



**City Council Meeting
May 19, 2026**

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 minutes for the Regular Council meeting held on May 5, 2026. (City Secretary)
 - B. Consider approval of replacement of Surface Water Treatment Plant gate keypads and controls by T&K Fence Co., utilizing TIPS Cooperative Purchasing Contract No. 26010402, in the amount of \$60,632.00. (Director of Public Works/City Engineer)
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 the Fiscal 2026-2027 Budget Calendar. (City Secretary)

- B. Consider allowing the City Manager to go into negotiations with Alliant Insurance Services as the benefits' consultant/broker for the City's benefits (Director of Human Resources).
- C. Consider approval of a contract by and between the City of Nacogdoches and RAD Civil Services for Raguet Street Sanitary Sewer Improvements (CIP Project WW-26-204) in the amount of \$658,553.20. (Director of Public Works/City Engineer)
- D. Consider approval of a contract by and between the City of Nacogdoches and Hydrex Environmental Consulting, LLC for Environmental Services for the Lanana and Banita Sewer Replacement Projects (CIP Projects WW-25-203 and WW-25-202) in the amount of \$468,350.00. (Director of Public Works/City Engineer)
- E. Consider approval of a contract by and between the City of Nacogdoches and Two Fifteen Consulting for Professional Surveying Services for the Lanana and Banita Sewer Replacement Projects (CIP Projects WW-25-203 and WW-25-202) in the amount of \$1,003,972.00. (Director of Public Works/City Engineer)

7. ADJOURN.



Karen Hadnot
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 May 13, 2026 by 5:30pm pursuant to Chapter 551 of the Texas Government Code.

Karen Hadnot, City Secretary



City Council Meeting

Date: May 19, 2026

Agenda Item: 5.A.

PRESENTER:

ITEM/SUBJECT: Consider approval of minutes for the Regular Council meeting held on May 5, 2026. (City Secretary)

SUMMARY/BACKGROUND: This item includes draft minutes for the Regular Council meeting held on May 5, 2026.

FINANCIAL:

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

CITY CONTACT: Karen Hadnot
citysec@nactx.us

ATTACHMENTS: 1. Draft Minutes May 5, 2026



Regular Session
Nacogdoches City Council
May 5, 2026 – 5:30 p.m.
Council Chambers
202 E. Pilar, 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. Wards and Recognitions.
 - 3A. Presentation of a proclamation recognizing May as Motorcycle Safety Awareness Month.

Mayor Johnson delivered a proclamation to the Gypsy MC International Nacogdoches Chapter and the Texas Council of Clubs & Independents Region 4.

- 3B. The Texas Police Chiefs Association presentation of accreditation.

Chief Skillern from the City of Diboll presented the City of Nacogdoches Police Department with its fourth reaccreditation from the Texas Police Chiefs Association. Mr. Skillern highlighted that the department was the 24th in the state to achieve this prestigious distinction in 2010, which places it in the top 10% of eligible departments statewide.

4. ELECTIONS.

- 4A. Administer Statement of Oath of Office for Blane Williams-Southeast Ward and Chad Huckaby-Southwest Ward.

Karen Hadnot, the City Secretary, announced that the May election was canceled because all candidates were unopposed. Mrs. Hadnot then administered the oath of office to Blane Williams and Chad Huckaby.

- 4B. Consider the appointment of Mayor Pro Tempore and Vice Mayor Pro Tempore.

Mayor Johnson nominated Chad Huckaby for the position of Mayor Pro Tempore. Council Member Belanger nominated Brad Maule. Mayor Johnson then made a motion to appoint Chad Huckaby as Mayor Pro Tempore, which was seconded by Council Member Williams. The motion passed with a vote of 3 in favor and 2 against.

Additionally, Mayor Johnson nominated Blane Williams for Vice Mayor Pro Tempore. Council Member Huckaby also made a motion to appoint Blane Williams to this position, which was seconded by Mayor Johnson. The motion received unanimous approval.

5. Open Forum:

Mayor Johnson opens the floor for public comments. There being none. The floor was closed

6. **ITEMS TO BE REMOVED FROM THE CONSENT AGENDA:**

There being no item removed for the consent agenda.

7. **CONSENT AGENDA:**

Council Member Huckaby made a motion to approve Consent Agenda Items. Council Member Williams seconded the motion, which was unanimously approved.

8. REGULAR AGENDA:

Mayor Johnson called the next item on the Regular Agenda.

- 8A. Consider approval of a Resolution creating a Chapter 380 Economic Development Program and authorizing an agreement by and between the City of Nacogdoches and Icon Cinema Nacogdoches, LLC regarding the renovation and operation of a movie theater at 3801 North Street.

Jerry Baker, the City Attorney, stated that he will address the legal aspects of the 380 agreement.

Mary Francis Bradford, the Interim Director of Business Development, presented the staff report and provided slide presentation.

Ms. Bradford noted that the developer plans to invest \$800,000 in construction (which includes ADA compliance and fire alarms) and an additional \$800,000 in furniture and fixtures, which will create up to 20 local jobs. The financial structure includes a city reimbursement of up to \$50,000 for ADA and fire alarm updates, as well as a 10-year sliding-scale sales tax rebate (100% for years 1-3, 75% for years 4-5, and 50% for years 6-10). The city is projected to retain approximately \$79,375 in sales tax and \$81,000 in ad valorem taxes over the 10-year period.

Stetson Snell, the CEO, expressed excitement about becoming part of such a great community. He discussed the renovation plans, which include electric recliner chairs, new laser projectors, updated audio systems, and unlimited popcorn and drink refills.

Council Member Belanger asked Ms. Bradford to estimate the number of hours spent working to secure the movie theater in Nacogdoches. Ms. Bradford replied that she did not have a precise figure but assured that she conducted thorough research to present something valuable to the city.

Council Member Belanger made a motion to approve the resolution outlined in Regular Agenda Item 8A. Council Member Huckaby seconded the motion, and a unanimous affirmative vote was recorded.

Mayor Johnson called the next item on the Regular Agenda.

- 8B. Consider approval of a contract by and between the City of Nacogdoches and B&B General Contractors for the 2026 Curb and Valley Gutter Project (CIP Project TR-24-201) in the amount of \$313,725.00

Case Opperman, the Director of Public Works and City Engineer, presented the staff report. He provided a slide presentation, detailing each slide's information. Mr. Opperman explained that the project's scope includes the installation of 29 valley gutters and approximately 500 feet of curb and gutter replacements on multiple streets to enhance drainage and preserve the upcoming asphalt paving. Four bids were received, with B&B General Contractors from Lufkin submitting the lowest responsible bid at \$313,725. Funding for the project will come from the street bond program.

Council Member Maule inquired about the number of bids submitted by companies from Nacogdoches. Mr. Opperman confirmed that Cox Jones, located in Nacogdoches, had submitted a bid.

Council Member Belanger made a motion to approve the contract outlined in Regular Agenda Item 8B. Mayor Johnson seconded the motion, which passed with a unanimous affirmative vote.

Mayor Johnson called the next item on the Regular Agenda.

- 8C. Consider selection of the submission by Tetra Tech in response to solicitation RFQ 26-10-112 for design of the Water and Wastewater System SCADA Replacements and Upgrades (CIP Projects WA-25-602 and WW-24-601).

Jason Vickery, Assistant Public Works Director and Assistant City Engineer, presented the staff report. He explained that Tetra Tech was selected to design the replacements and upgrades of the SCADA systems for both the water and wastewater systems. The city received 11 submissions, interviewed four firms, and utilized a diverse selection team composed of members from Engineering, Planning, GIS, IT, and Plant Operations to choose the most qualified firm.

Philip Lou, a representative from Tetra Tech, stated that the project, expected to last 2 to 3 years, aims to replace outdated infrastructure, allowing operators to monitor and control the systems more efficiently and reliably.

Council Member Maule inquired, “While the system is being updated, will there be any downtime or cybersecurity risks?” The Tetra Tech representative assured that downtime would be minimized by scheduling switchovers during low-usage hours. Additionally, a specialized cybersecurity team will design the network to prevent hacking vulnerabilities.

Council Member Maule made a motion to approve the submission to Tetra Tech in response to solicitation RFQ 26-10-112 for the design of the Water and Wastewater System SCADA Replacements and Upgrades (CIP Projects WA-25-602 and WW-24-601). Council Member Williams seconded the motion, and the vote was unanimously in favor.

9. **ADJOURNED:** 6:11p.m.

A full recording of the Regular City Council Meeting for May 5, 2026, may be viewed here: [Regular City Council Meeting – 20260505](#)

ATTEST:

Randy Johnson, Mayor
City Council
City of Nacogdoches

Karen Hadnot, City Secretary



PRESENTER: Case Opperman, Director of Public Works

ITEM/SUBJECT: Consider approval of replacement of Surface Water Treatment Plant gate keypads and controls by T&K Fence Co., utilizing TIPS Cooperative Purchasing Contract No. 26010402, in the amount of \$60,632.00. (Director of Public Works/City Engineer)

SUMMARY/BACKGROUND: Water Utilities Division staff have procured a quote for replacement of the gate keypads and controls at the Surface Water Treatment Plant (SWTP) from T&K Fence Co. in the amount of \$60,632.00. They are under a TIPS cooperative purchasing contract (TIPS Contract No. 26010402) which is exempt from the competitive bidding process under Texas Local Government Code Section 252.022(a)(12)(D). This replacement is budgeted in the current FY 2026 Water Production operating budget.

FINANCIAL:

Item is budgeted:

Account No.: 30.36 620.35

Account Name: *Water Production – Facility Maintenance*

Amount: \$ 60,632.00

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. Quote

ESTIMATE

T&K Fence
PO Box 630053
Nacogdoches, TX 75963-0053

zach@tkfencenac.com
(936) 554-9148
www.tkfencenac.com

Bill To
City of Nacogdoches Water Plant at Lake

Estimate No.: 1199
Estimate Date: 05/07/2026

#	Product / Service	Description	Qty	Rate	Amount
1	8ft Tall Ornamental Aluminum Gates	Spear point double-track 30' opening slide gates including: <ul style="list-style-type: none">• Safety photo eyes• Thru-beam eyes• Outside safety vehicle loop• Inside exit / safety vehicle loop• Gate operators• Tie-in to existing access control	2	\$30,316.00	\$60,632.00

Subtotal: \$60,632.00

Total: \$60,632.00

TIPS Purchasing Information

T&K Fence is an approved TIPS vendor.

- Trades, Labor, and Materials (NON-JOC) – Contract #26010401
- Trades, Labor, and Materials (JOC) – Contract #26010402

Accepted Date

Accepted By



City Council Meeting

Date: May 19, 2026

Agenda Item: 6.A.

PRESENTER:

ITEM/SUBJECT: Consider approval of the Fiscal 2026-2027 Budget Calendar. (City Secretary)

SUMMARY/BACKGROUND: The proposed calendar is for the upcoming budget year 2026-2027. This calendar includes the date and time of the meeting.

FINANCIAL:

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

CITY CONTACT:

ATTACHMENTS: 1. 2026-2027 Budget Calendar

2026 - 2027 BUDGET CALENDAR

<u>Item</u>	<u>Deadline</u>	<u>Meeting</u>
Department Operational Projections FY 2026	April 30, 2026	
Department Operational Expenses FY 2027	April 30, 2026	
Proposed Personnel/Technology/Fleet/Capital Requests	April 30, 2026	
Dept Budget meetings with Finance		May 11-15, 2026
Estimated Health Insurance due (Finance/HR)	Jun 22, 2026	
Budget Workshop (Recreation Center)		Jul 14, 2026 @ 4:00pm
Certified Property Tax Data Due (CAD)	July 25, 2026	
Deliver Draft Budget to City Secretary	August 11, 2026	
Budget Workshop & Council Meeting(Recreation Center)		Aug 18, 2026 @ 4:00pm
Vote on Proposed Max Tax Rate (Council)		Sep 1, 2026
Public Hearing on Tax Rate Adopt Budget and Tax Rate		Sep 15, 2026

**Legal Deadlines*



PRESENTER:

ITEM/SUBJECT: Consider allowing the City Manager to go into negotiations with Alliant Insurance Services as the benefits' consultant/broker for the City's benefits (Director of Human Resources).

