apply fertilizer in accordance with manufacturer's instructions.
- B. Apply after smooth raking of topsoil and prior to roller compaction.
- C. For dry placing do not apply fertilizer at same time or with same machine as will be used to apply seed.
- D. Lightly water to aid the dissipation of fertilizer.

3.5 SEEDING

- A. Apply seed at a rate of 5 pounds per 1000 square foot evenly in two intersecting directions. Rake in lightly.
- B. Do not seed areas in excess of that which can be mulched on same day.
- C. Planting Season: March through September for Bermuda, September through March, fescue/rye only.
- D. Do not sow immediately following rain, when ground is too dry, or during windy periods.

- E. Roll seeded area with roller not exceeding 112 pounds.
- F. Immediately following seeding and compacting, apply mulch to a thickness of 1/8 inch. Maintain clear of shrubs and trees.
- G. Apply water with a fine spray immediately after each area has been mulched. Saturate to 3 inches of soil.

3.6 HYDROSEEDING

- A. Apply seeded slurry with a hydraulic seeder at a rate of 5 pounds per 1000 square feet evenly in two intersecting directions.
- B. Do not hydroseed area in excess of that which can be mulched on same day.
- C. Immediately following seeding, apply mulch to a thickness of 1/8 inch. Maintain clear of shrubs and trees.
- D. Apply water with a fine spray immediately after each area has been mulched. Saturate to 3 inches of soil.
- E. Contractor shall establish 95% ground cover with no bare area larger than one square foot of the established species prior to acceptance and final payment.

3.7 MAINTENANCE

- A. Mow grass at regular intervals to maintain a maximum height of 2½ inches. Do not cut more than 1/3 of grass blade at any one mowing.
- B. Neatly trim edges and hand clip where necessary.
- C. Immediately remove clippings after mowing and trimming.
- D. Water to prevent grass and soil from drying out.
- E. Immediately reseed areas, which show bare spots.

3.8 GUARANTEE

- A. Grass will be guaranteed for a period of one year from the date of substantial completion.
- B. At the end of the guarantee period any areas determined to not have sufficient ground cover (95% with no bare area larger than one square foot of the established species) shall be re-seeded.

END OF SECTION

33 UTILITIES

SECTION 33 05 30 LOCATION OF EXISTING UTILITIES

PART 1 GENERAL

1.1 SUMMARY

A. Section Includes:

1. Locating and verifying the location and elevation of the existing underground utilities that may conflict with a facility proposed for construction by use of:
 - a. Exploratory Excavation
 - b. Vacuum Excavation

B. Related Specification Sections include, but are not necessarily limited to:

1. Division 0 – Bidding Requirements, Contract Forms, and Conditions of the Contract
2. Division 1 – General Requirements

1.2 REFERENCES

A. Definitions

1. Exploratory Excavation: A method used to locate existing underground utility as shown on the plans through the use of standard excavation equipment.
2. Vacuum Excavation: Method used to locate existing underground utility as shown on the plans through the use of geophysical prospecting equipment such as vacuum excavation.

B. Reference Standards

1. Reference standards cited in this Specification refer to the current reference standard published at the time of the latest revision date logged at the end of this Specification, unless a date is specifically cited.
2. American Society of Civil Engineers (ASCE)
 - a. ASCE Publication CI/ASCE 38 (Standard Guideline for the Collection and Depiction of Existing Subsurface Utility Data)

1.3 ADMINISTRATIVE REQUIREMENTS

A. Coordination

1. Coordinate with the Owner at least 48 hours prior to commencing on site for Exploratory Excavation of Existing Utilities.

2. Coordinate location of all other existing utilities within vicinity of excavation prior to commencing Exploratory Excavation.
3. Coordinate staking of Exploratory Excavations with the Owner at least 1 week prior to commencement.

B. Sequencing

1. Exploratory Excavations shall be conducted prior to the construction of the entire project.

C. Scheduling

1. For critical utility locations, the Owner may choose to be present during excavation.
2. Alter schedule for Exploratory Excavation of Existing Utilities to accommodate Owner personnel.

1.4 SUBMITTALS

A. Report of Utility Location

1. Horizontal location of utility as surveyed
2. Vertical elevation of utility as surveyed
 - a. Top of utility
 - b. Spring line of utility
 - c. Existing ground
3. Material type, diameter and description of the condition of existing utility

PART 2 - PRODUCTS

Not Used.

PART 3 - EXECUTION

3.1 EXAMINATION

A. Verification of Conditions

1. Verify location of existing utilities in accordance with the General Requirements, the General Notes and the Drawings.

3.2 INSTALLATION

A. Exploratory Excavation

1. Verify location of existing utility at location denoted on the Drawings, or as directed by the Owner.
 - a. Expose utility to spring line, as necessary.
 - b. Excavate and Backfill Trench for the Exploratory Excavation in accordance with Section 33 05 10.

B. Vacuum Excavation

1. Verify location of existing utility at location denoted on the Drawings, or as directed by the Owner.
2. Designate the horizontal position of the existing underground utilities that are to be located using geophysical prospecting equipment.
 - a. Acquire record documentation from and coordinate with utility companies, as necessary to locate utility.
3. Perform excavation in general accordance with the recommended practices and procedures described in ASCE Publication CI/ASCE 38.

C. Upon completion of the utility locating, submit a report of the findings.

D. If location of utility is in conflict with the Drawings, notify the Engineer for appropriate design modifications.

E. Place embedment and backfill in accordance with Section 33 05 10.

F. Once necessary data is obtained, immediately restore surface to existing conditions to:

1. Obtain a safe and proper driving surface, if applicable
2. Ensure the safety of the general public
3. The satisfaction of the Owner

3.3 MEASUREMENT AND PAYMENT

- A. Field verification of existing utilities and coordination with utility owners as described in this specification, including all labor, materials, and equipment, shall be incidental to the pipe laying operations and shall be included in the overall bid price for the installed pipe.

END OF SECTION

46 WATER EQUIPMENT

SECTION 46 61 23 FILTRATION SYSTEM

PART 1 GENERAL

1.1 SCOPE OF WORK

A. Work Included:

1. All of the equipment described in this section shall be supplied by a single underdrain manufacturer regularly engaged in that business. This section requires the furnishing and installation of one (1) filter as shown on the contract drawings. The filter is 34'-0" x 11'-3". The equipment to be supplied shall consist of:
 - a) Type S filter underdrain with I.M.S® 200 media retainer.
 - b) Filter media.

B. References

1. NSF - Standard 61 - Drinking Water Systems Components - Health Effects.
2. AWWA B100 Water Treatment Filtering Material latest edition.
3. ASTM Standards listed in Section 1.4.H, Table 1.

1.2 PERFORMANCE AND DESIGN REQUIREMENTS

A. General Requirements

1. The filter underdrain system shall be designed and installed to ensure long term stability in its operating characteristics. It shall be resistant to changes in head loss, flow uniformity, and any other effects which would in time cause loss of efficiency or effectiveness in its operation.
2. The underdrain system is intended to allow for the uniform collection of filtered water and uniform distribution of backwash water and air over the total area of the filter floor.
3. The backwash system shall allow for separate air scouring and water backwashing and for the simultaneous use of air and water at the specified rates.
4. The system shall be designed to avoid localized areas of excessive flow (maldistribution) which may cause mounding, lateral displacement, or other deleterious disturbances in the filter media.
5. When subjected to a flow rate of 20 gpm/sf of filter area the headloss through an underdrain lateral 40 feet long shall not exceed 36 inches water column. This does not include head losses for special feed arrangements.

6. To ensure the underdrain will control distribution (limit maldistribution) and not be over-powered by the media headloss, the minimum headloss through the orifices (primary and secondary) of an individual underdrain block shall not be less than 20 inches water column at a backwash flow rate of 20 gpm/sf of filter area.
 7. The underdrain installation grout shall utilize Patent Pending Grout-LINK reinforcement to provide a network structure and increased durability beyond that of typical two-part grouted installations. Grout-LINK reinforcement is designed to provide uplift resistance as a result of internal pressurization of 15 psi without the need for an external mechanical anchoring system. Underdrain installations that do not have Grout-LINK reinforcement shall have external anchor rods embedded into the filter floor and shall extend above the underdrain and hold the underdrain down from the top. The external anchor system shall be 316 stainless steel material and designed for a minimum allowable load of 15 psi hold down across the filter. All anchors shall be tested prior to the placement of the underdrain block to 130% of the allowable load.
 8. The filters shall consist of 12 inches of silica sand media, and 24 inches of anthracite media.
 9. An air scour system at the rate of 4 scfm/sf shall be supplied to ensure optimum cleaning.
- B. Design Flow Rates: The filter underdrain system shall be furnished and installed to perform satisfactorily and as specified when operated under the following conditions:
1. Downflow of filtered water up to 10 gpm/sf.
 2. Upflow of backwash air at a rate 4 scfm/sf.
 3. Upflow of backwash air, together with backwash water. Typical recommended combined air and water rates: 4 scfm/sf and 5 gpm/sf.
 4. Upflow of backwash water up to 25 gpm/sf.
- C. Flow Distribution: The filter underdrain system, as installed, shall provide acceptable flow uniformity. Maldistribution (MD) of air and water flows during backwash shall be as follows:
1. Lateral Water MD: The maldistribution in a lateral 40 feet long or less shall not exceed +/- 5 percent of the average gpm/sf of filter for a backwash rate of 20 gpm/sf.
 2. Flume Water MD: Note, additional maldistribution, due to specific flume arrangement, entry conditions into both flume and underdrain laterals and flow velocities, must be considered.
 3. System Air MD: Visually, the air should show a uniform pattern.

D. Structural Design Requirements

1. General: The filter underdrain system, including anchorage, supports, etc. shall be designed to safely withstand loading for the specified conditions.
2. Internal Loading: The filter underdrain system, when installed, shall be designed for a net internal loading during backwash of the greater of either 600 psf or 200 percent of the maximum pressure at maximum backwash rates. No credit shall be taken for the weight of gravel or filter media.
3. Downward Load: The filter underdrain system shall also be designed to withstand a net downward loading of not less than 2,500 psf.

- E. Air Temperature: During backwash with air, the underdrain shall be suitable to withstand a maximum air temperature of 200° F.

1.3 QUALITY ASSURANCE

- A. Manufacturer: The filter system shall be supplied by one manufacturer that shall assume total responsibility for the parts operating as a whole and shall be manufactured by Xylem Water Solutions Zelienople LLC.
- B. Experience: The filter system shall be a standard product of a filter manufacturer who has been actively providing dual-parallel lateral air/water underdrain equipment for at least 15 years. Upon request, the filter manufacturer will provide the Engineer with a list of installations of underdrain which totals not less than 200.
- C. NSF Certification: All materials used in contact with the water and backwash air shall meet National Sanitation Foundation (NSF) Standard 61 Drinking Water System Components - Health Effects.
- D. Underdrain: The dual-parallel block units with integral flow metering elements and any specialties required for installation such as special anchorage, grout retaining plates, closures, gaskets, etc., shall be the products of a single manufacturer/supplier.
- E. Media: The filter equipment manufacturer shall furnish a Quality Control Manual demonstrating that the filter media to be furnished will comply with the requirements of the contract specifications. The Quality Control Manual will define the following:
1. Qualification of the raw feedstock
 2. Control procedures at the screening mill
 3. Independent testing laboratories
 4. Packaging definition

5. Purchase orders
6. Storage procedures

1.4 SUBMITTALS

- A. Submit to the Engineer complete shop drawings showing details of fabrication, materials of construction, installation and leveling data of all items furnished under this section.
- B. Details submitted shall include as a minimum, headloss data for air, water and combined air/water backwash, installation details, flow distribution calculations, certification of compatibility of the underdrain system with the filter media specified in this section, details for installing reinforcing and other items to be embedded in concrete.
- C. Testing Procedures: Detailed start-up, hydraulic, and air scour test procedures.
- D. Proper documentation showing NSF-61 certification of all underdrain components.
- E. The media submittal and technical information will be provided and approved by a licensed engineer regularly employed by the filter manufacturer. The engineer shall have at least 15 years' experience in water treatment. All submittal shall include the following information as a minimum:
 1. Supplier's Name
 2. Resume of engineer Providing Submittal
 3. Quality Control Manual
 4. Gradation of Each Media Type
 5. Date of Sampling/Lot Number
 6. Samples of Each Media Type (If Required)
 7. Representative Sample Analysis, (i.e. effective size, uniformity coefficient, specific gravity, acid solubility and Mohs' hardness for Anthracite only.)
 8. Material Quantities
 9. Diagram with Type of Material and Depth of Each
 10. Estimated Shipping Schedule
 11. Media Loading Procedure
 12. All testing shall conform to the requirements of the latest edition of AWWA B100.

1.5 SHIPMENTS

- A. Media materials will not be shipped until the submittal is approved by the Owner. Approval of the submittal, including the Quality Control Manual, samples and independent testing, shall constitute acceptance of the media.
- B. The schedule of work shall be submitted to the Owner for approval prior to commencement of work.
- C. The contractor shall be responsible for coordinating the shipment of supplies of materials and equipment specified herein. Coordination will be required during construction, startup and/or testing.
- D. The Owner shall provide storage space for the filter media and protect it from exposure to sunlight if stored for more than two weeks.

PART 2 PRODUCTS

2.1 UNDERDRAIN

- A. The underdrain system for the filters shall be a dual parallel lateral type with an integral media support cap whereby feeder and compensating chambers are provided within the cross section of a single block. The cross section of the underdrain shall be so arranged that the feeder (or primary) chamber is adjacent and connected to the compensating (or secondary) chambers through a series of orifices. The orifices shall be located at four different elevations and sized to provide uniform distribution of air and water. All internal orifices shall be integrally molded to provide a smooth bore orifice. Underdrains requiring secondary drilling procedures will not be considered acceptable. The primary chamber should provide at least 50 square inches of cross sectional area per block to reduce flow velocity during backwash.
- B. The compensating chambers shall provide the essential uniform pressure and flow distribution from the top of the blocks. The discharge flow from the top of the blocks into the filter bed shall be provided by approximately twenty-three dispersion orifices per square foot of filter area. The orifices shall be not less than 7/32 inches diameter to prevent clogging and shall be recessed from the surface by approximately 1/8 inch. The top of each orifice shall be encircled by a depression approximately 3/8 inch x 3/4 inch.
- C. The underdrain shall have a horizontal flat top discharge surface, so that the finished filter bottom is essentially flat, with above stated dispersion orifices for uniform energy intensity of air and water coverage which direct flow vertically for effective penetration and cleaning of the media.
- D. A water recovery channel with return holes shall be incorporated into the top of the underdrain block to ensure uniform and continuous air flow from the top deck orifices and provide greater air stability. Underdrains without a water recovery channel will not be considered acceptable.

- E. The secondary chambers of the underdrain shall have baffles sized and located to provide effective air control and to reduce level sensitivity. Underdrains without baffles will not be considered acceptable.

2.2 AIR HEADER

- A. The existing air header in the flume shall be reused with the new underdrain system if not damaged during removal of the existing underdrain system.

2.3 FILTER MEDIA

- A. Filter sand shall be composed of hard, durable clean siliceous particles, free of all mica with an average specific gravity of 2.6 (± 0.05) and shall be in strict accordance with AWWA B100, and have an effective size of 0.45-0.55 mm, and a uniformity coefficient of 1.40 or less, for a finished depth after backwashing and scraping and removal of fines and debris of 12 inches. A 1/2-inch skimming allowance shall be provided.
- B. Filter anthracite shall be composed of specially selected and graded hard, durable anthracite coal particles. The anthracite shall be composed entirely of deep mined material. A quality control manual shall be included to show the source of the material and the quality of the material produced. The anthracite shall have an average specific gravity of 1.65 (± 0.05) with a hardness (Mohs' scale) of 2.7 or more and shall be essentially free of iron, clay, shale, extraneous dirt, and excessive dust with moisture less than 4.0 percent as shipped. The anthracite shall be in accordance with AWWA B100, and have an effective size of 0.95-1.05 mm, and a uniformity coefficient of 1.40 or less for a finished depth after backwashing and scraping and removal of fines and debris of 24 inches. A skimming allowance of 1 inch shall be provided.