SUMMARY/BACKGROUND: City staff charged with securing annual employee benefits are seeking approval of a recommendation to select Alliant Insurance Services (Alliant) as the one whom best meets our needs and is the most suitable benefits brokerage firm to assist in the acquisition of City employee benefits.

After multiple rounds of evaluations, presentations and consideration, the evaluation committee consisting of HR and Finance staff have selected Alliant as the recommended firm. Alliant will serve as the broker/consultant for the City and select the best carriers for the City's employee benefits package. Alliant is a full-service brokerage consultancy that offers many qualities that the evaluation committee found suitable to serve as the City's employee benefits consulting firm.

If approved, Alliant will serve as the City's benefits broker after proper notice and negotiations.

FINANCIAL:

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

CITY CONTACT:

ATTACHMENTS: 1. Finalist - Nacogdoches, TX - 2026



City of Nacogdoches

Alliant Capabilities Overview



Describe your firm's history and background.



One of the Nation's Leading Consulting Firms

\$4B+

In revenue

\$50B+

In premium*

13,300+

Employees

50+

Offices Nationwide

100% Dedicated
Public Sector Team

Flat management structure
comprised of insurance
industry experts

Proprietary programs that
leverage our expertise,
scale, and volume

Best-in-class
organic growth

Alliant Ownership

52%

Alliant employees

48%

Institutional investors

Alliant
works for
our client's
NOT
Wallstreet



Alliant Texas Public Sector Team



In-house
Pharmacists

Texas
Based service
team

Worked with over 1000
Texas public agencies



More TXPE experience
than any other firm



In-house
Compliance
Attorneys



Benchmark top
250
Texas PEs every year



In-house Medical
Directors & Wellness
Consultants



In-house Actuaries
and Underwriters



Dedicated to
Texas Public
Sector



Tell us more about the proposed team that will work with the city.



Our Team

Alliant provides a dedicated team of experienced Consultants surrounded by subject matter experts.

Core Client Service Team



Nick Long
Director - Public Sector
20+ years EB



Alicia Domenech
Account Executive
20+ years EB



Tim Brown
Senior Consultant
20+ years EB



Joy Crump
Procurement Specialist
20+ years

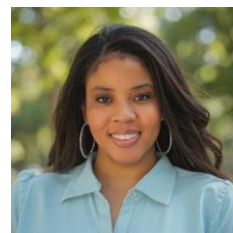


David Chavez
Actuary

Specialty Team



Bryan Inglis
Communication & Enrollment
Director



Enjoli Hamilton
Communication & Enrollment
Account Executive



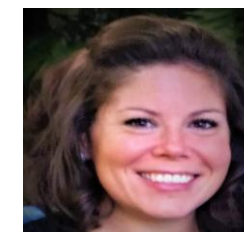
Hugh Barry
Actuary/Analytics



Dave Runkel
National Director
Pharmacy Practice



Jennifer Spence
Health & Productivity



Steph Ferrel, JD
Compliance Attorney



Explain your service philosophy and how it manifests itself while working with your clients.



Holistic Service Experience





Account Team Support

Our strategic process for monitoring plan performance, renewals, RFPs, and proactive project management is an ongoing process that includes consistently interfacing with all current vendors and tracking all deliverables





Alliant's Approach

Health, Productivity, & Clinical Management

Differentiators:



Research-focused



Not one-size-fits-all



Results oriented



Tenured resources



Nimble/flexible



Integrated with core consulting



Cross-practice collaboration



Embedded analytics structure

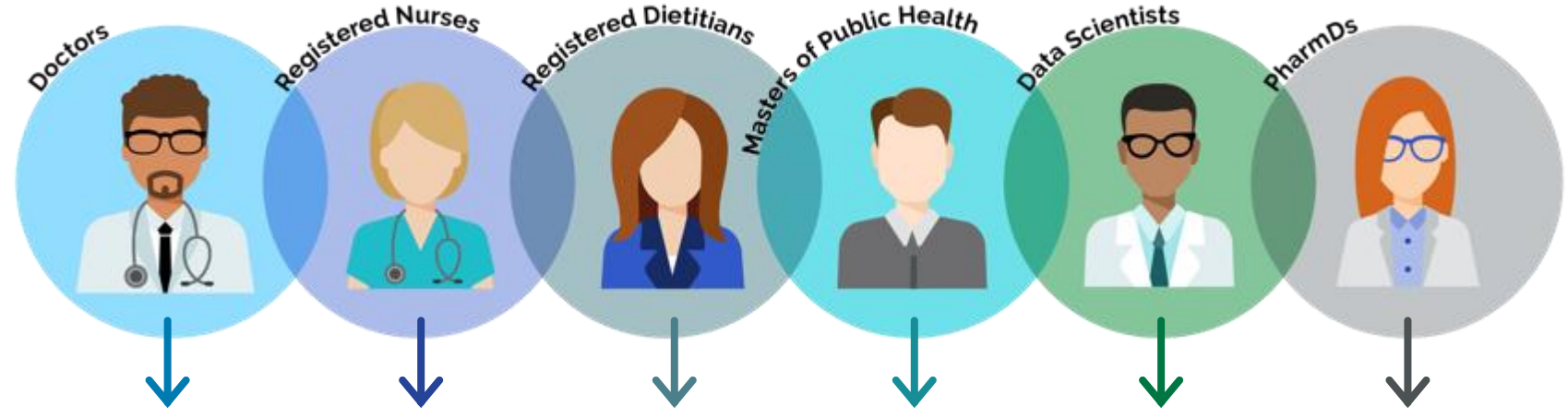


Moves strategy to execution



Multidisciplinary team

Alliant's Team:



Alliant Analytics: Actionable Insights Supporting Plan Management

Health & Productivity

- Comprehensive population health strategy development, implementations, and program outcome monitoring
- Compliance
- Point solution landscape + ongoing evaluations
- Benchmarking
- Employee engagement strategies
- Workplace policy

Clinical Consulting

- Utilization & Case management evaluations and strategic recommendations
- Integration, management & auditing of clinical programs
- Clinical policy reviews
- SPD reviews
- Compliance
- Onsite clinic solutions
- Site of Care optimization

Clinical Risk Consulting

- Proactive monitoring of group risk using proprietary Alliant tools, including risk forecasting
- Conduct research, review clinical notes, and prepare claims analysis to provide actionable recommendations for clients on high dollar claims
- Evaluation of cost containment programs/options for high dollar claims
- Educates on developments in medical and pharmaceutical industries that impact reinsurance



Alliant Sample Service Calendar

Task	Due Date	Status	Assigned To
Send Email Reminder Medicare Part D Certification / CMS Notification	1/18/2025	Completed	Administration
ACA Reporting (as needed)	2/3/2025	Completed	Strategy
Benefit Advocate Report	2/10/2025	Completed	Administration
Annual Calendar	2/10/2025	Completed	Strategy
Partnership Report	2/10/2025	Completed	Strategy
Rate Check and/or Billing Audit	2/18/2025	In Progress	Administration
Review & Deliver Policy Booklets/SPD	3/5/2025	In Progress	Administration
Deductible Accumulator Files and OOP credit (as needed)	3/5/2025	In Progress	Administration
Request Renewals	5/4/2025	In Progress	Administration
Determine Non-Discrimination Testing Needs for Pre-tax Accounts	5/4/2025	Not Started	Administration
RFP Data Collection	5/18/2025	Not Started	Administration
Renewal Calendar	5/18/2025	Not Started	Strategy
Strategy Report	5/18/2025	Not Started	Strategy
PCORI Reporting	6/2/2025	Not Started	Strategy

Task	Due Date	Status	Assigned To
RFP Document	6/2/2025	Not Started	Administration
Renewal Report	8/3/2025	Not Started	Strategy
Communications Strategy	8/3/2025	Not Started	Strategy
Finalize Employee Contributions	9/1/2025	Not Started	Strategy
Finalize Plan Designs	9/1/2025	Not Started	Strategy
Sold Renewal Decisions	9/16/2025	Not Started	Strategy
Enrollment Communications	9/17/2025	Not Started	Administration
Internal Notification of Sold Decisions	9/23/2025	Not Started	Strategy
New Carrier Implementations	10/1/2025	Not Started	Administration
Verify COBRA Rates & Update Vendor / OE	11/1/2025	Not Started	Administration
Delivery of Annual Notices and SBCs	11/1/2025	Not Started	Administration
Create/Submit Termination Letters	11/30/2025	Not Started	Administration
Follow up with Marketed Carriers	12/17/2025	Not Started	Strategy
Interactive Spread	3/16/2026	Not Started	Strategy
COBRA & DP Rates	4/27/2026	Not Started	Administration



How to you analyze/benchmark when managing various benefit programs?

Benchmark - Key Healthcare Comparators

Executive Summary Overview

Key findings and risk summary for the medical and pharmacy plans. (Summary for Reporting Period: 01/2021 through 09/2021)



ENROLLMENT



Based on the reporting period and filtered criteria, the average membership changed 1,705 or 20.63% over the prior period.

Current	Prior
9,972	8,267

[More Info](#)

MEDICAL



Based on the reporting period and filtered criteria, the medical spend changed \$15,871,387 or 22.16% over the prior period.

Current	Prior
\$87,480,620	\$71,609,233

[More Info](#)

PHARMACY



Based on the reporting period and filtered criteria, the pharmacy spend changed -\$703,356 or -3.04% over the prior period.

Current	Prior
\$22,400,144	\$23,103,500

[More Info](#)

TOTAL SPEND



Based on the reporting period and filtered criteria, the overall total spend changed \$15,168,030 or 16.01% over the prior period.

Current	Prior
\$109,880,764	\$94,712,734

[More Info](#)

Total Plan Spend Overview

A total cost analysis of the selected reporting period by member demographics, region and relationship.

Current Medical	Current Medical	Current Medical
EMPLOYEES	SPOUSES	CHILDREN
Prior Period Medical	Prior Period Medical	Prior Period Medical
\$59,717,461	\$27,974,821	\$22,188,482
\$53,194,536	\$24,983,043	\$16,535,155

56% 44% 27% 73% 51% 49%

% Male % Female % Male % Female % Male % Male

Generation Overview

An analysis of the selected reporting period by membership, region and generation distribution.

MEMBERSHIP DISTRIBUTION BY GENERATION (RANK HIGH-LOW)	AVERAGE RUB AND RISK SCORE BY GENERATION
MILLENNIALS: 2,637	SILENT GEN: 0.88
GEN X: 1,991	BABY BOOMERS: 0.93
BOOMERS: 1,783	GEN X: 0.88
GEN Z: 1,523	XENIALS: 0.92
XENIALS: 1,058	MILLENNIALS: 0.94
GEN ALPHA: 962	GEN Z: 0.94
SILENT GEN: 17	GEN ALPHA: 0.97

Medical Plan Key Performance Indicators (KPIs)

Key findings and risk summary for the medical plan. (Summary for Reporting Period: 01/2021 through 09/2021)

Administrative	Medical	Pharmacy	Other
9,972	8,267	\$87,480,620	\$71,609,233
\$22,400,144	\$23,103,500	\$109,880,764	\$94,712,734

Service Plan and Claim Cost Summary

An assessment of per claim / claimant costs by procedure / HCPCS codes, service place and major condition categories.

UNIT COST SUMMARY (AVERAGE CLAIM / CLAIMANT COSTS)	TOP SERVICE PLACES / LOCATION BY MEDICAL SPEND
\$313.12	Inpatient / Residential Facility: \$31,677,260
\$323.54	Outpatient / Non-Residential Facility: \$29,391,759
\$3,563	Provider Office / Clinic: \$14,822,080
\$3,202	Tenure/Health / Other: \$5,009,386

STATE-BASED SUMMARY UTILIZATION ANALYSIS BY PROCEDURE CODE

The table and map provides a detailed summary for all procedure codes paid by the health plan. Use the search box to the right to get average claim costs or average costs per claimant for a specific CPT/HCPCS code.

State Summary	Members	Medical Spend	Avg RUB	CRS	PRI
9,972	279,380	\$109,880,764	1.57	1.01	1.01

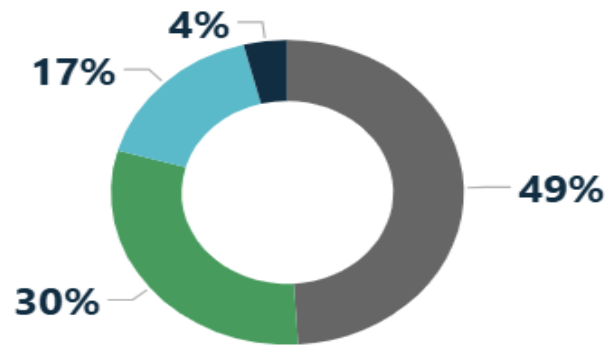
Workforce Analysis



Evaluate the current workforce dynamics

Generations - All Departments

● (29 - 44) Millennials ● (45 - 60) Gen X ● (18 - 28) Gen Z ● (61 - 79) Boomers



826

Enrolled

Enrollment

● PPO ● HDHP



40

Avg Age

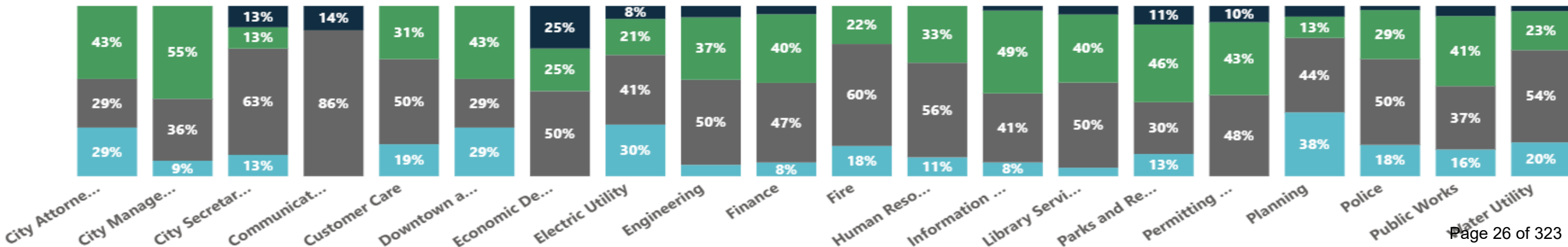
Gender

● Male ● Female



Generational Breakdown

● (18 - 28) Gen Z ● (29 - 44) Millennials ● (45 - 60) Gen X ● (61 - 79) Boomers





Evaluate Departments

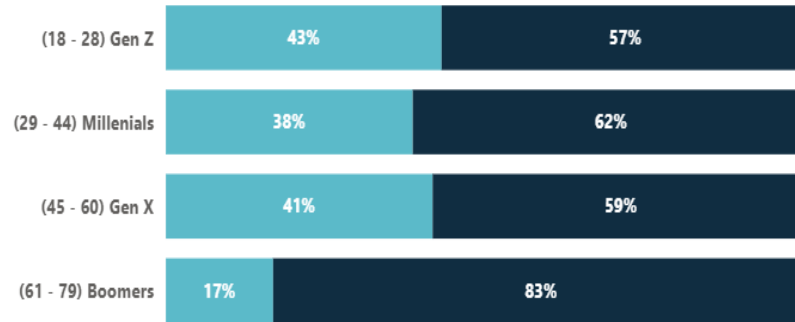
Drive engagement by digging into specific population trends



Utilities

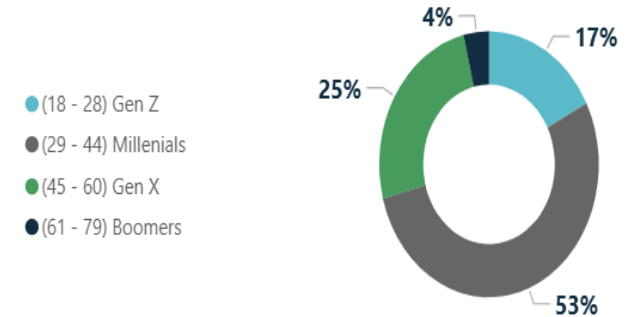
Medical Enrollment - Plan

● HDHP ● PPO



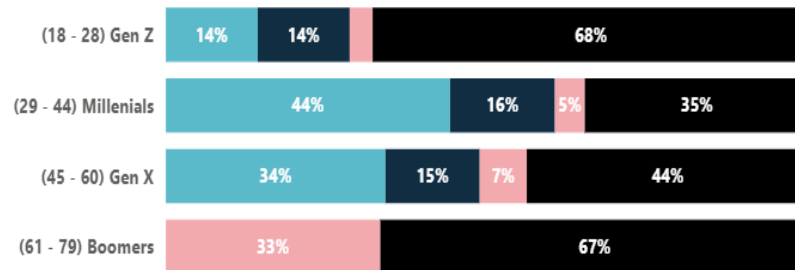
161 **39** **6** **\$70,762**
Enrolled **Avg Age** **Avg Tenure** **Median Income**

Generational Breakdown



Medical Enrollment - Tier

● Employee + Child(ren) ● Employee + Family ● Employee + Spouse ● Employee Only



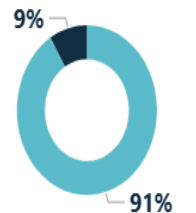
Enrollment

● PPO ● HDHP



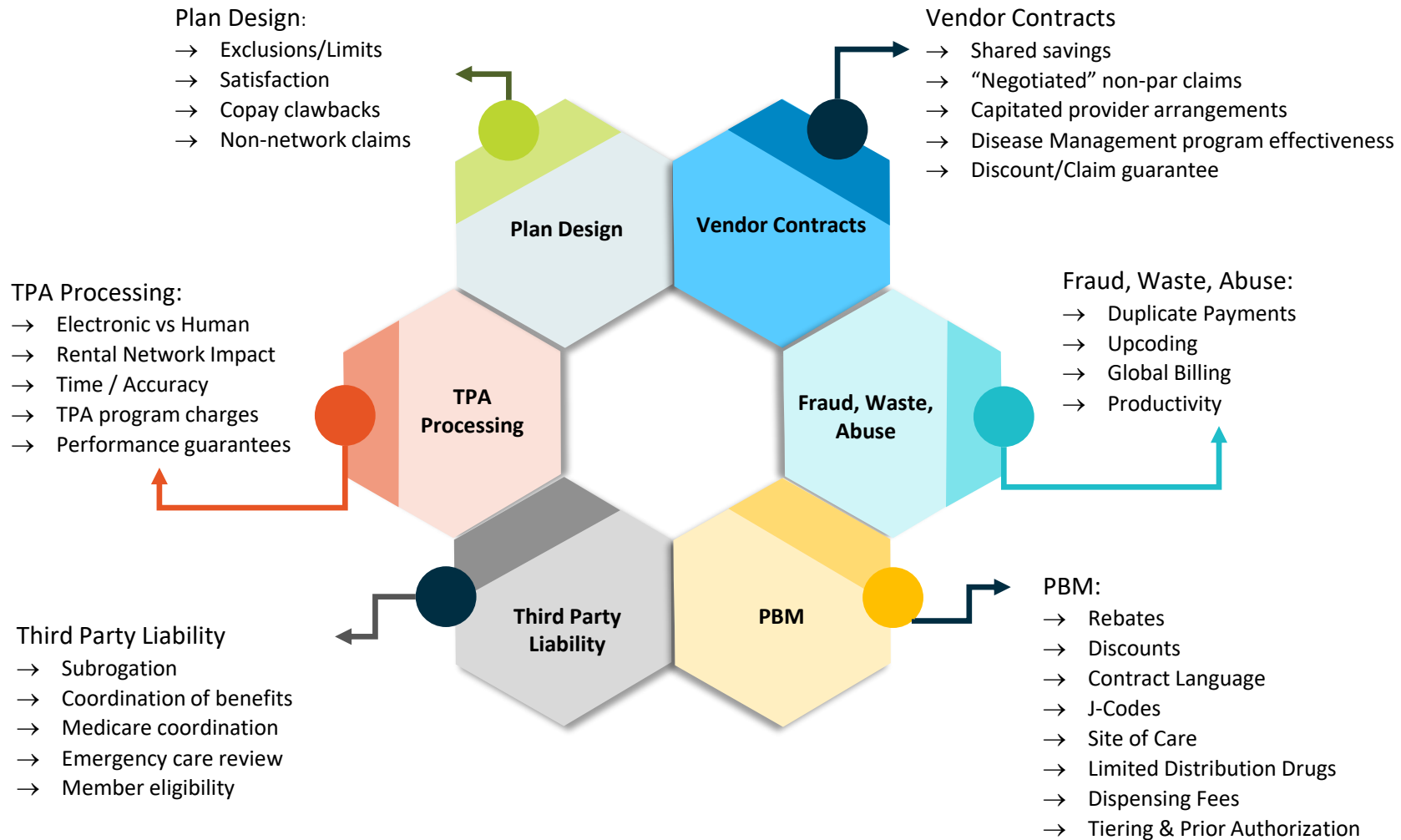
Gender

● Male ● Female





Medical TPA & PBM Contract Audit



Our team will manage
the end-to-end
process to uncover
every potential
opportunity for
savings.

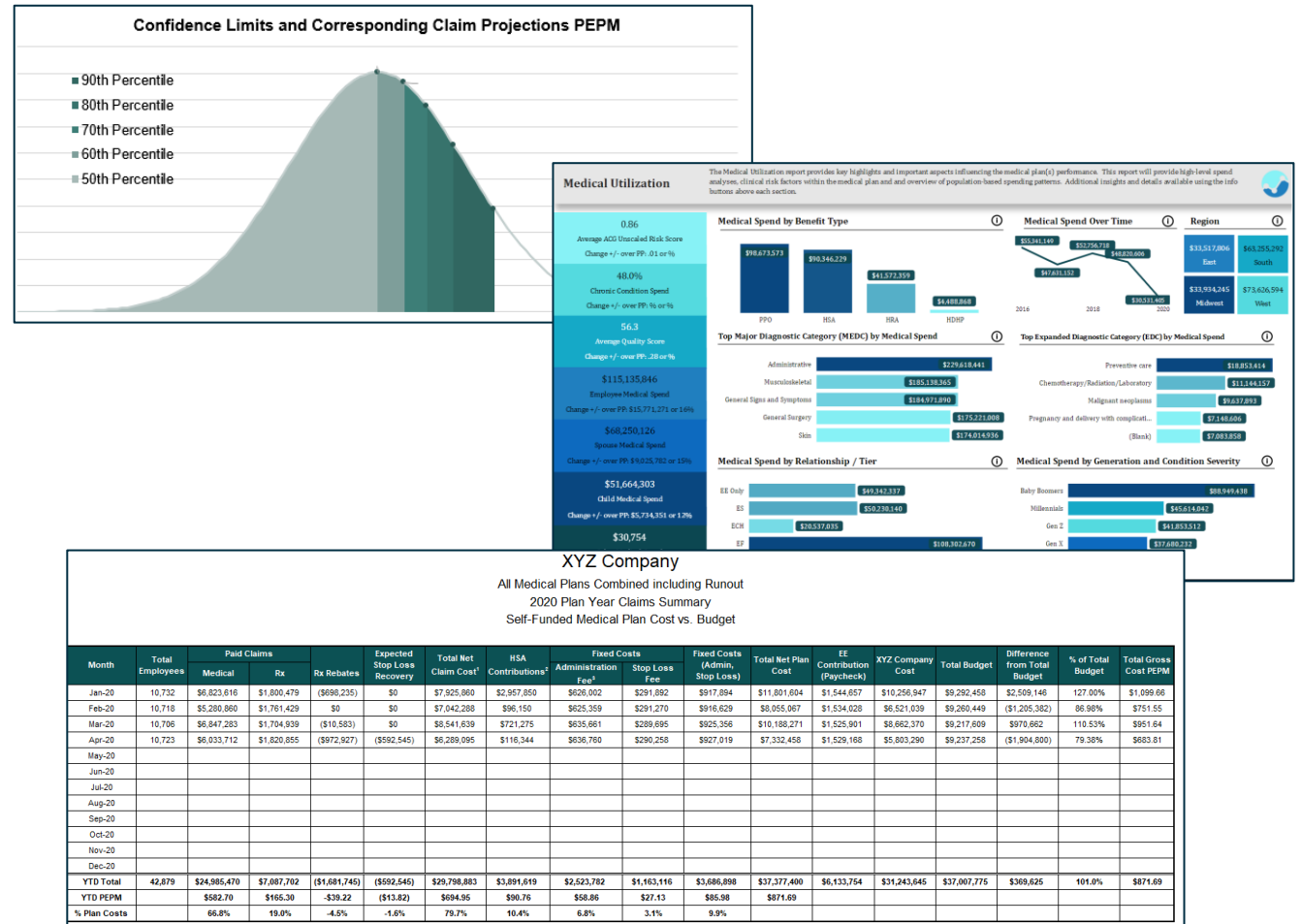


How do you manage benefit renewals? How do you determine if a renewal is necessary?