2.4 MATERIALS AND CONSTRUCTION

- A. Underdrain
 - 1. Material: The individual blocks used in the system shall be of impervious high strength, completely corrosion-resistant, high-density polyethylene (HDPE) material. The blocks shall be resistant to erosion and corrosion and have uniform smooth surfaces.
 - 2. Dimensions: The block size and weight shall permit ease of handling and installation. The block nominal dimensions shall be 12 inches high by 11 inches wide by 48 inches long. The weight of the block shall be approximately 25 pounds. One-piece extruded underdrain will not be considered acceptable.
 - 3. Block Geometry: The blocks shall be essentially rectangular in shape with dispersion orifices located in the top flat surface. The blocks shall have ridges and pockets for structural rigidity. The sides of the block shall have grout lock-in lugs to key into surrounding grout so that the walls can bond with the grout.

4. Lateral Construction: The blocks shall be arranged end-to-end and mechanically joined to form continuous underdrain laterals approximately equivalent to the length of the filter cell. The joints shall be sealed utilizing only one (1) O-Ring seal, bell and spigot type with internal alignment tabs for proper joint alignment, and be air and water-tight. Joints shall be of snap-lock type so that the blocks are joined with integral interlocking snap lugs and lug receptors for ease of assembly and installation of the laterals. One-piece extruded underdrain will not be considered acceptable.
5. I.M.S® 200 media retainer: The I.M.S® 200 media retainer shall be made of thermoplastic through the injection molded process and sealed to the top of the underdrain. The opening size shall be sufficient to prevent the media from obstructing or passing through the underdrain. Vertical baffles shall be located on the bottom side of the media retainer to “compartmentalize” the fluid to keep it from moving horizontally along the bottom side of the media retainer thus ensuring each pattern of slots in the media retainer receives equal quantities of air and or water during the backwash cycle. The I.M.S® 200 media retainer shall replace the need for support gravel and shall not increase the underdrain height by more than 1 1/4 inch. The cap shall be attached and sealed to the underdrain at the factory using Type 316 stainless steel self-tapping screws and butyl sealant.

B. Air Header

1. General: The existing air header shall be reused.

C. Grout Retainer

1. An Underdrain Flume Plate (GROUT-TITE® Bridge) shall be utilized over the filter flume. Underdrain Flume Plate shall be of high-impact polystyrene properly keyed to fit the underdrain blocks to allow adjustment of lateral center-to-center distance without difficulty. The Underdrain Flume Plate shall span the width of the flume and shall be laid side by side to cover the entire length of the flume and create a homogenous seal thus eliminating the intrusion of grout. The ends of the Underdrain Flume Plate shall have overlapping edges formed into the piece to create a contiguous seal perpendicular to the width of the flume. The elevation of the Underdrain Flume Plate can be adjusted vertically by means of the anchor rod legs to ensure tight fitment against the bottom side of the underdrain flume block. Underdrain Flume Plate shall be supplied by the filter manufacturer.

D. Grout

1. Cement: Cement shall be standard brand Portland cement conforming to ASTM C150, Type II, for general use. Cement that has become “lumpy” shall not be used.
2. Water: Water for mixing and curing shall be clean and clear potable water. The water shall be considered potable if it meets the requirements of the local government agencies. Water with a total dissolved solids of 1000 mg/l or higher or greater than 10 NTU shall not be used.

3. Sand: Sand shall be clean and washed masonry sand. When tested in accordance with ASTM D2419, the sand equivalency shall not be less than 90% for an average of three samples, or less than 85% for any individual sample. 100% of sand particles shall pass No. 4 sieve and not more than 4% of sand particles shall pass No. 200 sieve.
4. Chemical Admixtures: No chemical admixture is needed in most of the applications. The grout can be mixed in a small batch and used immediately.
5. Strength: The grout used in installing the blocks shall have a minimum compressive strength of 3000 psi after 30 days of curing. Normally, use a grout with one part Portland cement and two parts clean silica sand properly mixed and wetted with a maximum water-cement ratio by weight equal to 0.50 to 0.55 for the base grout and 0.61 to 0.67 for the fill grout.

PART 3 EXECUTION

3.1 PRODUCT HANDLING, STORAGE AND DELIVERY

- A. Place or store underdrains and specialties only in designated staging areas shown on the drawings and approved by the Engineer.
- B. Store underdrains and specialties off the ground, under ultraviolet-resistant tarps from time of delivery on-site until final installation of the filters.
- C. Replace, at no charge to Owner, underdrains and specialties damaged during storage and delivery.
- D. Underdrains and specialties are subject to inspection at the Engineer's request if visual evidence of damage is observed.
- E. All filter media will be shipped in "semi-bulk" containers (super-bags) having lifting loops and bottom discharge spout.
- F. Delivery of "bulk" shipments will not be permitted.

3.2 INSTALLATION

- A. Filter Underdrains and Air Header
 1. The Contractor shall install the filter underdrain system in strict accordance with: (1) the manufacturer's written instructions and recommendations and the manufacturer's installation drawings; (2) the oral and written directions provided by the manufacturer's technical representative who is supervising and observing the WORK; and (3) any additional requirements specified herein.
 2. Floor Preparation

- a. Care shall be exercised in preparing the filter floor slab and in setting the anchors to assure proper alignment and elevation. Steel anchor rods shall be furnished by the filter manufacturer and set in the floor slab on both sides of the distribution flume in accordance with the drawing provided. The floor slab shall be screeded into a flat level plane and be free of protrusions and depressions, but have a rough, broom finish.
- b. DO NOT PAINT the floor or wall area where it will come in contact with the grout surrounding the underdrain. The filter floor and filter wall extending sixteen (16) inches up from the filter floor is not to be painted.

3. Underdrain Lateral Installation

- a. The underdrain laterals shall be set in relatively level rows on a bed of grout over the filter floor slab. Plates for closing the ends of each row of blocks shall be furnished by the filter manufacturer and installed by the Contractor. After joining, aligning and setting the blocks, and the bed grout is set-up, as soon as possible, all spaces between the rows of blocks and walls shall be filled with grout so that the entire bed is totally sealed and held firmly in place. Once all grouting is complete, the grout shall be allowed to cure for at least 3 full days before any functional testing.
- b. Anchor rods, if required as shown in the contract drawings, shall be supplied by the underdrain manufacturer and installed by the Contractor. Installation of the anchor rods shall be in accordance with the manufacturer's approved installation drawings and instruction manual.
- c. After the anchor rods have been installed and the epoxy has cured, a non-destructive vertical pull test shall be performed. Testing shall be performed on 100% of the anchor rods. The pull test shall be performed by the underdrain Manufacturer in accordance with the Manufacturer's instruction manual.

4. Cleaning and Protection During Installation, Testing, and Startup

- a. The Contractor shall take all precautions recommended by the underdrain manufacturer or specified herein to ensure that the filter underdrain system and any piping communicating therewith is completely clean and free of any debris, dirt, or other foreign materials which could clog the underdrain system or interfere with flow. Backwash air and water piping shall be thoroughly flushed clean. All loose debris and dirt within the filter cell and flume shall be removed by brooming down and vacuuming. Care shall be taken to keep grout from being deposited anywhere where it could interfere with flow. Any grout so deposited shall be removed. As installation progresses, partially completed portions of the WORK shall be protected with heavy plastic sheeting or other suitable material to

maintain the cleanliness of the underdrain system. Such protection shall be maintained until the support gravel is installed.

- b. Any time the underdrain laterals are to be used as a work surface, the underdrain block shall be overlaid with ½ inch minimum plywood sheeting where necessary, to distribute the load of yard buckets, wheel barrows, ladders, scaffolds, etc., to prevent damage to the underdrain.

B. Media

1. Marks shall be placed on the side of the filter designating the top elevation of each layer.
2. Carefully place each layer so as not to disturb the previous layers.
3. Complete the installation of each layer before the next layer above is started. Do not stand or walk directly upon the filter materials. Workers must stand or walk on boards that will sustain their weight without displacing the gravel and media.
4. Measure depth of each layer of media after it has been backwashed and skimmed as recommended by the filter equipment manufacturer.
5. Clean the filter tanks before any media is placed and keep them clean throughout the placing operation.
6. Filter Sand and Filter Anthracite: Place the filter sand and filter anthracite in the bed in the order of their respective specific gravities. Place and level the filter sand first. Then backwash the bed a minimum of three times, and remove the surface fines by scraping as required to the correct elevation. Place the filter anthracite and backwash the bed three times, and remove the surface fines by scraping as required to the correct elevation.

3.3 FIELD TESTING

A. Underdrain Lateral Flow Distribution Test

1. The filter underdrain system in each filter cell shall be given a series of visual, qualitative, flow distribution tests to verify that I.M.S.[®] 200 media retainer gaps are not clogged with debris and that flow distribution is uniform. These tests shall be performed before the filter media is placed.
2. During each test, the underdrain laterals shall be visually inspected for uniform distribution of air and water and for any signs of quiescent zones and excessive surface turbulence.

3.4 MANUFACTURER'S SERVICES

A. Mechanical Filter Equipment Services

1. Install all items in accordance with the filter equipment manufacturer's recommendations. Upon completion of the installation, the technical director shall furnish a certificate of compliance detailing that the filtering materials have been installed in accordance with the manufacturer's instructions.
2. The underdrain manufacturer shall retain on its permanent staff, field service representatives with at least 10 years of experience in the placement of underdrain.
3. The Contractor shall provide the services of the manufacturer's technical representative for not less than 6 working days (8 hours per day) to inspect and instruct the Contractor on the installation and testing of the filter underdrain system in 2 trips.
4. Additional supervision for testing or other purposes in excess of that included above shall be made available by the manufacturer with reasonable notice and at the manufacturer's prevailing per diem rate plus living and travel expenses.

3.5 DISINFECTION

- A. After all work is completed and before the filter is placed in service, the Contractor shall disinfect the entire filter by chlorination in accordance with ANSI/AWWA C653 Standard.
- B. Contractor is responsible for performing and all cost associated with disinfecting and testing.

3.6 SPARES

- A. Spares shall be provided as follows:
 - Ten (10) underdrain o-rings.
 - Five (5) H.I.P.S bridging pieces.
 - Five (5) Plastic end caps.

END OF SECTION

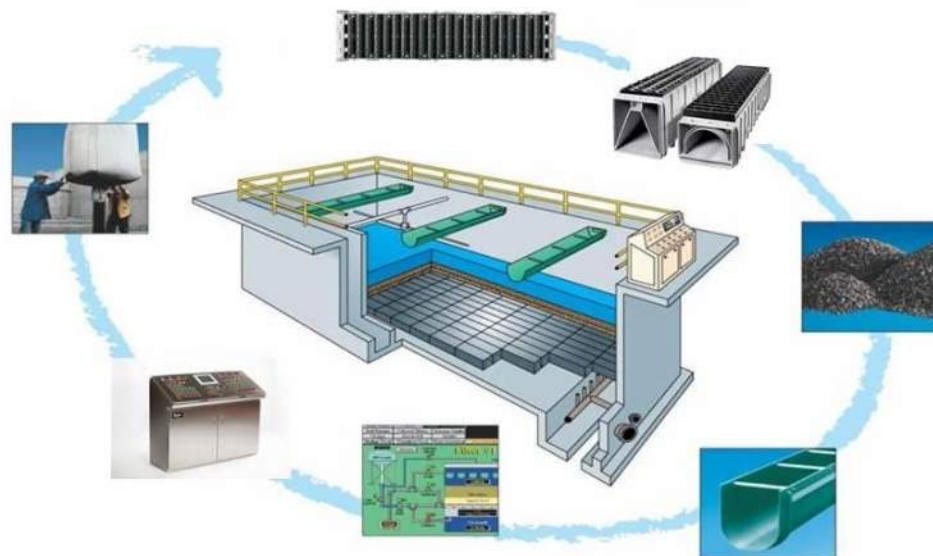
APPENDICES

APPENDIX 1

Filter Underdrain Manufacturer's Scope of Supply

Nacogdoches WTP

Nacogdoches, TX



1/15/25



Xylem Water Solutions USA, Inc.
108 Tomlinson Drive, Suite 400
Zelienople, PA 16063
Mr. Bruce Wolfe
Mobile: 724-504-0366
Email: bruce.wolfe@xylem.com

1/15/2025

Project name : Nacogdoches, TX
Project number : I24377

To Whom It May Concern:

Based on your inquiry, we are pleased to forward the following proposal to your attention. Thank you for the opportunity to offer our equipment and services for the Nacogdoches, TX, WTP Filter 1 Rehab project.

We hope that our proposal meets your expectation. If you have any questions, please do not hesitate to contact me or our local representative.

Respectfully,

Bruce Wolfe
Territory Manager

Table of Content

1	Technical Description	4
1.1	Scope of Supply	4
1.2	Services	5
2	Technical Clarification & Deviations	5
3	Price & Scope of Supply	5
3.1	Main Scope	5
4	Commercial Terms & Conditions	6
4.1	Delivery schedule	6
4.2	T&C's for proposal	Error! Bookmark not defined.

1 Technical Description

1.1 SCOPE OF SUPPLY

We are pleased to offer the following materials and services by Xylem Water Solutions USA, Inc. This quotation has been prepared using specification section 46 61 23.

FILTER UNDERDRAIN SYSTEM – Filter #1:

LEOPOLD UNIVERSAL® TYPE S® UNDERDRAIN:

Under this section, we propose to furnish Leopold Universal® Type S® Underdrain of the Dual/Parallel Lateral type, manufactured from corrosion resistant, high density polyethylene for installation in one (1) filter cell. The filter cell measures 34'-0" lateral run x 11'-3". The total filter area is 383 square feet.

The blocks shall be arranged end-to-end and mechanically joined with an O-ring to form continuous underdrain laterals approximately equivalent to the length of the filter cell. The joints shall be gasketed, bell and spigot type with internal alignment tabs for proper alignment, and be air and water tight. Joints shall be snap-lock type so that the blocks are joined with integral interlocking snap lugs and lug receptors for ease of assembly and installation of the laterals, and supplied with carbon steel "L" anchor rods. Epoxy, sealant, bonding agents, or other similar materials used during installation are not included and to be provided by others.

SPARES:

- (10) O-rings
- (5) Grout Bridges
- (5) End Plates

I.M.S® 200 MEDIA RETAINER:

Under this section, we propose to furnish 383 square feet of I.M.S® 200 media retainer. The scope includes molded thermoplastic I.M.S® 200 media retainer factory installed onto the proposed Leopold Universal® Type S® Underdrain block prior to shipment.

AIR HEADER PIPING:

The existing air header pipe to remain and be reused.

FILTER MEDIA:

One (1) filter cell, 383 square feet

420 cubic feet SILICA SAND – 12" Depth plus
1/2" skimming allowance and 5% extra
Effective size: 0.45 mm to 0.55 mm

Uniformity coefficient: 1.40
21 Tons

800 cubic feet FILTER ANTHRACITE – 24" Depth plus
1" skimming allowance
Effective Size: 0.95 mm to 1.05 mm
Uniformity coefficient: 1.40
20 Tons

Packaging of Materials:

Material will be packaged in semi-bulk containers, "Super Bags," with lifting sleeves and bottom discharge spout, containing approximately 3,000 to 4,000 pounds per sack and palletized.

1.2 SERVICES

MANUFACTURER'S SERVICES (FILTER EQUIPMENT):

The services of a qualified Leopold technical representative to instruct the Contractor's personnel about the proper installation technique and testing of the **filter equipment** will be provided for a period of (5) days (8 hr/day) on site plus (4) days travel time to and from the job-site in two (2) trips. Additional services may be obtained at the current prevailing rate plus living and travel expenses.

2 Technical Clarification & Deviations

1. This section not used.

3 Price & Scope of Supply

3.1 MAIN SCOPE

BASIS of PRICING:

Any items and/or accessories not specifically called out in this quotation must be construed as being furnished by others.

This quotation is considered firm for 90 days. Orders received more than 90 days after the date of this quotation are reviewed by Xylem Water Solutions USA, Inc before acceptance and are subject to changes in prices or delivery depending on conditions existing at the time of entry. Quoted prices are firm for delivery within 12 months from the delivery date stipulated in the plans & specifications or mutually agreed upon by Xylem Water Solutions USA, Inc. and Purchase Order issuer at time of order placement.

We do not include any applicable taxes.

Orders resulting from this quotation should be addressed to Xylem Water Solutions USA, Inc.
108 Tomlinson Drive, Suite 400 Zelienople, PA, 16063, USA.

We propose to furnish the material described in this document for **a total selling price of:**
\$ _____ .00.

Pricing for the equipment and field services outlined in this proposal, DAP Jobsite per Incoterms 2020.

For further information pertaining to the equipment contained in this proposal, please contact our area representative, who is:

Environmental Improvements, Inc.
Phone: 972-436-2536
Attention: Michael Carpenter

Pricing is based on the following payment terms (net 30 days):
10% following initial submittal for approval
80% following the date of the respective shipments of the product
5% following installation, not to exceed 150 days after shipment of the product
(*whichever comes first*)
5% following start-up, not to exceed 180 days after shipment of the product
(*whichever comes first*)

4 Commercial Terms & Conditions

4.1 DELIVERY SCHEDULE

4.1.1 Production schedule

Submittal of mechanical drawings for approval 4 to 6 weeks after order acceptance.

4.1.2 Delivery time

Delivery of fabricated items and 18 to 20 weeks after drawing approval.

FILTER MEDIA WARRANTY (if applicable): SELLER warrants that its filter media products will meet the standards established by the latest edition of AWWA (American Water Works Association) B100. SELLER shall be responsible for verifying that the filter media meets or exceeds the AWWA B100 Standard at the point of sale. Testing shall be by an independent laboratory, which regularly performs testing of filter media. BUYER shall notify Xylem Water Solutions USA, Inc. immediately upon discovery of any defective product. The SELLER shall have the right to inspect said product and BUYER shall, if requested, return the defective product to the SELLER with transportation prepaid. NO LIABILITY IS ASSUMED BY THE SELLER UNDER ANY CIRCUMSTANCES FOR LABOR, MATERIAL OR OTHER COSTS ASSOCIATED WITH THE REMOVAL OR REPLACEMENT OF MEDIA UNLESS PREVIOUSLY APPROVED IN WRITING BY AN AUTHORIZED EMPLOYEE OF THE SELLER.

4.2 TERMS AND CONDITIONS OF SALE – NORTH AMERICA

This order is subject to the Standard Terms and Conditions of Sale – Xylem Americas effective on the date the order is accepted. Terms are available at <http://www.xyleminc.com/en-us/Pages/terms->

[conditions-of-sale.aspx](#) and incorporated herein by reference and made a part of the agreement between parties.

Different terms are hereby rejected unless expressly assented to in writing.

AGREEMENT TO PURCHASE: BUYER agrees to purchase the equipment and services herein in accordance with the terms and conditions set forth above.

ACCEPTANCE: SELLER hereby accepts BUYER'S offer to purchase.

(BUYER)

Xylem Water Solutions USA, Inc.

BY: _____

BY: _____

_____, 20 _____

_____, 20 _____

SWTP Filter 1 Rehabilitation Project

Bid Award

Item 6B

Case Opperman, PE
Director of Public Works & City Engineer

...

March 4, 2025

CIP-Funded Improvements

- Ten (10) Filters at SWTP as part of water treatment process
- One Filter rehabilitation every other year in CIP
- Staff has identified Filter 1 as next priority for rehabilitation
 - Replacement of underdrains and filter media (sand and anthracite)
 - Installation of new transmitters at Filters 5, 6, 8 and 10
 - Installation of new valve and actuator at Filter 1

Bid Opening – February 20, 2025

<i>McKinney & Moore of Texas, LLC</i>	<i>\$ 361,243.38</i>
Duplichain Contractors, LLC	\$ 380,000.00
Mayim Municipal Builders, LLC	\$ 516,000.00

McKinney & Moore has completed several projects for the City, including most recent Filter rehabilitation (Filter 9)

Budget is available for this contract in FY24-25 CIP

Questions?

PRESENTER: Jason Vickery, Assistant City Engineer

ITEM/SUBJECT: Consider approval of a contract by and between the City of Nacogdoches and SCS Engineers for professional engineering services on Landfill Block O, Cells 3 and 4 Construction for a not-to-exceed amount of \$149,500.00. (Assistant Director of Public Works/Assistant City Engineer)

SUMMARY/BACKGROUND: Staff continues to review the need for upcoming expansions at the landfill, including permitting new cells and blocks. We continue to look at ways for the landfill to be cost-effective and provide safe and secure disposal for our City. Our goal is to extend the life of the landfill for as many decades as possible within the least footprint.

In 2023, the City of Nacogdoches began the first step in extending the life of the landfill by applying for and obtaining a minor permit modification for the landfill to be able to reconfigure a portion of the base grade and final grade for one of the landfill blocks (Block O) to reduce construction cost in the next cell area which will be developed within the next few years. This option allowed the City time to comfortably complete step two, a major permit amendment which is currently under way. This process was a less complex permit modification to reconfigure Block O by reducing the Block O waste boundary and transferring the displaced waste capacity to the currently constructed Block P.

On October 2, 2024, the City received the permit modification approval letter from the Texas Commission of Environmental Quality (TCEQ), which authorized the modifications proposed for Block O. The proposed modifications will generate an additional 10+ years of available airspace in Block O, which aligns with the current effort to obtain approval of a major permit amendment which could take 3–4 years for approval and then an additional 2–3 years to implement the expansion. Staff have selected SCS Engineers to provide engineering services for the planning, design and bidding of Cell 3 and 4 construction in Block O, an approximate 21.5-acre area, because of their extensive experience and expertise in landfill engineering. SCS Engineers have a long history of designing successful landfill projects for the City.

Under this proposed contract, SCS Engineers will perform four (4) tasks, including:

Task 1 - Project Management

This task addresses the overall project management required for the duration of the project. Included in this task are coordination efforts with the City, coordination and management of the various tasks and sub-tasks, management of the overall budget and project schedule. It is expected that the cell design will initiate and conclude in 2025.

Task 2 – Budgeting and Planning Assistance

SCS will prepare engineer's cost estimates of the construction costs for the proposed landfill cells, under-drains, access road and drainage ditches; and design, bidding and construction schedules for the City's use. SCS will develop the cost estimates based on existing data and

approximations of site conditions. Final cost estimates will be prepared after the construction plans and field surveying are complete. SCS' quantity take-offs will be utilized in the bidding process.

Task 3 – Block O, Cells 3 and 4 Construction Drawings

This task is for the preparation of construction drawings for the Block O, Cells 3 and 4 geosynthetic liner (GCL/GM), leachate collection system, under-drain system, and perimeter access road and drainage ditches. SCS will prepare one set of construction drawings for use by the City of Nacogdoches for the construction of the Block O, Cells 3 and 4 liners, leachate collection system, under-drain system, access road and drainage ditches. These plans will be prepared in general accordance with City of Nacogdoches Landfill's current permit and Soil and Liner Quality Control Plan (SLQCP). A recent topographic survey of Block O will be provided by Hydrex as prepared for the landfill expansion project to provide more accurate cut and fill volumes. The topographic survey will serve as the basis for the design of this task, and the survey will serve as the base map for payment for the selected contractor. SCS will provide a preliminary design set of plans to the City for review. Upon approval by the City, SCS will finalize the construction plans and proceed to Task 4.

Task 4 – Bid Documents and Bidding Assistance

SCS will prepare bid documents, including technical specifications for the construction items of this project, and assist the City with the bidding process. SCS will prepare bid documents utilizing the City's standard construction bidding format. SCS will provide copies of the construction plans and bid documents to the City's Purchasing Department. SCS will attend a pre-bid meeting with the City staff and contractors and prepare meeting minutes. SCS will prepare bid addenda as directed by the City's Purchasing Department. SCS will evaluate the bids, prepare a bid tabulation and provide an assessment of the bids for the City's use, assist the City in awarding the bid, and prepare the notice to proceed.

SCS Engineers estimate that this proposed effort will require 120 days to complete after notice to proceed.

The tasks will be completed on a time and materials basis. The estimated fees required for this scope of services are as follows:

Task 1 – Project Management	\$ 12,500
Task 2 – Budgeting and Planning Assistance	\$ 12,000
Task 3 – Block O, Cells 3 and 4 Construction Drawings	\$ 92,000
Task 4 – Bid Documents and Bidding Assistance	\$ 33,000

Total Fee \$ 149,500

This is a budgeted project in the FY24-25 Capital Improvements Program.

FINANCIAL:

Item is budgeted:

Account No.: 31.41 680.97

Account Name: *Sanitation Disposal - CIP*

Amount: \$149,500

COUNCIL PRIORITIES: THIS AGENDA ITEM IS CONSISTENT WITH THE FOLLOWING CITY COUNCIL PRIORITIES

Infrastructure

CITY CONTACT: Jason Vickery, PE
Assistant Director of Public Works/Assistant City Engineer
vickeryj@nactx.us
(936) 559-2518

ATTACHMENTS: 1. Contract

**CITY OF NACOGDOCHES
ARCHITECTURAL & ENGINEERING
PROFESSIONAL SERVICES CONTRACT**

This Contract is between the **City of Nacogdoches**, a Texas home-rule municipal corporation, (the “City”) and **SCS Engineers** (the “Consultant”), whereby the Consultant agrees to provide the City with certain professional services as described herein and the City agrees to pay the Consultant for those services.

**ARTICLE I
Scope of Services**

- 1.01 In consideration of the compensation stated in paragraph 2.01 below, the Consultant agrees to provide the City with the professional services as described in **Exhibit A**, the Scope of Services, which is incorporated herein by reference for all purposes, and which services may be more generally described as follows: **Professional Engineering Services for Cell Construction Plans and Bid Package for Block O Cells 3 and 4** (the “Project”).

**ARTICLE II
Payment**

- 2.01 In consideration of the Consultant’s provision of the professional services in compliance with all terms and conditions of this Contract, the City shall pay the Consultant according to the terms set forth in **Exhibit B**. Except in the event of a duly authorized change order, approved by the City as provided in this Contract, the total cost of all professional services provided under this Contract may not exceed **One Hundred Forty-Nine Thousand Five Hundred and 00/100 Dollars (\$149,500.00)**.

**ARTICLE III
Time of Performance and Construction Cost**

- 3.01 The Consultant shall complete the professional services within the times set forth in **Exhibit B**. Consultant expressly agrees that such times are as expeditious as is prudent considering the ordinary professional skill and care of a competent engineer or architect.

- 3.02 **Time is of the essence of this Contract.** The Consultant shall be prepared to provide the professional services in the most expedient and efficient manner possible in order to complete the work by the times specified. Promptly after the execution of this Contract, the Consultant shall prepare and submit for the City to approve in writing, a detailed schedule for the performance of the Consultant's services to meet the City's project milestone dates which are included in this Contract. The Consultant's schedule shall include allowances for periods of time required for the City's review and for approval of submissions by authorities having jurisdiction over the Project. The schedule will also specify payment milestones associated with design tasks.
- 3.03 The Consultant's services consist of all of the services required to be performed by Consultant, Consultant's employees and Consultant's sub-consultants under the terms of this Contract. Such services are set forth in Exhibit A. The Consultant shall contract and employ at its expense sub-consultants necessary for the design of the Project, and such sub-consultants shall be licensed as required by the State of Texas and approved in writing by the City.
- 3.04 The Consultant shall designate a principal of the firm reasonably satisfactory to the City who shall, for so long as acceptable to the City, be in charge of Consultant's services to be performed hereunder through to completion, and who shall be available for general consultation throughout the Project. Any replacement of that principal shall be approved in writing (which shall not be unreasonably withheld) by the City, prior to replacement.
- 3.05 Consultant shall be responsible for the coordination of all drawings and design documents relating to Consultant's design and used on the Project, regardless of whether such drawings and documents are prepared by Consultant. Consultant shall be responsible for the completeness and accuracy of all drawings and specifications submitted by or through Consultant and for its compliance with all applicable codes, ordinances, regulations, laws and statutes.
- 3.06 Consultant's evaluations of the City's project budget and the preliminary estimates of construction cost and detailed estimates of construction cost represent the Consultant's best judgment as a design professional familiar with the construction industry. It is recognized, however, that Consultant has no control over actual site conditions, cost of labor, materials or equipment, a contractor's methods of determining bid prices, competitive bidding or market conditions. Accordingly, Consultant cannot and does not represent or guarantee that bids or ultimate project costs will not vary from any statement of probable costs.

ARTICLE IV

Conceptual Design

- 4.01 Consultant shall meet with the City for the purpose of determining the nature of the Project. The Consultant shall inquire in writing as to the information it believes the City may have in its possession that is necessary for the Consultant's performance. The City shall provide

the information within its possession that it can make available to the Consultant. The City shall designate a representative to act as the contact person on behalf of the City.

- 4.02 The Consultant shall conduct the services put forth in Exhibit A. Consultant shall confirm that the Project can be designed and constructed within the time limits outlined in this Contract. Consultant shall prepare a detailed design phase schedule which includes all review and approval periods during the project phases from Conceptual Design to Construction, design development and construction document phases. Consultant shall confirm that the Project can be designed and constructed for the dollar amount of the Project budget, if applicable. Consultant shall generally review the City's available budget for the Project and provide an early opinion of the adequacy of funds for the intended scope of work.
- 4.03 The Consultant shall prepare a Conceptual Design based on the TCEQ permit (MSW-720) in accordance with Texas Administrative Code Chapter 305 and 330 rules.

ARTICLE V

Preliminary Design

- 5.01 The City shall direct the Consultant to commence work on the Preliminary Design by sending to the Consultant a letter of authorization to begin work on the Preliminary Design pursuant to this Contract. Upon receipt of the letter of authorization to commence Preliminary Design, the Consultant shall meet with the City for the purpose of determining the extent of any revisions to the Conceptual Design.
- 5.02 The Consultant shall prepare the Preliminary Design of the Project, including, but not limited to, the preliminary drawings and specifications and other documents to fix and describe the size and character of the Project as to civil, architectural, structural, mechanical and electrical systems, materials and such other elements as may be appropriate. The Consultant shall submit to the City a detailed estimate of the construction costs of the Project, based on current area, volume, or other unit costs as put forth in Exhibit A. This estimate shall also indicate costs for allowances, contingencies, fees, permits, and all other costs involved in constructing the Project and the time required for construction of the Project from commencement to final completion.
- 5.03 Upon completion of the Preliminary Design of the Project, the Consultant shall so notify the City. Upon request the Consultant shall provide a Preliminary Engineering Report and meet with the City staff and/or City Council to make a presentation of its Preliminary Design of the Project. The Consultant shall provide an explanation of the Preliminary Design and cost estimate and shall verify that, to the best of Consultant's belief, the Project requirements and construction can be completed within the Project budget and schedule.

ARTICLE VI

Final Design

- 6.01 The City shall direct the Consultant to commence work on the Final Design of the Project by sending to the Consultant a letter of authorization to begin work on the Final Design phase of the Project. Upon receipt of the Letter of Authorization to proceed with Final Design of the Project, the Consultant shall immediately prepare the Final Design, including, but not limited to, the bid documents, contract, drawings, and specifications, to fix and describe the size and character of the Project as to civil, structural, mechanical, and electrical systems, materials, and such other elements as may be appropriate. The Final Design of the Project shall comply with all applicable laws, statutes, ordinances, codes and regulations.
- 6.02 Notwithstanding the City's approval of the Final Design, the Consultant warrants that the Final Design will be sufficient and adequate to fulfill the purposes of the Project. Additionally, Consultant will provide technical criteria, written descriptions and design data for the City's use in filing applications for permits from other governmental authorities or entities. Consultant shall assist the City in the preparation of permits and consultations with other entities having jurisdiction over the Project.
- 6.03 The Consultant shall prepare and separately seal the special provisions, the technical specifications, and bid proposal form(s) in conformance with the City's current pre-approved, "Standard Form of Construction Agreement" for the construction contract between the City and the construction contractor. The Consultant hereby agrees that no changes, modifications, supplementations, alterations, or deletions will be made to the City's standard form without the prior written approval of the City.
- 6.04 The Consultant shall provide the City with complete construction design plans and contract documents sufficient to be advertised for bids by the City. The contract documents shall include the design and specifications and other changes that are required to fulfill the purpose of the Project. Upon completion of the Final Design of the Project, with the submission of the complete contract documents, and upon request of the City, the Consultant shall meet with City staff and/or the City Council to present the Final Design of the Project. The Consultant shall provide an explanation of the Final Design and cost estimate.