Underwriting & Actuarial Services

- Underwriting
 - Preliminary, final, & reforecasting
- Migration / Contribution strategic analysis
- IBNR including actuarial attestation
- Actuarial plan value review
- Plan design change analysis
- Creditable Coverage attestation
- Modeling the impact of future health care regulation changes
- Monthly loss ratio (budget) reporting
- Alliant Analytics
 - Data warehouse for ad-hoc analysis
 - Alliant Interactive Analytics





Large Claimant COE

Analytics truly makes the
difference



A Stronger Approach:

- Nurses, clinicians, data analysts and actuaries
- latest technology and predictive analytics to identify large and complex claims trends and risks
- Control both quality and costs associated with high-risk care
- Engage all relevant entities in cost containment opportunities: Administrator, PBM, stop-loss carrier, treating/prescribing physicians
- Shop the Full Market every year
- No New Laser and Rate Cap Provisions
- Clinical Team negotiates with reinsurance underwriters

From data to advocacy



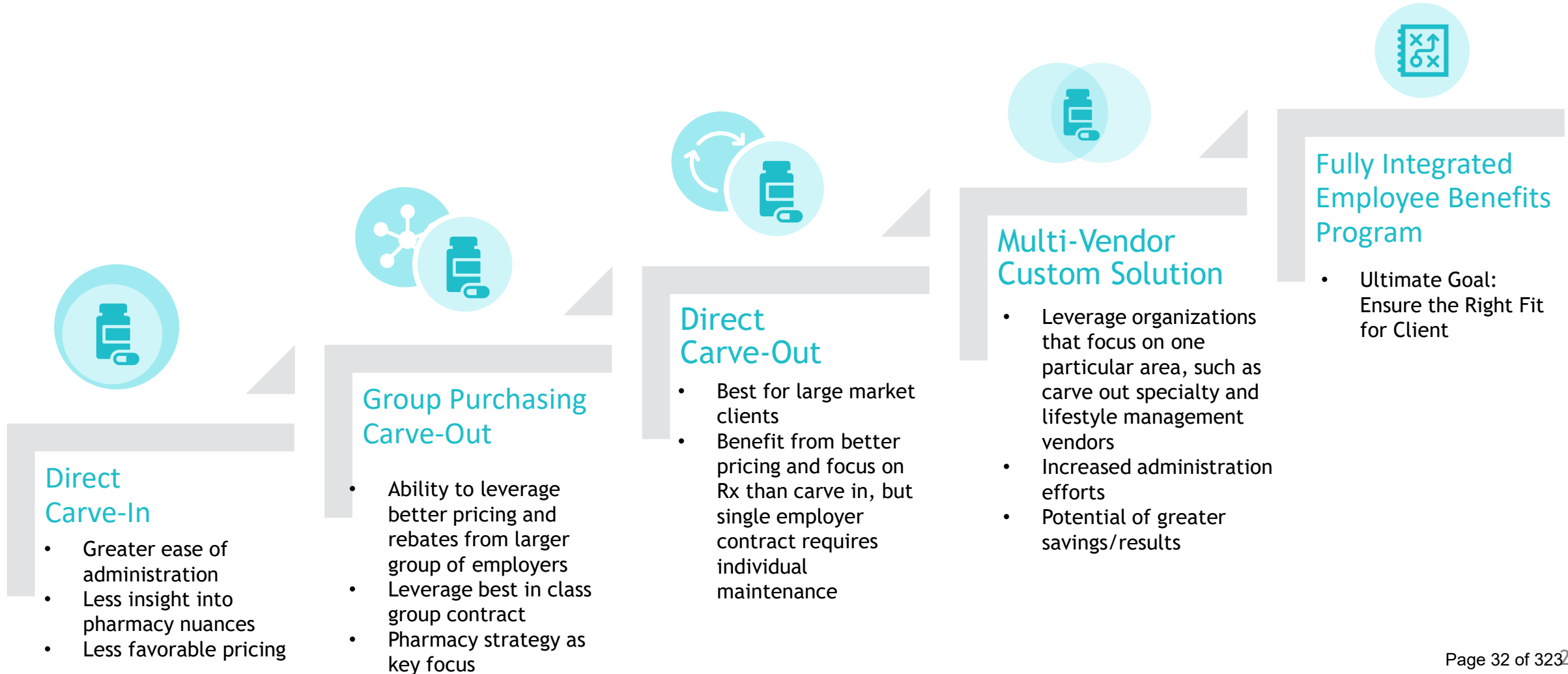
Two medical participants needed a cancer drug, projected to cost \$1 million a year. Alliant was tasked with uncovering cost containment opportunities.

Our clinical practitioners and actuaries worked with both patients and their providers to negotiate alternatives without sacrificing care.

One patient transferred to a site of care program, effectively reducing the cost of the same drug by 75%, while the other patient switched to a similar therapy that cost 10% of the original drug.



PBM Procurement





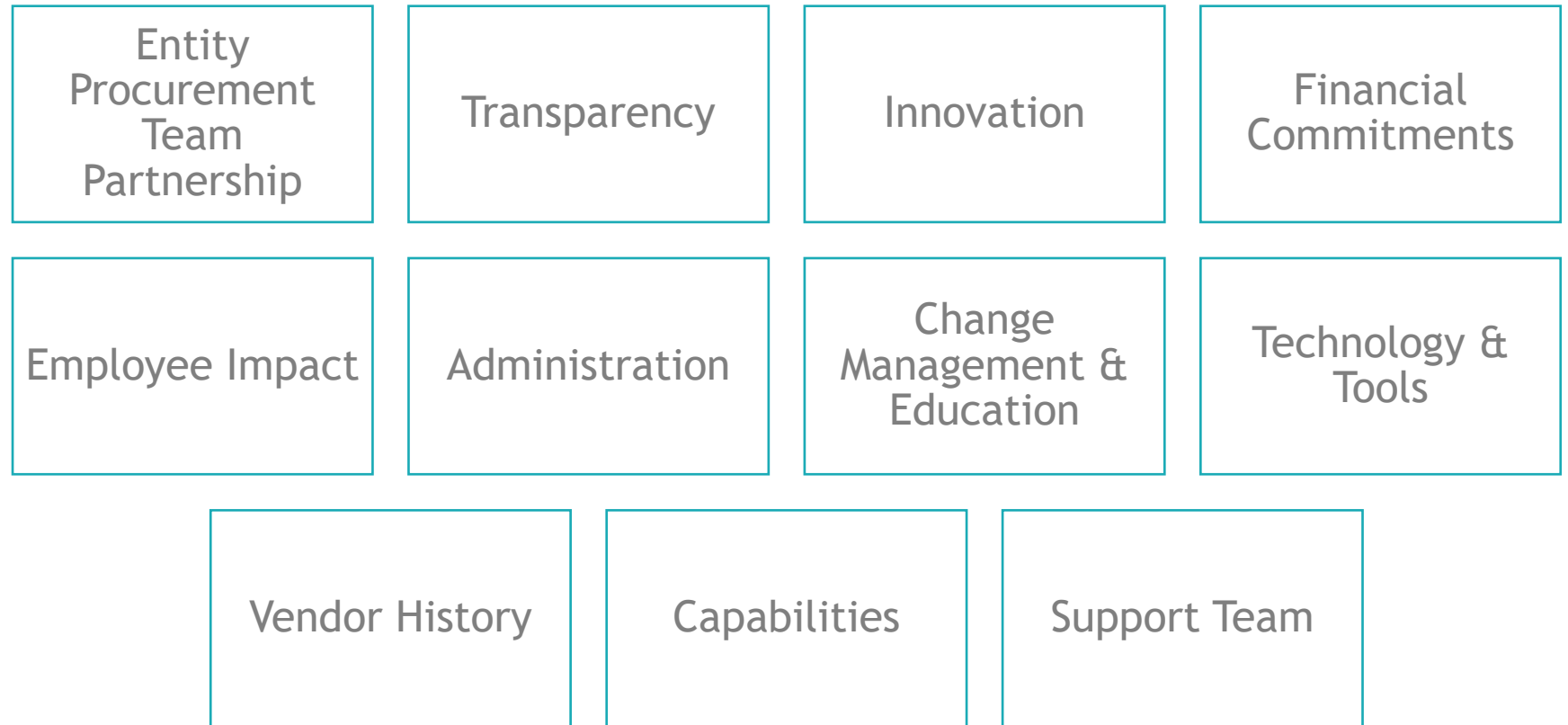
Procurement Process

Never stagnant

Regularly review marketplace solutions

Team has done 100's of Public Agency RFPs over the last 10 years

Core Procurement Tenants





Self-Insured County Government

A large US county made up of 350,000 residents and an annual budget of ~\$200M. The county employs ~4,000 employees and had traditionally participated in a large risk pool for benefits. Alliant was brought in to evaluate the potential of setting up a stand-alone self-insured medical plan and improving their non-medical benefit offering. After all due diligence was performed the county successfully eliminated \$14M of unnecessary expense and has successfully transitioned to a new benefit program for their employees.

- Medical & Rx - ASO
- Transitioned to new ben admin system
- Full procurement
- New communication strategy

14,000,000
Projected Savings

4,000
Employees

Consultant
Role

2021
Relationship

ASO
Medical Plan

County
Sector

Alliant Support

Strategy

- Consulted on all benefit programs
- Compliance
- Onsite clinic evaluation
- New employee engagement strategy

Team

- 2 Public Sector Consultants / SVP
- 2 actuarial/ financial consultants
- Benefit Service Center
- 2 Account managers
- Compliance attorney
- Clinical PBM consultant

Administration

- Benefit call center added
- Communication
- Implementation
- Benchmarking

Overview

- \$19M of savings
- Significantly enhance ASO and RX contract
- Large increase to HR employee engagement resources



How do you proactively educate clients, keeping them informed about current trends and legislation?