ARTICLE VII

Bid Preparations & Evaluation

- 7.01 The Consultant shall assist the City in advertising for and obtaining bids or negotiating proposals for the construction of the Project. Upon request, the Consultant shall meet with City staff and/or the City Council to present, and make recommendations on, the bids submitted for the construction of the Project.
- 7.02 The Consultant shall review the construction contractors' bids, including subcontractors, suppliers, and other persons required for completion of the Project. The Consultant shall

evaluate each bid and provide these evaluations to the City along with a recommendation on each bid. The Consultant shall also review the qualifications and references of the lowest responsible bidder. A written evaluation of the bids shall be provided to the City by Consultant and shall include any bidding irregularities subject to waiver. If the lowest bid for the construction of the Project exceeds the final cost estimate set forth in the Final Design of the Project, then the Consultant, at its sole cost and expense, shall revise the construction documents so that the total construction costs of the Project will not exceed the final cost estimate contained in the Final Design of the Project.

- 7.03 Where substitutions are requested by a construction contractor, the Consultant shall review the substitution requested and shall recommend approval or disapproval of such substitutions.

ARTICLE VIII

Construction Administration

~~8.01 The Consultant shall be a representative of, and shall advise and consult with, the City (1) during construction, and (2) at the City's direction from time to time during the correction or warranty period described in the construction contract. The Consultant shall have authority to act on behalf of the City only to the extent provided in this Contract unless modified by written instrument.~~

~~8.02 The Consultant shall make visits to the site, with a frequency appropriate to the scope of the Project, to inspect the progress and quality of the executed work of the construction contractor and its subcontractors and to determine if such work is proceeding in accordance with the contract documents. Consultant shall periodically review the as-built drawings for accuracy and completeness, and shall report its findings to the City.~~

~~8.03 Resident Project Representative (RPR): The Consultant shall provide the services of an RPR to support more frequent and extensive observations of the contractor's work. The presence of the RPR will not diminish the responsibilities of the Consultant's design professionals to provide site visits to monitor the progress of the project. Duties and responsibilities of the RPR include:~~

- ~~a. The RPR will generally deal directly with the contractor and report to the Consultant, who in turn will report to the City. The RPR works under the direction of the Consultant. The RPR may communicate directly with the City, but only with the knowledge of the Consultant.~~
- ~~b. The RPR will not normally direct the work of the contractor but shall observe its compliance with the plans and specifications and report such directly to the Consultant. The RPR can communicate any concerns directly to the contractor, but all observed conditions will always be given to the Consultant as well.~~
- ~~c. If the RPR observes unsafe conditions, or other potentially hazardous conditions that might risk life and safety to anyone, he/she will immediately report such to the~~

contractor, Consultant and City. In such circumstances, the RPR will have the authority to stop the work of the contractor until the issue can be resolved.

- d. ~~The RPR shall, on behalf of the Consultant, make and keep as-built drawings in the field to record any variances from the original designs shown in plans and specifications.~~
- e. ~~The RPR shall keep and maintain inspection reports for each day he/she is present on the project site. These reports shall be made available to the City at the end of the project. The daily reports shall include times of observations, activities observed, materials used or delivered to the job, problems encountered and solutions or adjustments made in the field.~~
- f. ~~The RPR shall review pay estimates from the contractor, on behalf of the Consultant, to verify the quantity and quality of work requested for payment. At no time will the RPR approve pay estimates, contract addendums, modifications, or change orders involving changes in the contract price.~~
- g. ~~The RPR shall be present to observe and witness all testing of on-site equipment and installed materials under the direction of the Consultant.~~

8.04 ~~The Consultant shall keep the City informed of the progress and quality of the work through periodic project meetings and written monthly status reports. The Consultant shall employ the professional skill and care ordinarily provided by competent engineers or architects practicing in the same or similar locality and under the same or similar circumstances and professional license in discovering and promptly reporting to the City any defects or deficiencies in such work and shall disapprove or reject any work failing to conform to the contract documents.~~

8.05 ~~The Consultant shall review and approve shop drawings and samples, the results of tests and inspections, and other data that each construction contractor or subcontractor is required to provide. The Consultant's review and approval shall include a determination of whether the work complies with all applicable laws, statutes, ordinances and codes and a determination of whether the work, when completed, will be in compliance with the requirements of the contract documents.~~

8.06 ~~The Consultant shall determine the acceptability of substitute materials and equipment that may be proposed by construction contractors or subcontractors. The Consultant shall also receive and review maintenance and operating instruction manuals, schedules, guarantees, and certificates of inspection, which are to be assembled by the construction contractor in accordance with the contract documents.~~

8.07 ~~The Consultant shall issue all instructions of the City to the construction contractor as well as interpretations and clarifications of the contract documents pertaining to the performance of the work. Consultant shall interpret the contract documents and judge the performance thereunder by the contractor constructing the Project, and Consultant shall,~~

~~within a reasonable time, render such interpretations and clarifications as it may deem necessary for the proper execution and progress of the work. Consultant shall receive no additional compensation for providing clarification of the drawings and specifications.~~

- ~~8.08 The Consultant shall review the amounts owing to the construction contractor and recommend to the City, in writing, payments to the construction contractor of such amounts. The Consultant's recommendation of payment, being based upon the Consultant's on-site inspections, observations, and its experience and qualifications as a design professional, shall constitute a recommendation by the Consultant to the City that the quality of such work is in accordance with the contract documents and that the work has progressed to the point reflected in Consultant's recommendation for payment.~~
- ~~8.09 Upon notification from the construction contractor that the Project is substantially complete, the Consultant shall conduct an inspection of the site to determine if the Project is substantially complete. The Consultant shall prepare a checklist of items that shall be completed prior to final acceptance. Upon notification by the construction contractor that the checklist items designated by the Consultant for completion have been completed, the Consultant shall inspect the Project to verify final completion.~~
- ~~8.10 The Consultant shall not be responsible for the work of the construction contractor or any of its subcontractors, except that the Consultant shall be responsible for the construction contractor's schedules or failure to carry out the work in accordance with the contract documents if such failures result from the Consultant's negligent acts or omissions. This provision shall not alter the Consultant's duties to the City arising from the performance of the Consultant's obligations under this Contract.~~
- ~~8.11 The Consultant shall conduct at least one on-site inspection during the warranty period and shall report to the City as to the continued acceptability of the work.~~
- ~~8.12 The Consultant shall recommend and prepare change orders, work directives and clarification notices on behalf of the City but shall not execute and issue such documents or otherwise alter the financial scope of the Project without an advance, written authorization from the City.~~
- ~~8.13 The Consultant shall perform all of its duties under this Article VIII so as to not cause any delay in the progress of construction of the Project.~~
- ~~8.14 The Consultant shall assist the construction contractor and City in obtaining a Certificate of Occupancy by accompanying governing officials during inspections of the Project if requested to do so by the City.~~

ARTICLE IX

Change Orders & Documents & Materials

- 9.01 No changes shall be made, nor will invoices for changes, alterations, modifications, deviations, or extra work or services be recognized or paid to Consultant except upon the

prior written order from authorized personnel of the City. The Consultant shall not execute change orders on behalf of the City or otherwise alter the financial scope of the Project, except upon the prior written approval from authorized personnel of the City.

9.02 a. When the original contract amount plus all change orders is less than \$50,000, the City Manager or his delegate may approve the written change order provided the change order does not increase the total amount set forth in the contract to more than \$50,000. For such contracts, when a change order results in a total contract amount that exceeds \$50,000, the City Council must approve such change order prior to commencement of the services or work.

b. When the original contract amount plus all change orders is equal to or greater than \$50,000, the City Manager or his delegate may approve the written change order provided the change order does not exceed \$50,000, and provided the sum of all change orders does not exceed 25% of the original contract amount. For such contracts, when a change order exceeds \$50,000 or when the sum of all change orders exceeds 25% of the original contract, the City Council must approve such change order prior to commencement of the services or work.

c. **Any request by the Consultant for an increase in the Scope of Services and an increase in the amount listed in paragraph two of this Contract shall be made and approved by the City prior to the Consultant providing such services or the right to payment for such additional services shall be waived.** If there is a dispute between the Consultant and the City respecting any service provided or to be provided hereunder by the Consultant, including a dispute as to whether such service is additional to the Scope of Services included in this Contract, the Consultant agrees to continue providing on a timely basis all services to be provided by the Consultant hereunder, including any service as to which there is a dispute.

9.03 The Consultant shall furnish the City (1) sets of plans and specifications. It is hereby agreed that additional copies shall be provided to the City at the City's expense. The Consultant shall provide the City _____ () sets of reproducible, mylar record drawings that clearly show all the changes made during the construction process, based upon the marked-up prints, drawings, and other data furnished by the construction contractor to the Consultant. The Consultant shall provide copies of documents, computer files if available, surveys, notes, and tracings used or prepared by the Consultant. The foregoing documentation, the Consultant's work product, and other information in the Consultant's possession concerning the Project shall be the property of the City from the time of preparation. The Consultant shall furnish one set of digital files representing the final record drawings.

ARTICLE X Representations, Indemnification & Release

10.01 Pursuant to Section 271.904(d) of the Texas Local Government Code, the Consultant shall perform the services with the professional skill and care ordinarily provided by competent

engineers or architects practicing under the same or similar circumstances and professional license and as expeditiously as is prudent considering the ordinary skill and care of a competent engineer or architect. The information provided by the Consultant, the design, the preparation of drawings, the designation or selection of materials and equipment, the selection and supervision of personnel, and the performance of all other services under this Contract are performed with the professional skill and care ordinarily provided by competent engineers or architects practicing in the same or similar circumstances and professional license. Approval of the City shall not constitute, or be deemed, a release of the responsibility and liability of the Consultant, its employees, agents, or associates for the exercise of skill and diligence to promote the accuracy and competency of their designs, information, plans, specifications or any other document, nor shall the City's approval be deemed to be the assumption of responsibility by the City for any defect or error in the aforesaid documents prepared by the Consultant, its employees, associates, agents, or subcontractors.

- 10.02 The Consultant shall promptly correct any designs or specifications furnished by the Consultant which do not meet the standard of care set forth in paragraph 10.01 above at no cost to the City. The City's approval, acceptance, use of, or payment for, all or any part of the Consultant's services hereunder or of the Project itself shall in no way alter the Consultant's obligations or the City's rights hereunder.
- 10.03 In all activities or services performed hereunder, the Consultant is an independent contractor and not an agent or employee of the City. The Consultant and its employees are not the agents, servants, or employees of the City. As an independent contractor, the Consultant shall be responsible for the professional services and the final work product contemplated under this Contract. Except for materials furnished by the City, the Consultant shall supply all materials, equipment, and labor required for the professional services to be provided under this Contract. The Consultant shall have ultimate control over the execution of the services it is to provide under this Contract. The Consultant shall have the sole obligation to employ, direct, control, supervise, manage, discharge, and compensate all of its employees or subcontractors, and the City shall have no control of or supervision over the employees of the Consultant or any of the Consultant's subcontractors.
- 10.04 The Consultant must at all times exercise reasonable precautions on behalf of, and be responsible for, the safety of its officers, employees, agents, subcontractors, licensees, and other persons, as well as its personal property, while in the vicinity of the Project or any of the work being done on or for the Project. It is expressly understood and agreed that the City shall not be liable or responsible for the negligence of the Consultant, its officers, employees, agents, subcontractors.
- 10.05 INDEMNITY. THE CONSULTANT SHALL INDEMNIFY, DEFEND, AND HOLD HARMLESS THE CITY, ITS OFFICERS, AGENTS, EMPLOYEES, REPRESENTATIVES, CONTRACTORS, ASSIGNEES AND/OR DESIGNEES (SEPARATELY AND COLLECTIVELY REFERRED TO IN THIS PARAGRAPH AS "INDEMNITEE"), FROM ANY AND ALL LIABILITY, ACTIONS, CLAIMS, DEMANDS OR SUITS, AND ALL RELATED DAMAGES, COSTS, ATTORNEY**

FEES, AND EXPENSES CAUSED BY, ARISING OUT OF, OR RESULTING FROM ANY ACTS OF NEGLIGENCE, INTENTIONAL TORTS, WILFULL MISCONDUCT, PERSONAL INJURY OR DAMAGE TO PROPERTY AND OTHERWISE RELATED TO CONSULTANT'S PERFORMANCE, AND/OR FAILURES TO PAY A SUBCONTRACTOR OR SUPPLIER COMMITTED BY THE CONSULTANT OR ITS AGENTS, EMPLOYEES, SUB-CONTRACTORS, ORDER FULFILLERS, OR CONSULTANTS UNDER CONTRACT TO CONSULTANT, OR ANOTHER ENTITY OVER WHICH THE CONSULTANT EXERCISES CONTROL, OR SUPPLIERS OF SUBCONTRACTORS IN THE EXECUTION OR PERFORMANCE OF THE CONTRACT.

10.06 CONSULTANT SHALL DEFEND, INDEMNIFY AND HOLD HARMLESS THE CITY FROM AND AGAINST ANY AND ALL CLAIMS, VIOLATIONS, MISAPPROPRIATIONS OR INFRINGEMENT OF ANY PATENT, TRADEMARK, COPYRIGHT, TRADE SECRET OR OTHER INTELLECTUAL PROPERTY RIGHTS AND/OR OTHER INTANGIBLE PROPERTY, PUBLICITY OR PRIVACY RIGHTS AND/OR IN CONNECTION WITH OR ARISING FROM: (1) THE PERFORMANCE OR ACTIONS OF CONSULTANT PURSUANT TO THIS CONTRACT; (2) ANY DELIVERABLE, WORK PRODUCT, CONFIGURED SERVICE OR OTHER SERVICE PROVIDED HEREUNDER; AND/OR THE CITY'S AND /OR CONSULTANT'S USE OF OR ACQUISITION OF ANY REQUESTED SERVICES OR OTHER ITEMS PROVIDED TO THE CITY BY CONSULTANT OR OTHERWISE TO WHICH THE CITY HAS ACCESS AS A RESULT OF CONSULTANT'S PERFORMANCE UNDER THE CONTRACT.

10.07 CONSULTANT AND THE CITY AGREE TO FURNISH TIMELY WRITTEN NOTICE TO EACH OTHER OF ANY SUCH CLAIM UNDER 10.05 OR 10.06. CONSULTANT SHALL BE LIABLE TO PAY ALL COSTS OF DEFENSE, INCLUDING ATTORNEYS' FEES. THE DEFENSE OF ANY LAWSUIT SHALL BE COORDINATED BY THE CONSULTANT WITH THE CITY ATTORNEY WHEN THE CITY IS NAMED DEFENDANT IN ANY LAWSUIT AND CONSULTANT MAY NOT AGREE TO ANY SETTLEMENT WITHOUT FIRST OBTAINING THE CONCURRENCE FROM THE OFFICE OF THE CITY ATTORNEY. IF THE CITY DETERMINES THAT A CONFLICT EXISTS BETWEEN ITS INTERESTS AND THOSE OF CONSULTANT OR IF THE CITY IS REQUIRED BY LAW TO SELECT SEPARATE COUNSEL, THE CITY WILL BE PERMITTED TO SELECT SEPARATE COUNSEL AND THE CONSULTANT WILL PAY ALL REASONABLE COSTS OF THE CITY'S COUNSEL.

10.08 Release. ~~The Consultant releases, relinquishes, and discharges the City, its officers, agents, employees, and volunteers from all claims, demands, and causes of action of every kind and character, including the cost of defense thereof, for any injury to, sickness or death of the Consultant or its employees and any loss of or damage to any property of the Consultant or its employees that is caused by or alleged to be caused by, arises out of, or is in connection with the Consultant's work to be performed hereunder. Both the City and the Consultant expressly intend that this release shall~~

~~apply regardless of whether said claims, demands, and causes of action are covered, in whole or in part, by insurance and in the event of injury, sickness, death, loss, or damage suffered by the Consultant or its employees, but not otherwise, this release shall apply regardless of whether such loss, damage, injury, or death was caused in whole or in part by the City, any other party released hereunder, the Consultant, or any third party.~~

- 10.09 It is agreed with respect to any legal limitations now or hereafter in effect and affecting the validity or enforceability of the indemnification, release or other obligations under Paragraphs 10.05, 10.06, 10.07 and 10.08 such legal limitations are made a part of the obligations and shall operate to amend same to the minimum extent necessary to bring the provision(s) into conformity with the requirements of such limitations, and as so modified, the obligations set forth therein shall continue in full force and effect.

ARTICLE XI

Insurance

- 11.01 The Consultant shall procure and maintain at its sole cost and expense for the duration of this Contract insurance against claims for injuries to persons or damages to property that may arise from or in connection with the performance of the work hereunder by the Consultant, its agents, representatives, volunteers, employees or subcontractors. The policies, limits and endorsements required are as set forth on **Exhibit C**.

ARTICLE XII

Use of Drawings, Specifications and Other Documents

- 12.01 The drawings, specifications and other documents prepared by the Consultant and Consultant's sub-consultants for this Project shall become the property of the City whether the Project is completed or not. The City shall be furnished and permitted to retain reproducible copies and electronic versions of Consultant's drawings, specifications and other documents.
- 12.02 The documents prepared by Consultant may be used as a prototype for other facilities by the City. The City may elect to use the Consultant to perform the site adaptation and other architectural or engineering services involved in reuse of the prototype. If so, the Consultant is obligated to perform the work for an additional compensation that will fairly compensate the Consultant and its sub-consultants only for the additional work involved. It is reasonable to expect that the fair additional compensation will be significantly less than the fee provided for under this Contract. If the City elects to employ a different architect or engineer to perform the site adaptation and other architectural or engineering services involved in reuse of the prototype, that architect or engineer will be entitled to use Consultant's sub-consultants on the same basis that Consultant would have been entitled to use them for the work on the reuse of the prototype, and such architect or engineer will be entitled, to the extent allowed by law, to duplicate the design and review and refer to the construction documents, approved shop drawings and calculations, and change order

drawings in performing its work. The Consultant will not be responsible for errors and omissions of a subsequent architect or engineer. The Consultant shall commit its sub-consultants to the terms of this subparagraph. The provisions of this section shall survive termination of this Contract.

- 12.03 In the event of termination of this Contract for any reason, the City shall receive all original documents prepared to the date of termination and shall have the right to use those documents and any reproductions in any way necessary to complete the Project.
- 12.04 Only the details of the drawings relating to this Project may be used by the Consultant on other projects, but they shall not be used as a whole without written authorization by the City. The City-furnished forms, conditions, and other written documents shall not be used on other projects by the Consultant.

ARTICLE XIII

Termination

- 13.01 The City may terminate this Contract at any time upon **thirty (30)** calendar days' written notice. Upon the Consultant's receipt of such notice, the Consultant shall cease work immediately. To the extent of funds appropriated or otherwise legally available for such purposes, the Consultant shall be compensated only for the services satisfactorily performed prior to the termination date.
- 13.02 If, through any cause, the Consultant fails to fulfill its material obligations under this Contract, or if the Consultant violates any of the material agreements of this Contract, the City has the right to terminate this Contract by giving the Consultant **five (5)** calendar days written notice to the Consultant. The Consultant will be compensated for the services satisfactorily performed prior to the termination date.
- 13.03 No term or provision of this Contract shall be construed to relieve the Consultant of liability to the City for damages sustained by the City because of any breach of contract and/or negligence by the Consultant. The City may withhold payments to the Consultant for the purpose of setoff until the exact amount of damages due the City from the Consultant is determined and paid.

ARTICLE XIV

Miscellaneous Terms

- 14.01 This Contract has been made under and shall be governed by the laws of the State of Texas. The parties agree that performance and all matters related thereto shall be in Nacogdoches County, Texas.
- 14.02 The City, or if State funds are used to pay any part of this contract, the State Auditor, may conduct an audit or investigation of any entity receiving funds directly under this contract or indirectly through a subcontract under the contract. Acceptance of funds under the contract or through a subcontract under the contract acts as acceptance of the authority of

the City or the State Auditor to conduct an audit or investigation. Consultant agrees to cooperate and must provide the City and/or State Auditor with access to any information the City and/or State Auditor considers relevant to the investigation or audit. The Consultant agrees to refund to the City any overpayments disclosed by any such audit.

- 14.03 The Consultant shall retain all such records for a period of four (4) years after final payment on this Contract or until all audit and litigation matters that the City has brought to the attention of the Consultant are resolved, whichever is longer.
- 14.04 Consultant hereby assigns to the City any and all claims for overcharges associated with this Agreement which arise under the antitrust laws of the United States, 15 USCA Section 1 et seq., and/or which arise under the antitrust laws of the State of Texas, Business and Commerce Code Ann., Section 15.01, et seq.
- 14.05 Notices shall be mailed to the addresses designated herein or as may be designated in writing by the parties from time to time and shall be deemed received when sent postage prepaid U.S. Mail to the following addresses:

City of Nacogdoches
Attn: City Manager
202 East Pilar Street
P.O. Box 635030
Nacogdoches, Texas 75961

Consultant:
SCS Engineers
Attn: Jeff Reed
12651 Briar Forest Drive, Suite 205
Houston, Texas 77077

- 14.06 No waiver by either party hereto of any term or condition of this Contract shall be deemed or construed to be a waiver of any other term or condition or subsequent waiver of the same term or condition.
- 14.07 This Contract represents the entire and integrated agreement between the City and the Consultant and supersedes all prior negotiations, representations, or agreements, either written or oral. This Contract may only be amended by written instrument approved and executed by the parties.
- 14.08 This Contract and all rights and obligations contained herein may not be assigned by the Consultant without the prior written approval of the City.
- 14.09 If any provision of this Contract shall be held to be invalid or unenforceable for any reason, the remaining provisions shall continue to be valid and enforceable. If a court of competent jurisdiction finds that any provision of this Contract is invalid or unenforceable, but that by limiting such provision it may become valid and enforceable, then such provision shall be deemed to be written, construed, and enforced as so limited.

- 14.10 The Consultant, its agents, employees, and subcontractors must comply with all applicable federal and state laws, the charter and ordinances of the City of Nacogdoches, and with all applicable rules and regulations promulgated by local, state, and national boards, bureaus, and agencies. The Consultant must obtain all necessary permits and licenses required in completing the work and providing the services required by this Contract.
- 14.11 **Contractor Affirmations:** If this contract is funded in whole or in part by money from the State of Texas, State law requires the following certifications, representations and/or warranties. Regardless of funding by the State, by signature hereon affixed, the Contractor hereby certifies that:
- (a) Contractor has not given, offered to give, nor intends to give at any time hereafter any economic opportunity, future employment, gift, loan, gratuity, special discount, trip, favor, or service to a public servant in connection with this Contract.
 - (b) Contractor represents and warrants that it has no actual or potential conflicts of interest in the goods and or services described in the scope of work to this contract.
 - (c) **Antitrust.** Pursuant to 15 U.S.C. §1, et seq. and Tex. Bus. & Comm. Code §15.01, et seq. neither the contractor nor the firm, corporation, partnership, or institution represented by the contractor, or anyone acting for such a firm, corporation or institution has violated the antitrust laws of this state, federal antitrust laws, nor communicated directly or indirectly the bid made to any competitor or any other person engaged in such line of business.
 - (d) **Debarment.** Contractor certifies that Contractor and its principals are eligible to participate in this transaction and have not been subjected to suspension, debarment, or similar ineligibility determined by any federal, state or local governmental entity and that Contractor is in compliance with the State of Texas statutes and rules relating to procurement. Entities ineligible for state procurement are listed on the State of Texas Debarred Vendor List maintained by the Texas Comptroller of Public Accounts and the System for Award Management (SAM) maintained by the General Services Administration. Entities ineligible for federal procurement are listed at <http://www.sam.gov/content/exclusions> .
 - (e) **Terrorism Watch List.** Contractor represents and warrants that it does not do business with Iran, Sudan or a foreign terrorist organization as prohibited by Texas Government Code 2252.152. Contractor certifies that it is not listed on the federal government's terrorism watch list as described in Executive Order 13224.
 - (f) **Convictions.** Under Sections 2155.006, 2155.0061 and 2261.053 of the Texas Government Code, Contractor certifies that it is not ineligible to receive the specified contract and may be terminated and payment withheld if this certification is inaccurate. These sections prohibit contracts that include proposed financial participation by an individual or business entity who has been convicted in the past five years of (a) violating a federal law or assessed a penalty in connection with a contract involving

relief for Hurricane Rita, Hurricane Katrina, or any other disaster, as defined by §418.004, Gov't Code, occurring after September 24, 2005; and (b) of any offense related to the direct support or promotion of human trafficking.

(g) **COVID Vaccinations.** Contractor certifies that it does not require its customers to provide any documentation certifying the Customer's COVID-19 vaccination or post-transmission recovery on entry to, or to receive service from the Contractor's business.

(h) **Boycotts.** (a) To the extent this Contract is considered a Contract for goods or services subject to § 2270.002 Texas Government Code, Contractor verifies that it: (i) does not boycott Israel; and (ii) will not boycott Israel during the term of this Contract.

(b) To the extent this Contract has a value of \$100,000 or more and Contractor is an organization, association, corporation, partnership, joint venture, limited partnership, limited liability partnership, or limited liability company, including a wholly owned subsidiary, majority-owned subsidiary, parent company, or affiliate of those entities or business associations, that exists to make a profit that employs 10 or more full time employees, Contractor certifies that it: (i) does not and will not boycott energy companies during the term of the contract (*See Texas Government Code 2274.002, et seq.*); and (ii) does not and will not discriminate against a firearm entity or firearm trade association (*See Texas Government Code 2274.002, et seq.*).

14.12 The parties acknowledge that they have read, understood, and intend to be bound by the terms and conditions of this Contract. If there is a conflict between a provision in any documents provided by Consultant made a part of this Contract and any other provision in this Contract, the latter controls.

14.13 This Contract will be effective when signed by the last party whose signing makes the Contract fully executed. The parties may execute this Contract in duplicate originals, each of equal dignity.

14.14 **Notice of Indemnification.** City and Consultant hereby acknowledge and agree that this Contract contains certain indemnification obligations and covenants.

SCS ENGINEERS

12651 Briar Forest Drive, Suite 205
Houston, Texas 77077

By: _____
Printed Name: Jeffrey K. Reed
Title: Vice President
Date: _____
Firm Registration No.: F-3407

CITY OF NACOGDOCHES

P.O. Box 635030
Nacogdoches, Texas 75963-5030

By: _____
Printed Name: _____
Title: City Manager
Date: _____

APPROVED AS TO CONTENT:

Director of Public Works

APPROVED AS TO FORM:

City Attorney

Exhibit A

Scope of Services

The Consultant will provide engineering services for the planning, design and bidding of cell construction in Block O, Cells 3 and 4 of landfill, an approximate 21.5-acre area.

Task 1 - Project Management

This task addresses the overall project management required for the duration of the project. Included in this task are coordination efforts with the City, coordination and management of the various tasks and subtasks, management of the overall budget and project schedule. In budgeting for this task, we have assumed that the duration of the design of the cells of Block O will last about 6 months with one (1) project meeting in Nacogdoches, or via video conference. It is expected that the cell design will initiate and conclude in 2025.

Task 2 – Budgeting and Planning Assistance

The Consultant will prepare engineer's cost estimates of the construction costs for the proposed landfill cells, underdrains, access road and drainage ditches; and design, bidding and construction schedules for the City's use. The Consultant will develop the cost estimates based on existing data and approximations of site conditions. Final cost estimates will be prepared after the construction plans and field surveying are complete. The Consultant's quantity take-offs will be utilized in the bidding process.

Task 3 – Block O, Cells 3 and 4 Construction Drawings

This task is for the preparation of construction drawings for the Block O, Cells 3 and 4 geosynthetic liner (GCL/GM), leachate collection system, underdrain system, and perimeter access road and drainage ditches. The Consultant will prepare one (1) set of construction drawings for use by the City of Nacogdoches for the construction of the Block O, Cells 3 and 4 liner, leachate collection system, underdrain system, access road and drainage ditches. These plans will include:

- Cover Sheet;
- Site Layout Plan;
- Excavation Plan;
- Top of Subgrade Plan;
- Underdrain Plan;
- Top of Protective Cover Plan;
- Access Road Plan;
- Liner Details;
- Leachate Collection System Details;
- Underdrain Details;
- Access Road Details;
- Stormwater Management Details;
- Construction Control Points Plan; and
- Construction Control Points Table

These plans will be prepared in general accordance with City of Nacogdoches Landfill's current permit and Soil and Liner Quality Control Plan (SLQCP). A recent topographic survey of Block O will be provided by Hydrex as prepared for the landfill expansion project to provide more accurate cut and fill volumes. The topographic survey will serve as the basis for the design in this Task and the survey will serve as the base map for payment for the selected Contractor.

The Consultant will provide a preliminary design set of plans to the City for review. Upon approval by the City, The Consultant will finalize the construction plans and proceed to Task 4.

Task 4 – Bid Documents and Bidding Assistance

The Consultant will prepare bid documents, including technical specifications for the construction items of this project, and assist the City with the bidding process. The Consultant will prepare bid documents utilizing the City's standard construction bidding format. The Consultant will provide copies of the construction plans and bid documents to the City's Purchasing Department. The Consultant will attend a pre-bid meeting with the City staff and contractors and prepare meeting minutes. The Consultant will prepare bid addenda as directed by the City's Purchasing Department. We have assumed that the City will handle the advertising for the bid opportunity. The Consultant will evaluate the bids, prepare a bid tabulation and provide an assessment of the bids for the City's use, assist the City in awarding the bid, and prepare the notice to proceed.

The following is a list of potential services (not included in our fee estimate);

- Fees for publishing legal notices in local newspapers.
- Mapping and Surveying. It is assumed that the topographic map necessary for the construction plans will be prepared by others. It is assumed that existing metes and bounds property information for the site will be adequate for this project.
- Permitting. No permitting is considered necessary for this project. If permitting becomes necessary for some unforeseen reason, we will prepare a cost estimate for a new task for the City's approval.
- Third Party Inspection. This proposal does not include Construction Quality Assurance (CQA) or Construction Administration services for Block O, Cells 3 and 4 construction. SCS will provide a separate proposal for those services.
- Activities including research, calculations, meetings, etc. beyond the scope discussed above are not included in the proposed fee.

Exhibit B
Payment Terms and Schedule

Compensation for services shall be performed on a time and materials not to exceed without City authorization basis as outlined below:

Task 1	Project Management	\$ 12,500.00
Task 2:	Budgeting and Planning Assistance	\$ 12,000.00
Task 3:	Block O, Cells 3 & 4 Construction Drawings	\$ 92,000.00
Task 4	Bid Documents & Bidding Assistance	\$ 33,000.00

Total \$ 149,500.00

Unless amended by a duly authorized written change order, the total payment for all invoices on this job, including both salary and non-salary expenses, shall not exceed the amount set forth in paragraph 2.01 of this Contract (**\$ 149,500.00**).

The Consultant must submit *monthly* invoices to the City, accompanied by an explanation of charges, professional fees, services, and expenses. The City will pay such invoices according to its normal payment procedures.