Vendor Market

The health and welfare vendor landscape is becoming increasingly more difficult to navigate

Alliant will simplify it

Team has done 100's of Public Agency RFPs over the last 10 years

Health Plan Management & Member Support		Population Health & Well-Being	
Mental Health		Condition Management	
Centers of Excellence / Surgical Bundles		Narrow Network	Total Rewards
2nd Opinion	Virtual Care	Family Planning/Pregnancy	
Concierge/Navigation / Advocacy / Transparency			

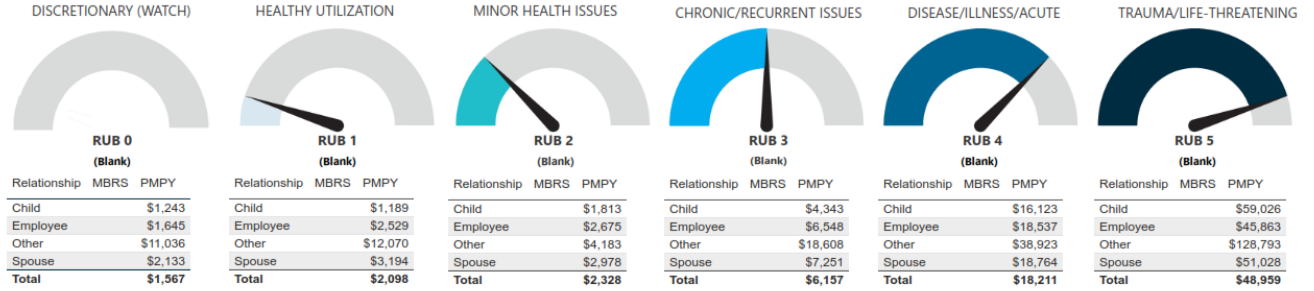


Alliant Analytics Tools

Identify and close program gaps

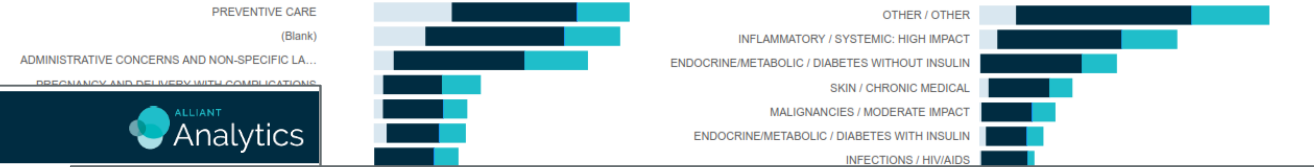
Resource Utilization Bands (RUBs) Assessment

An assessment of existing medical/rx plan spend and the population's future health care needs in the next 12-months.



TOP EDCs BY RESOURCE UTILIZATION BAND AND SPEND

TOP Rx-MGs BY RESOURCE UTILIZATION BAND AND PMPY



Medical Claims by Major Expanded Diagnostic Cluster (MEDC) and Risk Score

An overview of medical plan spend by major diagnostic category and correlated risk scores.

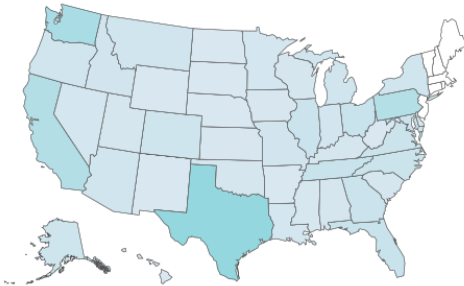
TOP 5 MAJOR DIAGNOSTIC CATEGORIES BY MEDICAL SPEND

ADMINISTRATIVE	MUSCULOSKELE...	CARDIOVASCULAR	MALIGNANCIES	GENERAL SURGERY
\$554,150,085	\$509,095,532	\$343,370,773	\$325,697,936	\$313,164,929

STATE and CBSA-BASED SUMMARY UTILIZATION ANALYSIS

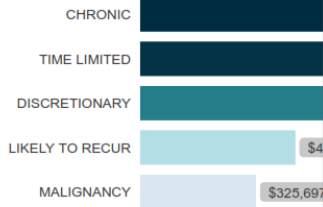
The tables and map provide a detailed summary of medical spend by state and core-based statistical area. Use the search box to the right to search by major metropolitan area (i.e., Atlanta, Chicago, San Francisco, New York, etc.) to get summary medical spend information by region.

Search by specific CBSA



State / CBSA Summary	
532,969 Members	\$4,342,919,526 Medical Spend
\$8,149 PCPY	PCPY Prior
Low	Moderate
	High

TOP AGGREGATED DIAGNOSTIC CLU...



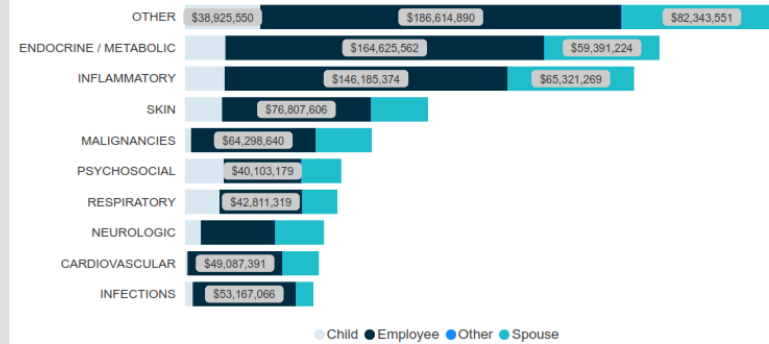
TOP MEDICAL SPEND BY CBSA /

CBSA	Medical Spend
NATIONAL	
HOUSTON METRO AREA	
SEATTLE METRO AREA	
SOUTHCENTRAL PA AREA	
DALLAS METRO AREA	
CHICAGO METRO AREA	
EASTERN VA REGIONAL AREA	
BALTIMORE METRO AREA	
ATLANTA METRO AREA	
LOS ANGELES METRO AREA	
SAN FRANCISCO METRO AREA (BAY AREA)	
DENVER METRO AREA	
GREATER PHOENIX AREA	
ANCHORAGE REGIONAL AREA	
NEW YORK CITY METRO AREA	
Total	\$325,697,936

Pharmacy Plan Key Performance Indicators (KPIs)

Key findings and risk summary for the pharmacy plan.

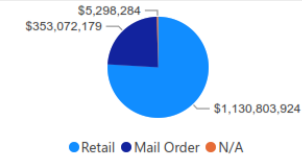
TOP MAJOR PHARMACY MORBIDITY GROUPS (MRx-MG) BY RELATIONSHIP



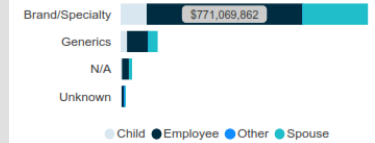
PHARMACY SPAN METRICS

1.14 Avg MPR	1.73 Avg CSA	1.52 CSA-MPR Ratio
4.29 Avg # of Day Gaps	23.77 Avg GPD Allowed	3.33 Avg Days > GP

PLAN SPEND BY DISPENSING LOCATION



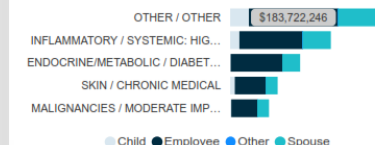
PLAN SPEND BY DRUG TYPE



AVG SCRIPT COST / COUNT BY RELATIONSHIP



TOP 5 Rx-MGs BY RELATIONSHIP



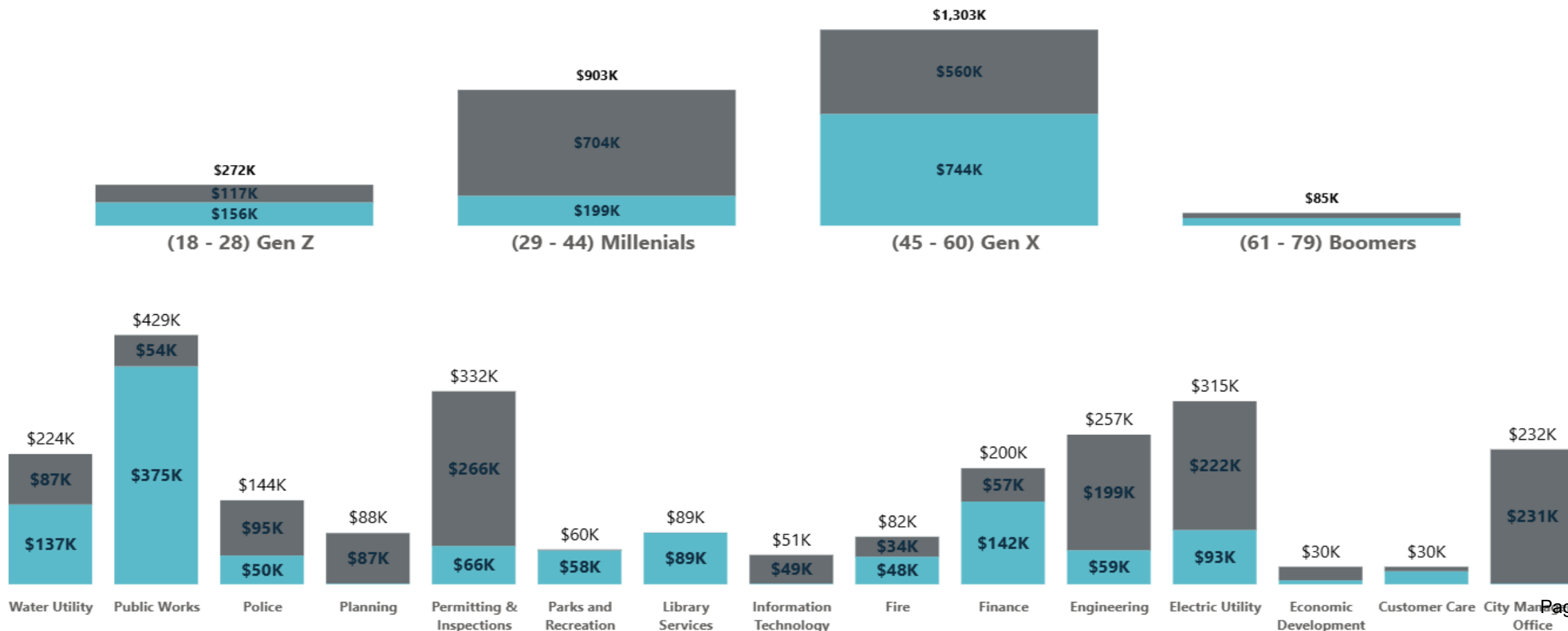


Identify High-Cost Trends

Analyze High-Cost Spend by demographics, engagement, and department conditions

Large Claimants (\$25K+)

● Medical ● RX





Provide Opportunities



Vendor Contract Review

- Identify carrier profit centers running through current weekly claim wire.
- Carriers investing heavily into the healthcare provider space
- Large increase in misaligned contract provisions for self-insured
- Massive influx of new point solution vendors
- General inflation has put pressure on the stop loss marketplace
- Self-insured network profits are largely unregulated compared to fully insured and Medicare contracts



PBM Evaluation

- Biosimilar strategy specific to drugs like Stelara.
- Rebate Guarantees vs actual rebate performance
 - 200+ new specialty drugs in the pipeline
 - Up to 100 cell and gene therapies expected in the market by 2025
 - Explosion of GLP-1 utilization
- 3 PBMs now control 80% of the prescriptions in the US
- Formulary Change Impacts for 2026
- Employers Health cost containment programs.



High- Cost Claimants

- Frequency of million dollar+ claims were up 31% since 2017.
- Members with claims over \$3M+ has increased by 130% since 2017.
- Deep Dive on large claimant providers and sites of care.
- Re-Insurance Marketing Opportunities through Alliant Center of Excellence
- Alliant Clinical Team review of current large claimants with expected cost projection.
- Benchmark large claimant prevalence and current stop loss deductible against Alliant Benchmarks



High Performance Networks

- New Provider/Carrier transparency regulations (MRFs)
- Evaluate High-Cost Provider Influx
- Adjust Steerage Components within the plan components.
- Evaluate accountable care models
- Compare fee-for-service model against capitated arrangements that exist within your current ASO contract.

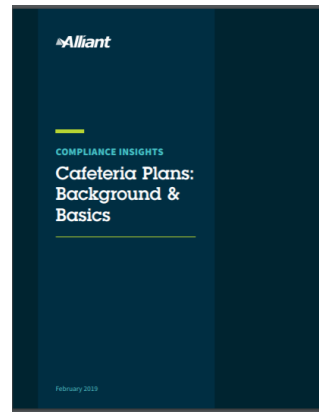


Proactive Compliance Communication

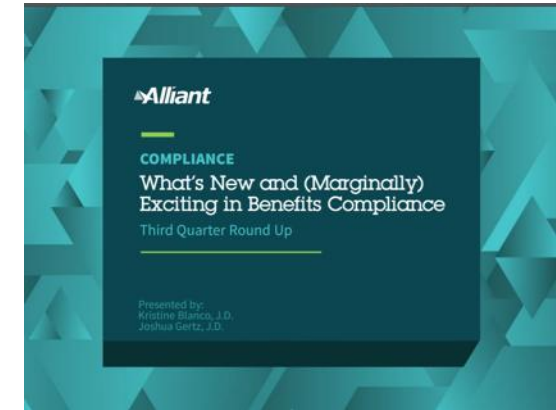
Monthly Podcasts



Complex Subject Whitepapers



Webinars/Trainings



Timely Alerts & Updates

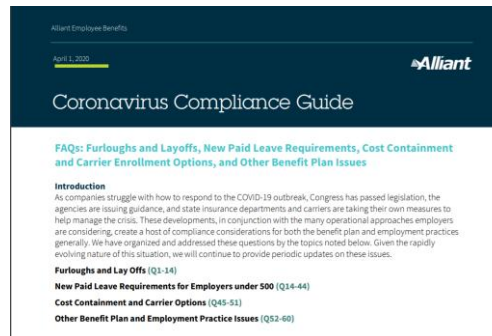


Government Funding Bill Repeals Cadillac Tax and Insurers' Fee but Extends PCORI 10-Years

Introduction
On December 20, 2019, President Trump will sign the Further Consolidated Appropriations Act of 2020 (HR 1865), a funding bill covering the remainder of the 2020 fiscal year. The Act includes a complete and permanent repeal of the Affordable Care Act's (ACA) "Cadillac Tax," the Insurers' Fee, and the medical device manufacturers' tax. It also includes a 10-year extension of the Patient-Centered Outreach Research Institute (PCORI) fee.

Significant Repeals
The Cadillac Tax imposed a 40% excise tax on health plan coverage with values that exceeded certain thresholds: \$10,200/\$27,500 for self-only and family coverage, respectively. It was originally scheduled to take effect in 2018, but in late 2015 was delayed until 2020 and in early 2018 it was delayed again until 2022. The Cadillac Tax was intended to address excessively "rich" plans but given the rate of medical inflation it had become commonly understood to impact more modest plan designs. The Tax was almost uniformly unpopular, the target of significant lobbying, and faced bipartisan opposition. The repeal of the Cadillac Tax

Custom Resources

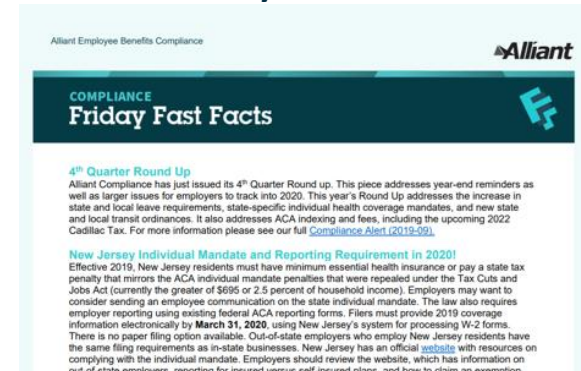


FAQs: Furloughs and Layoffs, New Paid Leave Requirements, Cost Containment and Carrier Enrollment Options, and Other Benefit Plan Issues

Introduction
As companies struggle with how to respond to the COVID-19 outbreak, Congress has passed legislation, the agencies are issuing guidance, and state insurance departments and carriers are taking their own measures to help manage the crisis. These developments, in conjunction with the many operational approaches employers are considering, create a host of compliance considerations for both the benefit plan and employment practices generally. We have organized and addressed these questions by the topics noted below. Given the rapidly evolving nature of this situation, we will continue to provide periodic updates on these issues.

- Furloughs and Lay Offs** (Q1-14)
- New Paid Leave Requirements for Employers under 500** (Q14-44)
- Cost Containment and Carrier Options** (Q45-51)
- Other Benefit Plan and Employment Practice Issues** (Q52-60)

Weekly Newsletter



COMPLIANCE Friday Fast Facts

4th Quarter Round Up
Alliant Compliance has just issued its 4th Quarter Round up. This piece addresses year-end reminders as well as larger issues for employers to track into 2020. This year's Round Up addresses the increase in state and local leave requirements, state-specific individual health coverage mandates, and new state and local transit ordinances. It also addresses ACA indexing and fees, including the upcoming 2022 Cadillac Tax. For more information please see our full [Compliance Alert \(2019-09\)](#).

New Jersey Individual Mandate and Reporting Requirement in 2020!
Effective 2019, New Jersey residents must have minimum essential health insurance or pay a state tax penalty that mirrors the ACA individual mandate penalties that were repealed under the Tax Cuts and Jobs Act (currently the greater of \$696 or 2.5 percent of household income). Employers may want to consider sending an employee communication on the state individual mandate. The law also requires employer reporting using existing federal ACA reporting forms. Filers must provide 2019 coverage information electronically by **March 31, 2020**, using New Jersey's system for processing W-2 forms. There is no paper filing option available. Out-of-state employers who employ New Jersey residents have the same filing requirements as in-state businesses. New Jersey has an official [website](#) with resources on complying with the individual mandate. Employers should review the website, which has information on out-of-state employers, reporting for insured versus self-insured plans, and how to claim an exemption.



HR Workplace Services

Founded in 2009, staffed by an Alliant-dedicated team with 20+ years of HR and related industry experience



- ▶ FMLA Form Requests
- ▶ Wage and Hour issues
- ▶ Dress Code Policies
- ▶ Harassment Investigations
- ▶ ACA
- ▶ SPD Wrap Documents
- ▶ Military Leave
- ▶ Teen Labor
- ▶ Disabilities/Leave Issues
- ▶ Employee Harassment
- ▶ Employee Files
- ▶ Questions on HSA/HRA
- ▶ COBRA
- ▶ MLR Rebates
- ▶ Performance Evaluations
- ▶ Medicare/ Medicaid
- ▶ Substance Abuse Testing
- ▶ ACA Fees and Taxes
- ▶ Employee Handbook



- ▶ Return to Work
- ▶ Tuition Reimbursement
- ▶ HIPAA
- ▶ ESRP Letters
- ▶ COVID Policies
- ▶ State Regulations
- ▶ Employee Compensation
- ▶ Employee Onboarding
- ▶ Terminations
- ▶ Federal Contractor Responsibilities
- ▶ Form I-9
- ▶ County & Municipal Regulations
- ▶ EEOC Complaints & Investigations
- ▶ FMLA Policies
- ▶ Interview Strategies
- ▶ Company Downsizing
- ▶ Immigration Inquiries
- ▶ Non - Discrimination
- ▶ OSHA Log



How do you manage employee claims escalation?

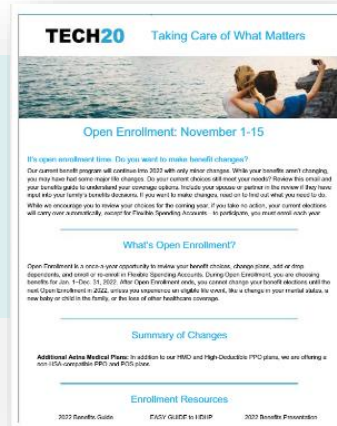
It All Starts With Communication



Open Enrollment Kickoff Video



Open Enrollment Email(s)



Benefits Summary Booklet FlippingBook



Recorded Benefits Presentation Brainshark



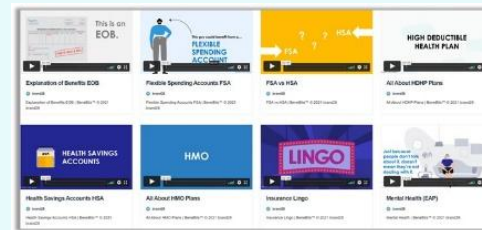
Medical Plan Comparison

Plan	Deductible	Copay	Out-of-Pocket	Other Info	Changes	Self and Spouse	Spouse Only	Dependent Only	Dependent Only
Health Plan	\$1,000	\$20	\$5,000	...	...	...	...	...	...
Health Plan	\$1,000	\$20	\$5,000	...	...	...	...	...	...

Virtual Health Fair



Educational Videos



MyBenefits.Life





Benefit Advocates Services

Expert Support When It Matters Most

- Advocate for your employees and help them navigate their benefits
- Resolve many issues often placed on your HR benefits team
- Get the answers your employees (and their families) need, quickly and efficiently
- Available by phone and email
- Interpretation service supports 125 languages
- HIPAA compliant tracking system
- Identify trends with carriers, higher volume issues, utilization reporting and benchmarking





Individual Support

Concierge services from trusted advisors with premier service for your employees and reduced risk and cost for your organization

Medicare

- Medicare enrollment assistance from licensed agents in all 50 states
- Needs analysis and best fit coverage
- Unbiased support and follow-through
- Open to employees, dependents, friends & family

ACA

- ACA Family Glitch
- ACA enrollment assistance from licensed agents in all 50 states
- Needs analysis and best fit coverage
- Unbiased support and follow-through
- Open to employees, dependents, friends & family