Exhibit C

Insurance Requirements

During the term of this Contract all Consultants' insurance policies shall meet the following requirements:

- I. Standard Insurance Policies Required:
 - A. Commercial General Liability
 - B. Business Automobile Liability
 - C. Workers' Compensation
 - D. Professional Liability

- II. For each of these policies, the Consultant's insurance coverage shall be primary insurance with respect to the City, its officials, agents, employees and volunteers. Any self-insurance or insurance policies maintained by the City, its officials, agents, employees or volunteers, shall be considered in excess of the Consultant's insurance and shall not contribute to it. No term or provision of the indemnification provided by the Consultant to the City pursuant to this Contract shall be construed or interpreted as limiting or otherwise affecting the terms of the insurance coverage. All Certificates of Insurance and endorsements shall be furnished to the City's Representative at the time of execution of this Contract, attached hereto as **Exhibit D**, and approved by the City before any letter of authorization to commence planning will issue or any work on the Project commences.

- III. General Requirements Applicable to All Policies
 - A. Only insurance carriers licensed and authorized to do business in the State of Texas will be accepted.
 - B. Deductibles shall be listed on the Certificate of Insurance.
 - C. "Claims made" policies will not be accepted, except for Professional Liability insurance.
 - D. Coverage shall not be suspended, voided, canceled, or reduced in coverage or in limits except after thirty (30) calendar days prior written notice has been given to the City of Nacogdoches.
 - E. The Certificates of Insurance shall be prepared and executed by the insurance company or its authorized agent on the most current State of Texas Department of Insurance-approved forms.
 - F. The City of Nacogdoches, its officials, employees and volunteers, are to be named as "Additional Insured" to the Commercial General, Umbrella and Business Automobile Liability policies. The coverage shall contain no special limitations on the scope of protection afforded to the City, its officials, employees or volunteers.
 - G. Waiver of subrogation in a form at least as broad as ISO form 2404 shall be provided in favor of the City on all policies obtained by the Contractor in compliance with the terms of this Agreement.

IV. Commercial (General) Liability requirements:

- A. Coverage shall be written by a carrier rated “A:VIII” or better in accordance with the current A. M. Best Key Rating Guide.
- B. Minimum Limit of \$1,000,000 per occurrence for bodily injury and property damage with a \$2,000,000 annual aggregate.
- C. No coverage shall be excluded from the standard policy without notification of individual exclusions being attached for review and acceptance.
- D. The coverage shall not exclude premises/operations; independent contracts, products/completed operations, contractual liability (insuring the indemnity provided herein), and where exposures exist, Explosion Collapse and Underground coverage.
- E. The City shall be included as an additional insured and the policy shall be endorsed to waive subrogation and to be primary and non-contributory.

V. Business Automobile Liability requirements:

- A. Coverage shall be written by a carrier rated “A:VIII” or better in accordance with the current A. M. Best Key Rating Guide.
- B. Minimum Combined Single Limit of \$1,000,000 per occurrence for bodily injury and property damage.
- C. The Business Auto Policy must show Symbol 1 in the Covered Autos portion of the liability section in Item 2 of the declarations page.
- D. The coverage shall include owned autos, leased or rented autos, non-owned autos, any autos and hired autos.

VI. The worker’s compensation insurance requirements:

- 1. Employer’s Liability shall be no less than the required statutory minimum limits for each accident, each disease and cover all employees of Consultant, the Consultant, and all employees of any and all subconsultants or subcontractors of Consultant providing services on the Project.
- 2. “Texas Waiver of Our Right to Recover From Others Endorsement, WC 42 03 04” shall be included in this policy.
- 3. Texas must appear in Item 3A of the Workers Compensation coverage or Item 3C must contain the following: All States except those listed in Item 3A and the States of NV, ND, OH, WA, WV, and WY.

VII. Professional Liability requirements:

- A. Coverage shall be written by a carrier rated “A:VIII” or better in accordance with the current A.M. Best Key Rating Guide.
- B. Minimum of \$1,000,000 per claim and \$2,000,000 aggregate, with a maximum deductible of \$100,000.00. Financial statements shall be furnished to the City of

- Nacogdoches when requested.
- C. Policy must include availability of a two-year extended reporting period.
 - D. Retroactive date must be shown on certificate.

Exhibit D
Certificates of Insurance



City Council Meeting

Date: March 4, 2025

Agenda Item: 6.D.

PRESENTER: Jerry Baker, City Attorney

ITEM/SUBJECT: Discuss and consider adoption of an ordinance of the City of Nacogdoches, Texas, Amending Chapter 74 – “Parks and Recreation” and Adding Article IV – “Special Events”, of the Code of Ordinances of the City of Nacogdoches, Texas; Providing a Severability Clause; Providing a Continuation Clause; Providing a Repeal Clause; and Providing an Effective Date. (City Attorney)

SUMMARY/BACKGROUND: City Council and City staff have expressed the desire to implement event permit guidelines and ordinances. On February 12th, City Council held a work session to discuss the proposed special event ordinance and corresponding guidelines, and to give staff feedback on both documents.

The City Attorney has updated the proposed Special Event Ordinance with suggested changes from the City Council and is now asking for discussion and adoption of this ordinance. The proposed ordinance codifies the procedures city staff are already following and allows for the creation of special event guidelines and special event fees.

FINANCIAL:

No financial impact associated with this item

COUNCIL PRIORITIES: THIS AGENDA ITEM IS CONSISTENT WITH THE FOLLOWING CITY COUNCIL PRIORITIES

Not Applicable

CITY CONTACT: Jerry Baker, City Attorney
bakerj@nactx.us
(936) 559-2503

ATTACHMENTS: 1. Ordinance_74_Special events

ORDINANCE NO. _____

AN ORDINANCE OF THE CITY OF NACOGDOCHES, TEXAS, AMENDING CHAPTER 74 – “PARKS AND RECREATION” AND ADDING ARTICLE IV. – “SPECIAL EVENTS”, OF THE CODE OF ORDINANCES OF THE CITY OF NACOGDOCHES, TEXAS; PROVIDING A SEVERABILITY CLAUSE; PROVIDING A CONTINUATION CLAUSE; PROVIDING A REPEAL CLAUSE; AND PROVIDING AN EFFECTIVE DATE.

RECITALS:

WHEREAS, pursuant to Article II, §21 of the Charter of the City of Nacogdoches, the City “shall have exclusive control over all City parks and playgrounds, and to control, regulate and remove all obstructions and prevent all encroachments thereupon; and to provide for raising, grading, filling, terracing, landscape gardening, erecting buildings, providing amusements therein, for establishing walks and paving driveways around, in, and through said parks, playgrounds and other public grounds;” and

WHEREAS, in order to maintain peace and good order within the City, Article II, §22(10) of the Charter further authorizes the City to “prohibit and restrain the flying of kites, firing firearms, fireworks, rolling of hoops and the use of velocipedes, bicycles and skates, or the use and practice of any amusements on the streets or sidewalks to the annoyance of pedestrians or persons using such streets or sidewalks, and to restrain, regulate and prohibit the ringing of bells, or blowing of horns, bugles and whistles, crying of goods and all other noises, practices and performances tending to the collection of persons in the streets or tending, unnecessarily, to interfere with the peace and quietude of the inhabitants of said City, and to suppress and regulate all necessary noises;” and

WHEREAS, the City Council of the City of Nacogdoches has determined to exercise such authority for the allowance and conduct of special events within the territorial limits of the City of Nacogdoches which involve the closure of a public streets and/or the provision of city services; and

WHEREAS, in furtherance of such authority, the City Council has determined a need to amend Chapter 74 of the Code of Ordinances, and add Article IV. - “Special Events” thereto, as set forth herein.

NOW, THEREFORE BE IT ORDAINED BY THE CITY OF NACOGDOCHES:

SECTION I

All above premises are hereby found to be true and correct legislative and factual findings.

SECTION II

CHAPTER 74 – “PARKS AND RECREATION”, of the Code of Ordinances of the City of Nacogdoches, Texas, is hereby amended to add ARTICLE IV. – “SPECIAL EVENTS”, as set hereafter to include the following:

ARTICLE IV. - SPECIAL EVENTS

Sec. 74-81 Definitions.

City-owned property means any property owned and controlled by the City of Nacogdoches, including any such building, parking lot, driveway, street, alley, sidewalk, park, playground, recreational facility, swimming pool, hiking/bike path, right-of way, or other such property owned and controlled by the City of Nacogdoches.

First Amendment activity means all expressive and associative activity on city-owned property or on any other public street and right-of-way that is protected by the United States and Texas Constitutions, including speech, press, assembly, and the right to petition.

Parade means any assembly, march, demonstration, or procession upon public streets or other rights-of-way within the city, which obstructs, delays, or otherwise interferes with the normal flow of pedestrian or vehicular traffic.

Special event means a temporary event, gathering, or activity, including but not limited to a parade, race, marathon, walk-a-thon, firework display, concert, carnival, or other similar type event or festival, which involve one or more of the following activities:

- 1) closing or partial closing of a public street;
- 2) blocking or restricting city-owned property;
- 3) an event, gathering, or activity held on city-owned property, that is open or advertised to the general public;
- 4) sale of merchandise, food, or beverages on city-owned property;
- 5) erection of a tent equal to or greater than 200 square feet in area on city-owned property;
- 6) installation of a stage, band-shell, trailer, van, grandstand, bleachers or other portable building or structure on city-owned property;
- 7) placement of portable toilets on city-owned property;
- 8) private event, gathering, or activity held on city-owned property, reasonably expected to have attendance of 100 or more people;
- 9) placement of temporary no-parking signs in a public right-of-way or on city-owned property; or
- 10) placement of pedestrian boundary markers on city-owned property.

Sec. 74-82 Special Event Permit.

- (a) It shall be unlawful for any person or entity to hold a special event, sponsor a special event, or otherwise cause a special event to be held, without first having obtained a special event permit from the city, unless such activity is specifically exempted as specified below.
- (b) A special event permit shall not be required for:
 - 1) events conducted entirely on the property of a religious institution, educational institution, school, or university campus;
 - 2) funerals and funeral processions;
 - 3) First Amendment activity conducted entirely on sidewalks, in public parks, or on private property in compliance with traffic laws and any applicable city ordinances;
 - 4) events conducted under the supervision of or with the permission of a governmental entity on property owned, leased, or operated by a governmental entity other than the city;
 - 5) private events, gatherings, or activities with attendance of less than 100 people, unless such event or activity would require the closure of a public street or other city services to be provided; or
 - 6) any other such activities or events deemed by the city manager or the city manager's designee to not require a special events permit.

Sec. 74-83 Special Event Permit Application.

- (a) Any person or entity seeking a special event permit must timely file an application with the department or official designated by the city manager upon forms promulgated by the city.
- (b) Unless otherwise provided by city policy, the special event permit application shall set forth as a minimum the following information:
 - 1) the name, address, e-mail, and telephone number of the applicant, and the sponsor and/or promoter, if different from applicant;
 - 2) the proposed date(s), time(s), and location(s) for the special event;
 - 3) a description of the activities of the special event;

- 4) any transportation plan, traffic plan, parking plan, or street closure(s) requested for the special event;
 - 5) whether merchandise, food, or beverages will be sold, and details regarding food service and alcohol sales or consumption, if any. A permit for the consumption, possession and/or sale of alcoholic beverages will also be required as part of the application, as provided under section 18-27 of the Code of Ordinances;
 - 6) the location and general description of any of tents, awnings, canopies, food service booths, restroom facilities, fences, barricades, signs, or other temporary structures shall be shown on a map;
 - 7) the estimated number of persons who are expected to attend, per day, for the duration of special event;
 - 8) the location and orientation of sound equipment and any other amplification devices shall be shown on a map. A permit for the use of sound equipment will also be required as part of the application;
 - 9) the intended use of fireworks or pyrotechnical display as part of the special event. A permit for the use of fireworks or pyrotechnics will also be required as part of the application;
 - 10) a map showing streets and pedestrian ways that are impacted, as well as showing ingress and egress for pedestrians and vehicles in connection with the special event;
 - 11) for parades, races, rides, and runs: a route map, approximate number of participants and type of participants (example for parades: animals, floats, etc.). Event organizers are responsible for the timely distribution/promotion of the map/layout of their event and street closure signage;
 - 12) insurance certificates for the special event, if applicable, showing the city as a certificate holder and as an additional insured in the amounts specified by the city manager or the city manager's designee;
 - 13) the date and time when clean-up of the property utilized by the special event will be complete; and
 - 14) any other information which the city manager or the city manager's designee finds is reasonably necessary for the issuance of a special event permit.
- (c) The applicant is responsible for updating the application information prior to the event, as necessary, with any information which may have been unknown at the time of initial submission of the application or which is determined by city to be incomplete.

- (d) A special event permit shall not be issued until a completed application, together with any additional information, proof of insurance, and payments of all applicable fees/costs are received by the city.

Sec. 74-84 Fees and costs.

- (a) Event permit fees are set by city council and can be found at the city secretary office.
- (b) Applicant shall pay all required all fees and costs, including site rental, with the special event application, and applicant shall at the same time be required to pay all fees and costs required by other city ordinances to conduct specific activities in conjunction with or as part of a special event.
- (c) If the city determines that a special event may require the special attention and involvement of city personnel or city facilities, the applicant shall be required pay any additional costs to the city within a reasonable time following notification, but no later than fourteen (14) days prior to the date of the event. Failure to pay the additional costs may result in a revocation of the special event permit as provided under section 74-88 below.
- (d) No special event permit fee shall be charged for a First Amendment activity. However, if street closures are requested for activities in conjunction with or as part of such activity, fees may be required for the city's cost to close the street or right-of way for traffic control.
- (e) All or a portion of the event permit fees or costs that may be associated with the special event may be waived by the city manager. The decision to waive special event fees and costs is solely within the discretion of the city manager and may not be the basis of any appeal under Section 74-89.
- (f) Special event permits may be canceled by the applicant by submitting written notification to the city manager or the city manager's designee no less than ten (10) days prior to the date of the event. If a special event is canceled, fees paid in advance for city services which have not already been performed by the city shall be refunded.

Sec. 74-85 Deadline.

The deadlines for submitting special event permit applications may vary depending on the size of the event being planned. However, special event permit applications will not be accepted more than a year in advance of a specific date.

Sec. 74-86 Issuance of Special Event Permit.

- (a) A special event permit will be issued by the city manager or the city manager's designee based upon the information submitted in the application. The city manager

or the city manager's designee may reasonably interpret the information in the application, and may consider past experience with the type of event and inaccuracies or omissions in the application.

- (b) A special event permit will be issued only if the city manager or the city manager's designee find that the following requirements, as applicable to the special event, have been met or that adequate provision therefor will be made:
 - 1) all requirements under the Code of Ordinances, including this chapter of the code, city policy, and any applicable state and federal laws are met;
 - 2) the special event will not unnecessarily interfere with the safe and orderly movement of traffic or the public use of a street or sidewalk, or otherwise create a dangerous condition on a street or sidewalk near the location or route of the proposed special event;
 - 3) the special event will not require the diversion of a number of police officers to properly police the special event location and adjacent areas which would significantly impair adequate police protection for the city as a whole;
 - 4) the concentration of people, animals, and vehicles at assembly points will not significantly impair proper fire and police protection or ambulance service to areas at or near the special event location or the city as a whole; and
 - 5) all licenses and permits, restrictions, regulations, fees for the city services, if any, and any additional safeguards or conditions, as promulgated by the city manager or the city manager's designee, have been submitted and approved.
- (c) It is understood that no applicant is assured the ability to close a street. All street closures are subject to approval by, and authorization from, the city council or the chief of police, as set forth in the Code of Ordinances and applicable city policy.
- (d) The applicant for a special event permit shall agree to indemnify the city, its officers, and employees against all claims of injury or damage to any person or property, whether public or private, associated with or arising out of the special event.
- (e) The city manager or the city manager's designee is authorized to interpret the above requirements and has the authority to modify same to fit individual circumstances. The city manager or the city manager's designee is further authorized to require an applicant to institute other safeguards or activities to protect the safety of the public from circumstances which may arise from a specific special event, if determined to be necessary.

Sec. 74-87 Denial of a Special Event Permit.