Drill Down on Engagement Driven Claim Issues



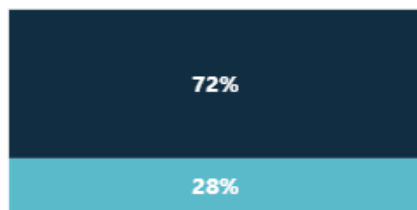
Completion

● Yes ● No

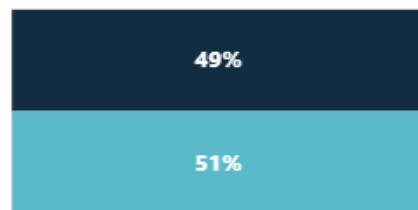


Wellness Completion

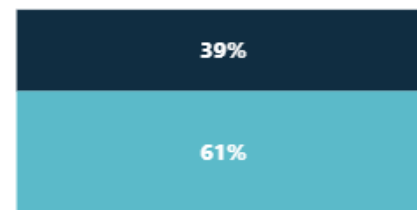
● Yes ● No



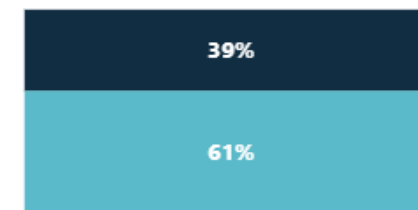
(18 - 28) Gen Z



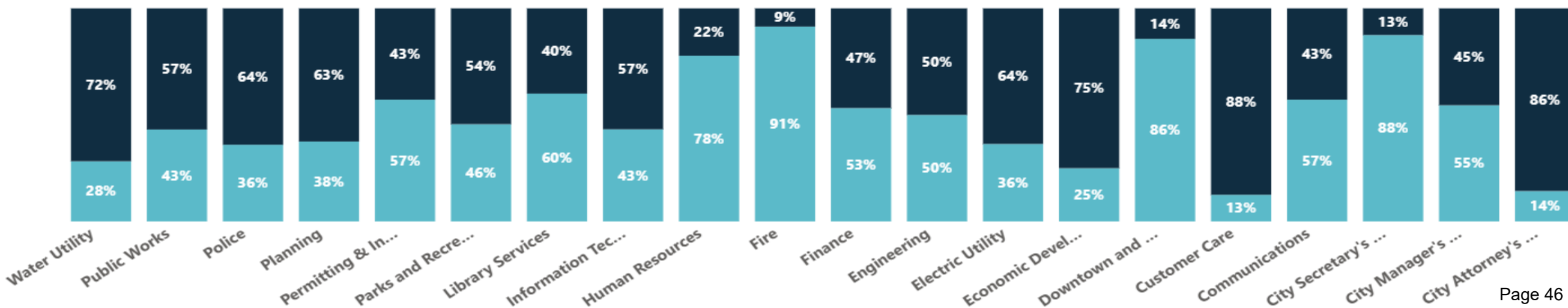
(29 - 44) Millennials



(45 - 60) Gen X



(61 - 79) Boomers



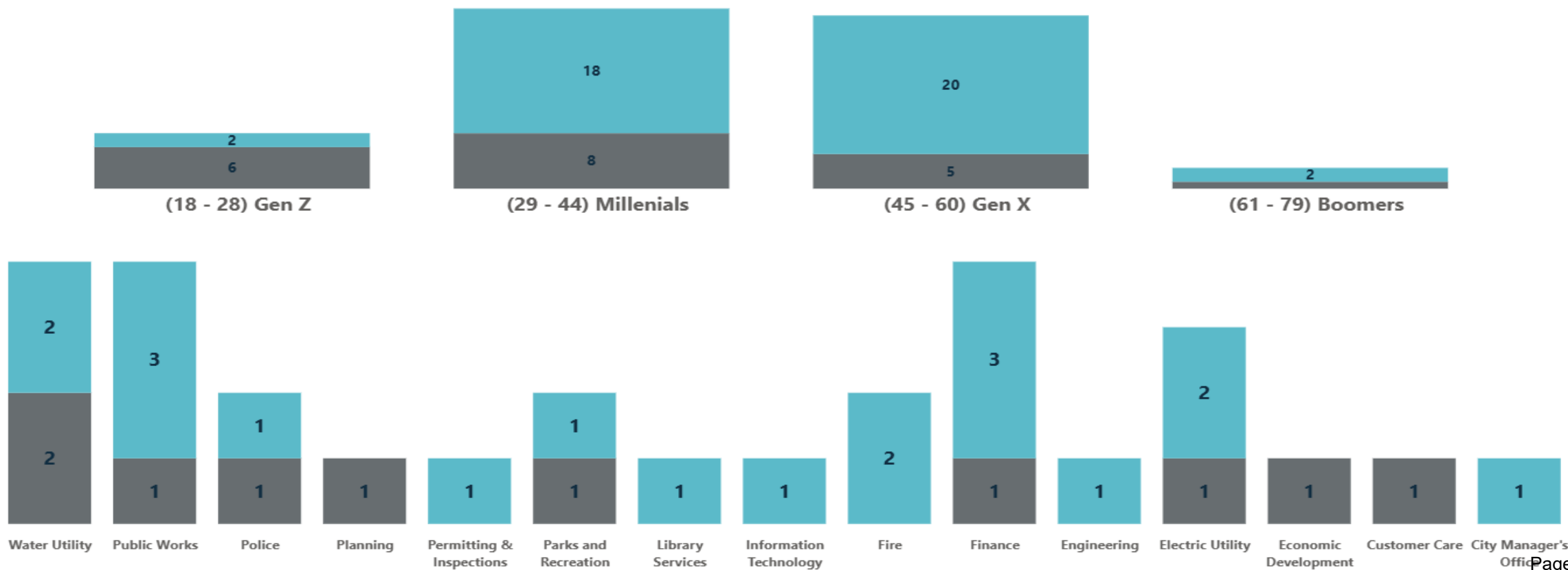


Support Members In Their Time of Need

Ensure wellness & disease management programs reach members that need it most!

Large Claimants (\$25K+)

Wellness Credit ● No ● Yes



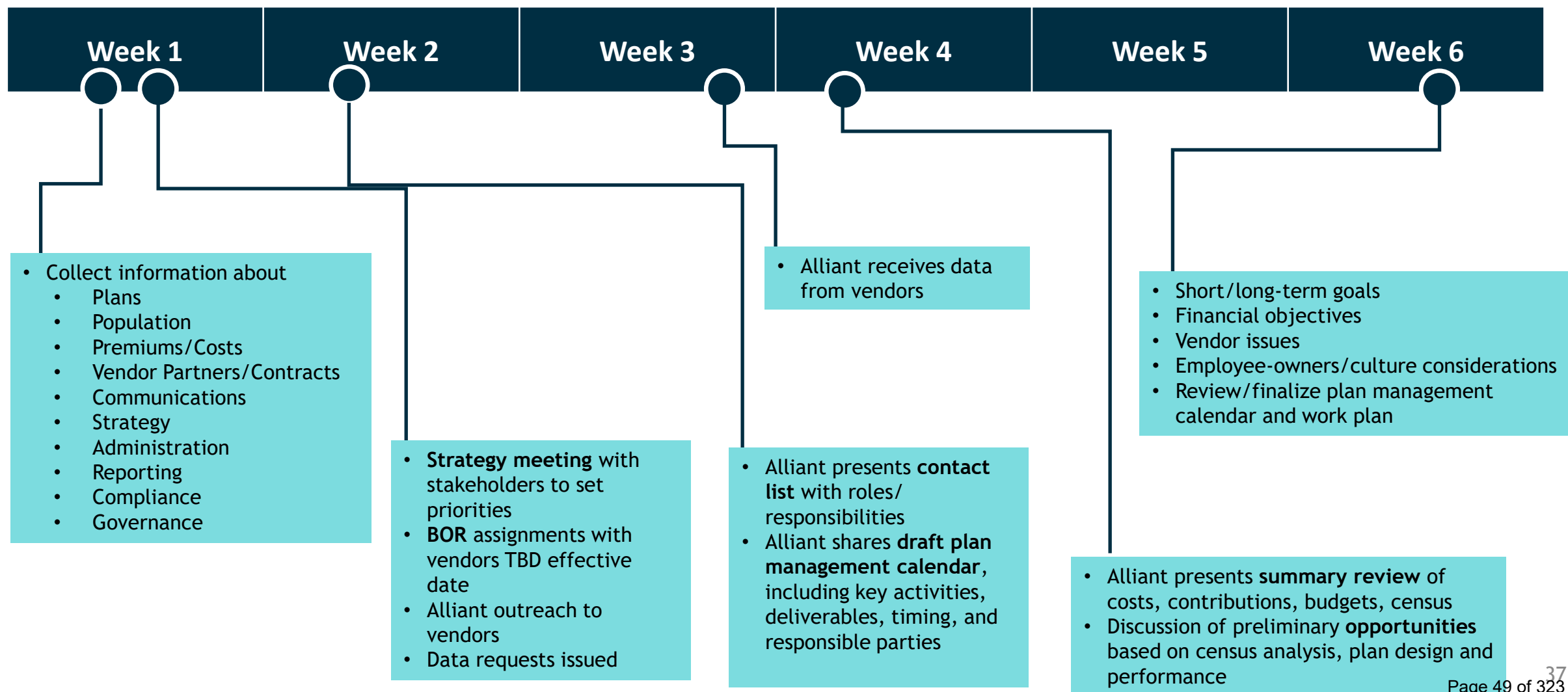


If selected, what would the transition look like and how would you overcome potential roadblocks?



Transition Plan

We use a disciplined process to get up and running with you quickly and efficiently.





Self-Insured Municipality

This client is a municipality with 800 employees. Through our partnership the city has accomplished many great things through their employee benefits offering. Our role as the city’s consulting partner was to set the strategic direction for all benefit programs while aiding in the selection, management, and implementation of benefit vendors. Our team has supported the city as we work through the strategies implemented, there were strong outcomes related to employee engagement, cost savings, and reduction in administrative issues. The group has extensive wellness needs and issues with engagement that they were seeing through their wellness program. As a result, the Alliant health & productivity team worked with the benefits leaders to redesign their wellness offering. Through sunsetting ineffective solutions and adding new relevant programs the city saw a dramatic increase in their wellness engagement.

- Point solution ROI analysis
- Wellness fair strategy
- Benefit counselors worked within current system
- Employee communications revamp

Support Provided

Consulting

- Consulted on all benefit programs
- Compliance
- Onsite clinic evaluation
- New employee engagement strategy
- Benchmarking
- RFP support

Provided Resources

- One-on-one enrollment counselors
- Employee benefit guide
- Benefit microsite
- Customized educational benefit videos
- Health Fair support
- Wellness program redesign
- Vendor ROI tracking

Administration

- Benefit call center added
- Upgraded benefit administration system
- Implementation project management

Overview

- Full outsourcing of benefit education/enrollment
- Improvement to vendor contracts and service
- Increased employee engagement

Consultant
Role

800
Employees

Self-Insured
Funding

Municipality
Sector



Explain in greater detail the method or process in place to gauge client satisfaction.

Describe our rights to terminate a contract with you. Is there a minimum contract period?



Alliant's Commitment to City of Nacogdoches



BENEFITS STRATEGY

- ✓ Set overall goals and objectives
- ✓ Evaluate market trends
- ✓ Development, refinement and benchmarking
- ✓ Compliance
- ✓ Provide HR support
- ✓ Evaluate funding and risk retention strategies



COMPLIANCE

- ✓ Legislative updates
- ✓ Provide annual compliance calendar
- ✓ Vendor, plan and audits
- ✓ Seminars
- ✓ Ad-hoc Inquiries



VENDOR MANAGEMENT & PROCUREMENT

- ✓ Regular monitoring and establishment of vendor partners
- ✓ Full procurement services
- ✓ Negotiations
- ✓ Program management, metrics and PGs



PHARMACY STRATEGY & MANAGEMENT

- ✓ Contract, pricing and clinical review
- ✓ Plan and financial audits
- ✓ Specialty (Rx and medical) analysis and strategy
- ✓ Access to group purchasing



5 YEAR STRATEGY

- ✓ Strategy development, benchmarking and cost modeling
- ✓ Regular assessment and tracking
- ✓ Ability to pivot based on changes in member utilization or need



ACTUARIAL, ANALYTICS & REPORTING

- ✓ Prepare pre-renewal analysis
- ✓ Contribution modeling
- ✓ Present price and plan design alternatives
- ✓ Negotiate annual renewals with vendors



VOLUNTARY BENEFITS

- ✓ Industry products/trends
- ✓ Target gaps
- ✓ Customized strategy
- ✓ Marketing
- ✓ Employee education



HEALTH & PRODUCTIVITY

- ✓ Conduct assessment of any current programs to evaluate effectiveness, identify new strategic opportunities, and make recommendations
- ✓ Develop wellbeing strategy, including incentive design



COMMUNICATIONS & EMPLOYEE ENGAGEMENT

- ✓ Ongoing communication strategy and development
- ✓ Empowering employees through education
- ✓ Assist with benefit guides
- ✓ Benefit Advocates



Thank You!



PRESENTER: Case Opperman, Director of Public Works

ITEM/SUBJECT: Consider approval of a contract by and between the City of Nacogdoches and RAD Civil Services for Raguet Street Sanitary Sewer Improvements (CIP Project WW-26-204) in the amount of \$658,553.20. (Director of Public Works/City Engineer)

SUMMARY/BACKGROUND:

City staff have identified a section of failing 8-inch sewer main on Raguet Street which is in need of replacement. The failing section is approximately 2,220 feet long between Burrows Street and Lakewood Street and will be replaced with a new 12-inch sanitary sewer line using an open-cut method within Raguet Street. On May 11, the City received bids for the Raguet Street Sanitary Sewer Improvements Project. Six (6) contractors submitted bids as follows:

<i>RAD Civil Services</i>	<i>\$ 658,553.20</i>
W.M. Miller Construction	\$ 679,682.81
McKinney & Moore of Texas	\$ 695,044.77
Duplichain Contractors	\$ 773,440.00
Experts Underground Solutions	\$ 797,999.20
Horton Excavating	\$ 844,916.00

RAD Civil Services was found to be the lowest bidder. They are a Tyler-based contractor who has not previously worked for the City of Nacogdoches. The City’s engineering consultant on this project has spoken with contacts on prior projects that RAD has completed who have confirmed their ability to perform this type of work successfully. It is recommended that the contract for this project be awarded to RAD Civil Services in the amount of \$658,553.20. There is adequate Utility Fund resources available for this contract from the FY 2026 Capital Improvement Program budget (CIP Project WW-26-204).