- (a) The city manager or the city manager's designee shall deny issuance of a special event permit if:
- 1) the special event will conflict in time or location with another special event or event for which an application has been submitted or approved prior to the one subsequently requested;
 - 2) the special event, if held, would violate any city ordinance or any other applicable state and federal laws law;
 - 3) the applicant failed to complete the application form after being notified of the additional information or documents required;
 - 4) the city manager or the city manager's designee determines that there is a false or misleading statement or omission of material fact on a special event application, and the same is not corrected within the time for submission of an application;
 - 5) the applicant has had a special event permit revoked within the preceding 12 months;
 - 6) the applicant fails to provide proof of a license or other permit required by any city ordinance or applicable state or federal law for the special event;
 - 7) the applicant fails to pay any fees or provide proof that the insurance requirements for the special event; or
 - 8) the special event would significantly impair the delivery of normal or emergency public services or constitutes a public health or safety threat.
- (b) If the city manager or the city manager's designee determines that the special event permit shall be denied, the city manager or the city manager's designee may, but is not required, to present alternatives to the time, place, or manner of the special event that would allow it to occur.

Sec. 74-88 Revocation of a Special Event Permit.

- (a) If the police chief, fire chief, building official, code enforcement officer, community services director (each a "city official"), or the city official's designee determines that any of the provisions of this chapter of the Code of Ordinances, another city ordinance, or applicable state or federal law is being violated, he or she shall immediately notify the city manager, and the city manager shall determine whether the special event permit shall be revoked.
- (b) If the city manager is absent or otherwise unavailable, and if, in the judgment of the city official, a violation exists which requires immediate abatement, the city official shall have authority to revoke a special event permit.

- (c) The city manager may revoke a permit when a false or misleading statement or omission of material fact on a special event application is discovered after the special event permit has been issued.
- (d) Notice and an opportunity to be heard shall be given prior to revocation of a special event permit if the cause for revocation does not involve an imminent threat to the health and safety of an individual or property.
- (e) If the special event permit is revoked for any reason, all activity associated with the special event shall immediately cease. Failure to terminate the activity following revocation of said permit shall constitute a separate offense.
- (f) If the special event permit is revoked, no fees shall be refunded to the applicant/permit holder. The city shall not be liable for any costs or damages associated with the denial or revocation of a special event permit.

Sec. 74-89 Appeal.

- (a) If the city manager or a city official denies or revokes a special event permit, the applicant/permit holder shall be notified of the reasons for the decision to deny or revoke the permit. The decision of the city manager or city official shall be final unless the applicant/permit holder timely appeals the decision to the city council.
- (b) The appeal to the city council shall be filed with the city secretary no later than five (5) business days from the date of the notification of the decision to deny or revoke the special event permit. The appeal must be presented in writing and specify the basis for the appeal.
- (c) The city council, after hearing the appeal, may uphold, reverse, or modify the decision of the city manager or city official. The city council is not required to call a special meeting to accommodate an appeal.

Sec. 74-90 Penalty.

Any person who violates the provisions of this article shall, upon conviction, be fined in accordance with Section 1-14 of the Code of Ordinances.

SECTION III

Severability. If any word, article, phrase, paragraph, sentence, clause, or provision of this Ordinance shall be held to be invalid or unconstitutional, such holding shall in no way affect other provisions or applications of this Ordinance which can be given effect without the invalid provision, and to this end provisions of this Ordinance are declared to be severable.

SECTION IV

Continuation. All provisions of Chapter 74 of the Code of Ordinances existing prior to the date of passage of this Ordinance remain in full force and effect.

SECTION V

Repeal. This Ordinance shall be and is hereby declared to be cumulative of all other ordinances of the City of Nacogdoches, and this Ordinance shall not operate to repeal or affect any such other ordinances except insofar as the provisions thereof might be inconsistent or in conflict with provisions of this Ordinance, in which such conflicting provisions, if any, in such other ordinance or ordinances are hereby repealed.

SECTION VI

Effective Date. This Ordinance shall take effect ten (10) days from its passage and publication as may be required by governing law.

SECTION VII

Proper Notice & Open Meeting. It is hereby officially found and determined the meeting at which this Ordinance was passed was open to the public as required and public notice of time, place, and purpose of said meeting was given as required by the Open Meetings Act, Chapter 551 of the Texas Government Code.

SECTION VIII

Official Public Records. The City Secretary is hereby authorized and instructed to file a signed and sealed copy of this Ordinance in and among the records of the City of Nacogdoches.

PASSED AND APPROVED this the ____ day of _____, 2025, by a vote of ____ (ayes) to ____ (nays) of the City Council of the City of Nacogdoches.

ATTEST:

CITY OF NACOGDOCHES

Rhonda Lewis, City Secretary

BY: _____
Randy Johnson, Mayor

APPROVED AS TO FORM:

APPROVED AS TO CONTENT:

Jerry Baker, City Attorney

Jessica Sowell, Director of Community Services

PRESENTER: Jessica Sowell, Community Services Director

ITEM/SUBJECT: Discuss and consider adoption of the proposed City of Nacogdoches Special Event Guidelines and Special Event Fee Structure. (Community Services Director)

SUMMARY/BACKGROUND: City Council and City staff have expressed the desire to implement event permit guidelines and ordinances. City staff, including representatives from Parks, Main Street, Convention & Visitors Bureau, Public Works, Fire and Police, have worked together to create the proposed event permit guidelines and proposed special event fee structure.

City Council held a work session on February 12th to discuss and give staff feedback on the proposed special event permitting ordinance, guidelines and fee structure. Staff has incorporated the feedback into the special event guidelines where applicable and is seeking feedback on the proposed special event fee structure and updated guidelines.

Staff representatives from Parks, Main Street, Convention & Visitors Bureau, Public Works, Fire and Police have agreed upon the proposed special event fees. They desire to gather additional information and overall costs for public events for the next calendar year and reassess the special event fees in early 2026.

FINANCIAL:

Item is estimated to generate additional revenue.

COUNCIL PRIORITIES: THIS AGENDA ITEM IS CONSISTENT WITH THE FOLLOWING CITY COUNCIL PRIORITIES

CITY CONTACT: Jessica Sowell, Community Services Director
sowellj@nactx.us
(936) 559-2935

ATTACHMENTS:

1. Public Event Guidelines and Permitting
2. Event Fee Presentation



Public Event Guidelines and Permitting

The City of Nacogdoches recognizes that special events serve an important role in Nacogdoches, including creating a sense of community, fostering tourism and business development, and entertaining and educating its citizens. Each year the City of Nacogdoches commits many available resources through staff time, facilities, and equipment to provide support to these events. As the number and size of events grow, it is necessary to provide individuals and event organizers with a consistent process to better coordinate efforts related to event management and support.

The purpose of the Public Event Guidelines and Permitting process is to provide a resource to event organizers to streamline the approval process for special events held in the City of Nacogdoches. It also allows staff an opportunity to review events and be able to prepare effectively in advance. The checklist and the other required information are designed to help event organizers prepare more effectively and as a result, present a successful event to their intended audience.

All events requiring the use of city services or occurring on city property must apply for an event permit. (The only exception to this is renting a pavilion at a city park which requires no city services.) Submitting the initial application does not guarantee event approval. Event organizers will receive feedback from city staff within 14 days of receipt of application. This could be in the form of approval, denial, or request for information or modification. City staff may recommend the modification of some details of the event (such as location or city services needed). Events should not be promoted to the public until approval is received.

Designation of Event Categories

Because the needs of events vary greatly based on size, purpose, and function, the following categories have been designated by city event staff.

1. A **small event** refers to any event with less than 500 attendees. These events may or may not require the use of city services including road closures, alcohol permitting, security, garbage/dumpster removal, etc.
2. A **large event** refers to any event with over 500 attendees. These events will require the use of city services including road closures, alcohol permitting, security, garbage/dumpster removal, etc.
3. A **running event** refers to any walk, 5K, 10K, half marathon, or marathon. These events may have various numbers of participants, and they will require the use of some city services including road closures and security. Organizers may choose from a set number of routes designated by city event staff. Event organizers may request deviations from these routes, but approval is subject to review by the Nacogdoches Police Department, Public Works, and city event staff.



4. A **parade event** refers to a parade of floats, vehicles, and groups. These will require services including security, the temporary closure of streets, and garbage/dumpster removal. Organizers may choose from a set number of routes designated by city event staff. Event organizers may request deviations from these routes, but approval is subject to review by the Nacogdoches Police Department, Public Works, and city event staff.

Event Permit Process

An event permit must be obtained by the event organizer to host a public event in Nacogdoches which either a) requires the use of City services or b) takes place on City property. The requirements for these events vary slightly based on the event type and size. More than one application may need to be submitted if the event contains multiple of these categories (example: a run that ends with a festival in a park). Private events which are not open to the community will not be allowed on city property. This includes private and/or ticketed events held by individuals or businesses seeking to limit access to all or parts of city streets, facilities, or properties.

1. Small Events

- a. Small event (less than 500 expected attendees) applications must be completed and submitted at least 45 days prior to the event date.
- b. Applications must include maps, expected number of attendees, expected city services needed, proof of insurance, and other relevant event and organizer information.
- c. If alcohol is to be served, both the event permit application and the alcohol permit application must be completed and submitted 90 days prior to the event date.
- d. If the event requires the closure of Main Street (SH 21) for more than 4 hours, the event permit must be completed and submitted 90 days prior to the event date.

2. Large Events

- a. Large event (over 500 expected attendees) applications must be completed and submitted at least 90 days prior to the event date.
- b. Applications must include maps, expected number of attendees, expected city services needed, proof of insurance, and other relevant event and organizer information.
- c. If alcohol is to be served, both the event permit application and the alcohol permit application must be completed and submitted 90 days prior to the event date.
- d. If the event requires the closure of Main Street for more than 4 hours, the event permit must be completed and submitted 90 days prior to the event date.

3. Running Events

- a. Running event applications must be completed and submitted at least 90 days prior to the event date.
- b. Running event organizers must choose their route and submit relevant event information such as expected participants, event time, police presence requested, and locations to be used for staging, setup, and awards.
- c. The provided routes in the event permit application are encouraged. Other routes may be used if provided and approved by event permitting staff. Event organizers must have permission from property owners to use their location as the start/stop point and/or awards location.

4. Parade Events

- a. Parade event applications must be completed and submitted at least 90 days prior to the event date.
- b. Parade event organizers must choose a provided/approved route and submit relevant event information such as expected floats, vehicles, and groups participating, event time, police presence requested, and locations to be used for staging, setup, announcers, etc.

Permit Review and Regulations

- Some large events (including large running events and parades) may require logistical planning with City of Nacogdoches staff. This could include plans for emergency protocol, security, etc. If a logistics planning meeting is needed for an event, City of Nacogdoches staff will reach out to the event organizers to schedule the meeting at least 30 days in advance of the event.
- Some large events may be required to designate a specific area for first aid and lost children to be designated on event maps.
- Event permit applications will be reviewed for safety concerns, as well as compliance with all event policies, City of Nacogdoches policies, local ordinances, state laws, and federal laws. Various departments including Facility Maintenance, Public Works, Police, Fire, Community Services, and Public Health will review the applications before approval or denial.
- The City of Nacogdoches reserves the right to stop an event at any time if it is deemed a public safety issue or if any of the event policies laid out in this document are violated.
- Failure to comply with any listed policies may result in refusal of future event permits to the organizers of the event.
- Organizers of large events (including some large running events and parades) may be required to hold event wrap-up meetings with City of Nacogdoches staff. Organizers will be contacted if this is necessary. Organizers may request a wrap-up meeting if they plan to host the event again and would like to discuss future event logistics with City staff.
- All event permit applications must identify an authorized representative as the primary contact that will make event-related decisions and communicate with City of



Nacogdoches staff regarding the event. This person must be in attendance at the event or designate an on site representative for the day of the event.

- All events must follow all local, state, and federal laws and ordinances.
- Any wayfinding signage for events (including running events and parades) must be placed in City of Nacogdoches right-of-ways and removed promptly after the event.

Fees

- A base event permitting fee will be billed to all events. Depending on the size of event and city services required, additional fees for security, street closures, janitorial, and other city services may be required and will be due 14 days prior to the event. These fees will be based on the fee structure approved by the Nacogdoches City Council.
 - A list of current event fees can be found at the end of this document.
 - All event fees (excluding security) may be paid through the online event permit link after approval by event staff.
 - If an event is cancelled less than 14 days in advance for any reason other than inclement weather, no refund of event fees will be given. If the event is cancelled due to inclement weather, the event organizer will be refunded 100% or given the option to reschedule for a future date.

Additional Permits and Steps

- Additional permitting steps are required if:
 - the event includes the sale or consumption of alcoholic beverages
 - The event includes the use of sound equipment
 - the event requires the closure of Main Street for more than 4 hours
 - the event includes a fireworks display
- Any festival or event requiring the closure of Main Street (SH 21) for more than four hours must be reviewed and approved by the Nacogdoches City Council. This closure request will be forwarded to the Texas Department of Transportation (TXDOT) for final approval. A permit must be submitted to the City event staff no later than 90 days before the event.
 - Neither Main Street nor the roads surrounding Main Street will be closed for more than 48 consecutive hours.
 - A Main Street closure of more than 4 hours will not be permitted unless an event is categorized as a large event. This time frame must include all setup, cleanup, and event time.
 - To allow emergency vehicle access, event organizers must arrange emergency pick-up and drop-off locations (on the north side of the square for Downtown events).
- Any festival or event involving the use of sound equipment requires the application and issuance of a sound equipment permit.
- Any festival or event involving the sale, possession, and/or consumption of alcoholic beverages requires an alcoholic beverage permit and additional insurance.



- Alcoholic beverage permit requirements include a map of the designated area for alcoholic beverage sale, possession, and/or consumption.
- Alcoholic beverage permits will be reviewed and approved by City event staff, Parks Department, Fire Department, Police Department, Public Works Department, and the City Manager.
- If alcohol is to be sold, \$1,000,000 liquor liability insurance is also required.
- Any event or festival that seeks to incorporate a firework display, or wishes to use any form of pyrotechnical device, must utilize a contractor properly licensed by the Texas State Fire Marshal. The contractor and the firework/pyrotechnical display must meet all other applicable State requirements, as well as the requirements of the City of Nacogdoches adopted Fire Code. The contractor shall submit a State Fire Marshal's Office Application for a Fireworks License or Permit form to the Nacogdoches Fire Marshals Office at least 45 days in advance of the event. Additionally, the contractor shall submit a site plan clearly indicating the exact location where the fireworks are to be used, debris fall out zones and distances, and proximity to structures.
 - Please note that the Nacogdoches Fire Marshal's Office or any officer of the Nacogdoches Fire Department may require the postponement or cancellation of any previously approved display, at any time, if adverse atmospheric or drought conditions exist, or for any other safety concern that may arise.

Alcohol Sale/Use at Events

Festivals and all-size events involving the sale, possession, and/or consumption of alcohol must be coordinated with the City event staff to ensure compliance with City of Nacogdoches ordinances and policies.

No permit shall be issued until satisfactory proof has been provided for liability insurance and compliance with the Texas Alcoholic Beverage Code, as amended, and rules issued by the appropriate state agency. The City Manager is further authorized to implement such other appropriate safety and control regulations concerning location, hours of operations, security, and other appropriate conditions to protect the health, safety, and welfare of the general public and event attendees. (Section 18-27.)

- Alcohol is allowed only during a festival/event that is approved by the City Manager or designee.
- The applicant must submit a festival/event permit application at least 90 days before the proposed festival that includes the following documentation:
 - A graphic layout of the festival/event with a clearly defined designation area for alcoholic beverage sale, possession, and/or consumption area shown.
 - Proof of required licenses, permits, and paid fees mandated by state and local law for the sale of alcoholic beverages.
- The sale, possession, and/or consumption of alcoholic beverages shall be limited to the designated event area.



- If the designated area is in a walled tent (including a roof and four walls), then normal fire code provisions must be met.
- Security must be approved by the city and remain on-site for the duration of the festival/event.
- Alcoholic beverages may only be sold, possessed, or consumed following TABC regulations.
- No glass containers are allowed downtown or on city property.
- The applicant will be responsible for the proper disposal of all trash.

Additional Parade Guidelines

- Parade organizers must choose between the set routes provided by City event staff. Organizers may request deviations from these routes, but approval is subject to review by the Nacogdoches Police Department, Public Works, and city event staff.
- A parade entry/float list with signed applications should be submitted to City event staff no later than 14 days before the event.
- The parade application must be submitted with the event permit application. All parade applications should contain the following information which must be signed by all float/groups in the parade:
 - All parade participants who drive floats or motored vehicles must have a valid driver's license and vehicle liability insurance.
 - All floats must fit within the following dimensions:
 - Maximum Width: 10 feet
 - Maximum Length: 30 feet for motorhomes OR Truck with max 24-foot trailer
 - Maximum Overall Height: 13 feet
 - Floats larger than the dimensions specified above will be disqualified.
 - No 18-Wheelers with trailers will be allowed. (Bobtail trucks without trailers may be allowed if they meet the height requirements.)
 - No candy or other materials may be thrown or distributed along the parade route. The distribution of gifts, merchandise, literature, or other materials along the parade route is prohibited.
 - Any parade entry using a generator must have a 5 lb ABC Extinguisher with a current State Fire Marshal inspection tag attached to the float.
 - For the safety of participants and spectators, no unaltered male (stud) horses are allowed in parades.
 - Livestock must be diapered, or parade organizers must provide immediate cleanup personnel before the next float/group.
 - All vehicles driven in parades must be in good, working order. If a vehicle breaks down during a parade, it will be moved to the side and cannot continue in the parade.



- All parade participants riding or standing on floats or motorized vehicles must wear safety belts, have hand holds, or have back supports securing them in place while the float/vehicle is in motion.
- Squirt guns, silly string or other items potentially dangerous to spectators or participants are prohibited during the parade.
- All parts of the frame must be high enough to clear surfaces to and from the parade assembly area through the dispersal area. All parts of the full-decorated float must clear the ground by a minimum of 10 inches with the exception of fringe. Flooring must be strong enough for all riders.
- A turn radius of 45 degrees to the right and left is mandatory.
- No alcoholic beverages of any kinds will be allowed in or on the float or tow vehicle. The consumption of alcoholic beverages is strictly prohibited and violators will be prosecuted.
- Wire and lighting devices must have sufficient capability for the use intended for them on the float. Wiring should be properly secured to the float to avoid mechanical damage and injury to float riders and other participants.

Additional Festival/Vendor Guidelines

- Festival and event personnel are responsible for each vendor booth, including placement of the booth.
- "Vendor" means any person who sells or provides goods or services to the festival attendees onsite. Vendors will be counted as such by city personnel.
- A vendor list with signed applications should be submitted to City event staff no later than 14 days before the event.
- The festival or event personnel are responsible for providing the City event staff with detailed electrical and water needs for vendor booths 30 days before the event with changes only accepted until 14 days before the event.
- An event representative will be required to coordinate electrical and water requirements with the City of Nacogdoches Facility Maintenance representatives.
- Vendor booths and activities may not be placed in the middle of streets, as this may block primary emergency access routes. Vendor booths must be placed so that a clear and contiguous 20' wide path of travel exists through the entirety of the event. Rare, circumstantial exceptions to this standard may be granted, but only upon approval by both Nacogdoches Fire and Police.
- Vendor booths may not be placed on the sidewalks or block business entrances.
- Food booths:
 - A separate temporary food permit must be obtained from the Health Inspector by the vendor. This is only required if the vendor is not already permitted and inspected by the City of Nacogdoches.
 - A list of vendors selling food must be submitted to the Health Inspector no later than 14 days before the festival. This list shall include the name, phone number, and address of each vendor as well as the type of food the vendor will sell.



- All food vendors must have one 5lb Dry Chemical Extinguisher with a current State Fire Marshal inspection tag attached.
- Food trucks must have both a valid health inspection and a valid food truck permit issued by the City of Nacogdoches.
- Vendors may not use generators at festivals or events being held on the brick streets. Vendors in Festival Park may use generators.
 - Vendors with generators at Festival Park must have a 5lb ABC Fire Extinguisher with a current State Fire Marshal inspection tag attached.
- For-profit vendors must possess a sales tax permit.
- Festivals and events are expected to follow the feather sign permit guidelines outlined in Chapter 78 Article 1 of the City of Nacogdoches Code of Ordinances.

Road Closures

- After roads have been officially closed (approximately 30 minutes before an event's start time), there will be no in and out traffic for any reason.
- No vehicles (including golf carts) are allowed in the event area after street closure unless approved by city event staff.
- Vendors cannot leave early unless approval has been granted from city event staff.
- Vehicles may reenter the event area after city event staff deem it safe following the conclusion of the event.

Trash Pickup

- Festivals and event coordinators are responsible for trash and litter cleanup.
- Trash and litter must be monitored and cleaned during and after the festival.
- Each vendor is responsible for the disposal of all trash from the vendor booth and trash must be disposed of in the provided dumpster. If the festival or event coordinator needs the city to provide a dumpster, it is the responsibility of the coordinator to make this request on the permit application.
- All running events and parades must pick up trash along their entire route.

Insurance

- All events must provide proof of a liability insurance quote to the City of Nacogdoches Event staff 30 days before the festival with a secured policy within one week of the festival.
- The proof of insurance shall consist of a Certificate of Insurance showing the City of Nacogdoches as an additional insured in the amount of \$1,000,000 general liability insurance.
- If alcohol is to be sold, \$1,000,000 liquor liability insurance is also required.
- Include the following wording on all insurance policies:
 - The City of Nacogdoches, its elected and appointed officials, officers, employees, agents, and representatives are listed as additional insureds on a primary non-contributory basis.



Security

Law enforcement may deem security necessary at events. All police security must be obtained through the Nacogdoches Police Department at least 30 days prior to the event.

The number of officers needed will be determined by the size, nature, and scope of the event. This will be determined by the Nacogdoches Police Department and Event Staff.

Restrooms

- Event organizers are required to ensure adequate restrooms for their events. Events may utilize public restrooms; however, additional portable restroom rentals may be required. Event organizers will be held responsible for any damages to public restrooms' facilities during the period of the event.
- It is recommended that festivals and large events provide at least two public restrooms for every 100 anticipated attendees; three if alcohol is being served. This can include a combination of public restrooms at facilities and portable restrooms.
- It is recommended one wheelchair-accessible portable restroom be provided for every 10 regular portable restrooms required.
- Adequate handwashing stations will also be required.
- Proof of restroom rental purchase will be required 14 days prior to the event date.
- Any additional restroom supplies (ex. toilet paper, paper towels, etc.) must be provided by the event organizers. An initial supply will be provided in city-owned restrooms, but they will not be replenished during the event.
- City of Nacogdoches staff will clean all restrooms prior to events, but they will not clean during the event. It is the responsibility of the event organizer to clean up during their event.

Fire Regulations and Electrical Use

- All electrical systems must be in safe working condition.
- All electrical wires should be secured to prevent trips and falls.
- Specific electrical needs must be communicated by the event planner at the time of completing the permit. Please be aware of the choices and what they mean when filling out the form.
- All electrical needs (i.e. vendor electrical needs, electricity requirements for stage equipment, etc.) must be turned in to event staff by 14 days prior to the event.
- The City of Nacogdoches is not responsible for blown breakers caused by misuse or overloading of electrical equipment.
- Using an open flame device in the downtown area must be approved by the Fire Marshal before the event.
- Fire/Safety inspections will be performed on the day of the event, including but not limited to checking floats and vendor booths for fire extinguishers.



- Compressed gas cylinders (such as those containing helium) must be secured using a durable device such as a chain or webbed strap.
- Activities to be held in unoccupied structures must contract the Nacogdoches Fire Department at least 30 days before the festival or event to schedule a fire inspection. The unoccupied structure must pass the fire inspection before the activity takes place.

The City of Nacogdoches looks forward to assisting you with your event. If you have any questions about these policies and procedures, please contact:

Cecilia Sarmiento
Community Services Coordinator
Sarmientoc@nactx.us
936-559-2938

These Public Event Guidelines and Permitting were approved by the Nacogdoches City Council on _____ and can be found in the Nacogdoches Code of Ordinances Section _____.



Public Event Permit Requirement Checklist

Event Type	Details	Permit Due Date	Items Needed
<i>Small Event</i> -See page 2	Less than 500 expected attendees	45 days before event (unless additional permit needed)	☐ Event Map and Timeline ☐ Expected number of attendees ☐ Insurance Policy ☐ Security (if deemed necessary by NPD)
<i>Large Event</i> -See page 2	More than 500 expected attendees	90 days before event	☐ Event Map and Timeline ☐ Expected number of attendees ☐ Security ☐ Insurance Policy
<i>Running Event</i> -See page 3	Any size run/walk	90 days before event	☐ Event Map and Timeline ☐ Expected number of attendees ☐ Security ☐ Location of staging area, setup area, and awards area ☐ Insurance Policy
<i>Parade Event</i> -See page 3	Any size parade	90 days before event	☐ Event Map and Timeline ☐ Expected number of floats and groups ☐ Security ☐ Location of staging area, setup area, and awards area
<i>Alcohol Permit</i> -See page 4	Any size event	90 days before event	☐ Event Map and Timeline ☐ Expected number of attendees ☐ Security ☐ Insurance Policy ☐ Approval of City Departments and City Manager
<i>Main Street Closure</i> -See page 4	Any event needing Main Street closed over 4 hours	90 days before event	☐ Event Map and Timeline ☐ Expected number of attendees ☐ Security ☐ Insurance Policy ☐ Approval of City Departments, City Council, and TXDoT
<i>Fireworks</i> -See page 4	Any size event	45 days before event	☐ State Fire Marshal's Office Application ☐ Licensed Pyrotechnic Contractor ☐ Detailed Site Plan
<i>Sound Equipment</i> -See page 4	Any size event	45 days before event	☐ Event Map and Timeline ☐ Expected number of attendees ☐ Sound equipment permit ☐ Approval of City Departments and City Manager



Event Fee Draft

All events will be required to pay a base permitting fee. Events are subject to additional fees for alcohol permits, street closures, security staff, and park pavilion rental as needed.

Base Permitting Fees:

- Small event - \$100
- Large event - \$250

Additional Fees:

- Alcohol Permit:
\$50 fee
- Street Closure:
All multi-street closure maps: \$100
Single street closure maps: \$50
Parade closure maps: \$100
- Security:
Some events may require additional security costs dependent upon the size and nature of the events. Nacogdoches Police Department will contact event organizers if required.
- Park Pavillion Rental:
If a park pavilion rental is needed, pavilion rental fees apply. A nonprofit organization may request a fee waiver form for the park pavilion rental.



EVENT FREE DISCUSSION

Community Services Department

Date: March 4, 2025

Presenter: Jessica Sowell





UPDATES TO GUIDELINES

BASED ON COUNCIL FEEDBACK

- ▶ **Changed wording and added new section to correlate with proposed fees**
- ▶ **Changed wording related to security at request of NPD**
- ▶ **Changed wording to prohibit private events**
- ▶ **Added wording about wayfinding signage, following of all laws and ordinances, and trash pickup on parade and running routes.**



EVENT FEE DRAFT

All events will be required to pay a base permitting fee. Events are subject to additional fees for alcohol permits, street closures, security staff, and park pavilion rental as needed.

Base Permitting Fees:

- Small event - \$100
- Large event - \$250

Additional Fees:

Alcohol Permit:

\$50 fee

Street Closure:

- All multi-street closure maps: \$100
- Single street closure maps: \$50
- Parade closure maps: \$100

Security:

Some events may require additional security costs dependent upon the size and nature of the events. Nacogdoches Police Department will contact event organizers if required.

Park Pavilion Rental:

If a park pavilion rental is needed, pavilion rental fees apply. A nonprofit organization may request a fee waiver form for the park pavilion rental.

CONCLUSION

Needs from Council

- **Feedback on guidelines**
- **Feedback on fees**
- **Feedback on fee implementation timeline**

Next Steps

- **Revision (if needed)**
- **Present for adoption**



PRESENTER: Jessica Sowell, Community Services Director

ITEM/SUBJECT: Consider Resolution No. 1386-03-25 supporting the interpretation, site development, partnership and funding opportunities for the Eyes of Father Margil site located at 800 East Main Street. (Community Services Director)

SUMMARY/BACKGROUND: The City of Nacogdoches, with support from Texas State Representative Joanne Shofner of District 11, is exploring options for the further interpretation, site development, partnership and funding opportunities of the Eyes of Father Margil Site. The City intends to explore several options with partners such as the Texas Department of Transportation, the Texas Historical Commission, the Texas Preservation Trust Fund and others to fund improvements to the site and identify opportunities to tie this historic site to statewide heritage tourism efforts. This resolution lends support to those initial conversations but will still require any formal action to come before Nacogdoches City Council for approval.

Site History:

The Eyes of Father Margil site is dedicated to Father Antonio Margil de Jesús, who founded Mission Nuestra Señora de Guadalupe de Nacogdoches in 1716. In 1718–19, during a severe drought in East Texas, Father Margil is believed to have performed a miracle at La Nana Creek. According to legend, he struck a rock with his staff, causing water to flow and alleviating the region's water shortage. Two springs emerged at the site, which became known as “Los Ojos del Padre Margil.” The event was investigated by Spanish religious authorities, and after careful consideration, the Pope in Rome ordered an engraving to commemorate the miracle and the Holy Springs of Nacogdoches.

The Holy Springs of Father Margil, often referred to as The Eyes of Father Margil, are traditionally located behind Oak Grove Cemetery on a high rock bank in the bend of Lanana Creek. At one point, Lanana Creek was straightened, and some of the springs were covered with dirt. The springs were recovered, and they now flow from a rock bank above an ox-bow lily pond in Margil Park.

FINANCIAL:

COUNCIL PRIORITIES: THIS AGENDA ITEM IS CONSISTENT WITH THE FOLLOWING CITY COUNCIL PRIORITIES

CITY CONTACT: Jessica Sowell, Community Services Director
sowellj@nactx.us
(936) 585-0532

ATTACHMENTS: 1. Father Margil Resolution - 1386-03-25

2. Father Margil Presentation

RESOLUTION NO. 1386-03-25

A RESOLUTION OF THE CITY OF NACOGDOCHES, TEXAS, SUPPORTING THE PRESERVATION AND DEVELOPMENT OF THE FATHER MARGIL SITE

WHEREAS, the Father Margil site, located along the Lanana Creek Trail, is a historically significant landmark associated with Father Antonio Margil de Jesús, who established Mission Nuestra Señora de Guadalupe de Nacogdoches in 1716 and is commemorated by the “Eyes of Father Margil” springs; and

WHEREAS, this site represents a unique and vital piece of Nacogdoches’ cultural heritage and serves as an important resource for interpreting the region’s Spanish colonial legacy; and

WHEREAS, the City of Nacogdoches is committed to preserving and enhancing its historic resources and will work in conjunction with TxDOT, the Texas Historical Commission, and other community partners to further develop the Father Margil site; and

WHEREAS, the City will consider a range of strategies—including comprehensive site development, diversified funding sources, and evaluating potential ownership transfer or joint management arrangements—to ensure the site's continued preservation and enhancement. Any resulting agreements or funding proposals shall be submitted to the City Council for review and approval; and

WHEREAS, the ultimate goal of this initiative is to establish the Father Margil site as a lasting resource for the interpretation of history in Nacogdoches, the El Camino Real de los Tejas and the surrounding region;

NOW, THEREFORE, BE IT RESOLVED BY THE CITY COUNCIL OF THE CITY OF NACOGDOCHES, TEXAS, THAT the City supports the preservation and further development of the Father Margil site as outlined herein, and directs City staff to pursue all necessary actions in collaboration with the relevant agencies and community partners, subject to future Council review and approval.

APPROVED AND ADOPTED at a regular meeting of the Nacogdoches City Council on
this ____ day of _____, 2025.



EYES OF FATHER MARGIL RESOLUTION

SUPPORTS THE FOLLOWING:

- ▶ **Comprehensive site development**
- ▶ **Exploring diversified funding sources**
- ▶ **Evaluating potential ownership transfer or joint management arrangements**
- ▶ **Establishing the Father Margil site as a lasting resource for the interpretation of history in Nacogdoches, the El Camino Real de los Tejas and the surrounding region**