FINANCIAL:

Item is budgeted:

Account No.: 30.39 680.97
Account Name: *Wastewater Treatment - CIP*
Amount: \$ 658,553.20

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 Tab
 2. Contract Documents
 3. PowerPoint

CITY OF NACOGDOCHES
RAGUET STREET SANITARY SEWER IMPROVEMENTS
CITY HALL CONFERENCE ROOM 203,202 PILAR ST. NACOGDOCHES, TX 2PM

Base Bid Items				RAD CIVIL SERVICES		W.M. MILLER		McKINNEY & MOORE		DUPLICHAIR		EXPERTS UNDERGROUND SOLUTIONS		HORTON EXCAVATING	
Bid No.	Quantity	Unit	Item Description	Unit Price	Total Price	Unit Price	Total Price	Unit Price	Total Price	Unit Price	Total Price	Unit Price	Total Price	Unit Price	Total Price
1	1	LS	CONTRACTOR MOBILIZATION, BONDS AND INSURANCE	\$ 55,939.00	\$ 55,939.00	\$ 94,566.53	\$ 94,566.53	\$ 22,991.17	\$ 22,991.17	\$ 28,000.00	\$ 28,000.00	\$ 48,500.00	\$ 48,500.00	\$ 47,600.00	\$ 47,600.00
2	1	LS	TRAFFIC CONTROL PLANNING AND ACTIVITIES	\$ 5,429.00	\$ 5,429.00	\$ 4,977.50	\$ 4,977.50	\$ 5,359.70	\$ 5,359.70	\$ 10,000.00	\$ 10,000.00	\$ 13,500.00	\$ 13,500.00	\$ 18,000.00	\$ 18,000.00
3	992	LF	OSHA COMPLIANT TRENCH SAFETY SYSTEM	\$ 3.93	\$ 3,898.00	\$ 1.05	\$ 1,041.60	\$ 27.66	\$ 27,438.72	\$ 5.00	\$ 4,960.00	\$ 2.50	\$ 2,480.00	\$ 8.50	\$ 8,432.00
4	1	LS	CONSTRUCTION STAKING	\$ 694.00	\$ 694.00	\$ 1,575.00	\$ 1,575.00	\$ 10,860.99	\$ 10,860.99	\$ 1,000.00	\$ 1,000.00	\$ 4,450.00	\$ 4,450.00	\$ 500.00	\$ 500.00
5	1	LS	EROSION CONTROL	\$ 1,612.00	\$ 1,612.00	\$ 1,506.88	\$ 1,506.88	\$ 8,814.35	\$ 8,814.35	\$ 1,000.00	\$ 1,000.00	\$ 4,920.00	\$ 4,920.00	\$ 1,500.00	\$ 1,500.00
6	1	LS	PRE-CONSTRUCTION LOCATION & CONFIRMATION OF EXISTING UTILITIES	\$ 592.00	\$ 592.00	\$ 3,886.75	\$ 3,886.75	\$ 17,773.28	\$ 17,773.28	\$ 5,000.00	\$ 5,000.00	\$ 3,220.00	\$ 3,220.00	\$ 2,500.00	\$ 2,500.00
7	1	LS	PBYPASS PUMPING	\$ 7,796.00	\$ 7,796.00	\$ 60,323.35	\$ 60,323.35	\$ 24,368.68	\$ 24,368.68	\$ 10,000.00	\$ 10,000.00	\$ 8,200.00	\$ 8,200.00	\$ 20,000.00	\$ 20,000.00
8	2,194	LF	REMOVE EXISTING 8" SANITARY SEWER LINE AND REPLACE WITH NEW 12" D2241 PR 160 SDR 26 PVC SANITARY	\$ 98.55	\$ 216,218.70	\$ 86.56	\$ 189,912.64	\$ 83.05	\$ 182,211.70	\$ 135.00	\$ 296,190.00	\$ 135.00	\$ 296,190.00	\$ 137.00	\$ 300,578.00
9	5	EA	REMOVE EXISTING CONCRETE MANHOLE, AND REPLACE WITH NEW 4'DIA. CONCRETE MANHOLE	\$ 6,622.50	\$ 33,112.50	\$ 6,958.91	\$ 34,794.55	\$ 6,637.27	\$ 33,186.35	\$ 9,500.00	\$ 47,500.00	\$ 7,390.00	\$ 36,950.00	\$ 7,100.00	\$ 35,500.00
10	3	EA	REMOVE EXISTING CONCRETE DROP MANHOLE, AND REPLACE WITH NEW 4' DIA. CONCRETE	\$ 8,919.00	\$ 26,757.00	\$ 7,071.61	\$ 21,214.83	\$ 7,898.42	\$ 23,695.26	\$ 11,500.00	\$ 34,500.00	\$ 8,424.00	\$ 25,272.00	\$ 8,300.00	\$ 24,900.00
11	32	VF	ADDITIONAL HEIGHT BEYOND SIX FOOT BASE FOR 4' DIA. MANHOLE RISERS	\$ 349.50	\$ 11,184.00	\$ 314.08	\$ 10,050.56	\$ 256.73	\$ 8,215.36	\$ 360.00	\$ 11,520.00	\$ 445.00	\$ 14,240.00	\$ 640.00	\$ 20,480.00
12	13	EA	SANITARY SEWER SERVICE INCLUDING SERVICE LINE, AND DOUBLE CLEANOUT AT PROPERTY	\$ 2,721.00	\$ 35,373.00	\$ 2,822.74	\$ 36,695.62	\$ 2,922.47	\$ 37,992.11	\$ 5,600.00	\$ 72,800.00	\$ 1,980.00	\$ 25,740.00	\$ 4,800.00	\$ 62,400.00
13	20	LF	REMOVE EXISTING 8" DECTILE IRON PIPE AND REPLACE WITH NEW 12" DUCTILE IRON PIPE AT BOX CULVERT	\$ 323.00	\$ 6,460.00	\$ 143.08	\$ 2,861.60	\$ 593.59	\$ 11,871.80	\$ 300.00	\$ 6,000.00	\$ 430.00	\$ 8,600.00	\$ 850.00	\$ 17,000.00
14	2,000	SY	REPAIR OF HMAC PAVEMENT	\$ 100.35	\$ 200,700.00	\$ 73.61	\$ 147,220.00	\$ 100.57	\$ 201,140.00	\$ 90.00	\$ 180,000.00	\$ 124.00	\$ 248,000.00	\$ 111.00	\$ 222,000.00
15	50	SY	REPAIR OF CONCRETE DRIVEWAYS	\$ 60.00	\$ 3,000.00	\$ 368.62	\$ 18,431.00	\$ 391.84	\$ 19,592.00	\$ 180.00	\$ 9,000.00	\$ 138.00	\$ 6,900.00	\$ 175.00	\$ 8,750.00
16	100	LF	REPAIR CONCRETE CURB AND GUTTER	\$ 54.00	\$ 5,400.00	\$ 60.17	\$ 6,017.00	\$ 86.73	\$ 8,673.00	\$ 50.00	\$ 5,000.00	\$ 25.00	\$ 2,500.00	\$ 60.00	\$ 6,000.00
17	2,194	LF	POST CONSTRUCTION TV INSPECTION OF COMPLETED SANITARY SEWER LINE	\$ 2.00	\$ 4,388.00	\$ 2.10	\$ 4,607.40	\$ 4.95	\$ 10,860.30	\$ 5.00	\$ 10,970.00	\$ 3.80	\$ 8,337.20	\$ 4.00	\$ 8,776.00
18	1	LS	OWNER'S ALLOWANCE FOR MATERIALS TESTING	\$ 5,000.00	\$ 5,000.00	\$ 5,000.00	\$ 5,000.00	\$ 5,000.00	\$ 5,000.00	\$ 5,000.00	\$ 5,000.00	\$ 5,000.00	\$ 5,000.00	\$ 5,000.00	\$ 5,000.00
19	1	LS	OWNER'S ALLOWANCE FOR FIELD CHANGES	\$ 35,000.00	\$ 35,000.00	\$ 35,000.00	\$ 35,000.00	\$ 35,000.00	\$ 35,000.00	\$ 35,000.00	\$ 35,000.00	\$ 35,000.00	\$ 35,000.00	\$ 35,000.00	\$ 35,000.00
Total Base Bid (Items 1 - 19):				\$ 658,553.20	\$ 658,553.20	\$ 679,682.81	\$ 679,682.81	\$ 695,044.77	\$ 695,044.77	\$ 773,440.00	\$ 773,440.00	\$ 797,999.20	\$ 797,999.20	\$ 844,916.00	\$ 844,916.00



**BIDDING
and
CONTRACT DOCUMENTS**

FOR

**CONSTRUCTION SERVICES
FOR
RAGUET STREET SANITARY SEWER IMPROVEMENTS**

Bid #: 26-10-132

**DUE DATE
MAY 7, 2026 @ 2:00 PM**

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

www.nactx.us

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INSTRUCTIONS TO BIDDERS

1.0 NOTICE

Sealed bids addressed to the City of Nacogdoches Engineering Office, 202 E. Pilar Street, Suite 239, Nacogdoches, TX 75961, will be received for **Construction Services for Raguet Street Sanitary Sewer Improvements Project** until **2:00 PM, May 7, 2026** 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

Removal and replacement of approx. 2,200 linear feet of existing 8” sanitary sewer with new 12” sanitary sewer by open cut within Raguet Street, including new pre- and post-construction TV inspections, traffic control, replacement of manholes, service lines and reconnects, pavement and driveway repair, curb and gutter repair, restoration and other ancillary items for complete project in accordance with plans and specifications.

A Pre-bid Meeting will be held at City Hall Conference Room 203, 202 E. Pilar Street, Nacogdoches, Texas at 10:00 AM on Thursday, April 30, 2026. 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, Raguet Street Sanitary Sewer 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 E. 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 E. Pilar Street, 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 Thursday, April 30, 2026**. 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
RAGUET ST. SANITARY SEWER IMPROVEMENTS

ITEM	QUANTITY	UNIT	DESCRIPTION & UNIT PRICE (FILL IN UNIT PRICE IN SCRIPT & NUMBERS)	TOTAL PRICE
Base Bid Items				
1.	1	LS	CONTRACTOR MOBILIZATION, BONDS AND INSURANCE ALL IN ACCORDANCE WITH THE PLANS & SPECS, THE SUM OF <hr/> fifty five thousand nine hundred thirty nine DOLLARS & zero CENTS <hr/> Per Unit (\$ 55,939.00)	<u>55,939.00</u>
2.	1	LS	TRAFFIC CONTROL PLANNING AND ACTIVITIES, INCLUDING PROVIDING AND IMPLEMENTING OVERALL TRAFFIC CONTROL PLAN, COORDINATION AND SCHEDULING, IN ACCORDANCE WITH PLANS, SPECS, TXDOT PERMITTING, AND TMUTCD, THE SUM OF <hr/> five thousand four hundred twenty nine DOLLARS & zero CENTS <hr/> Per Unit (\$ 5,429.00)	<u>5,429.00</u>
3.	992	LF	OSHA COMPLIANT TRENCH SAFETY SYSTEM AS REQUIRED THROUGHOUT PROJECT COMPLETE IN PLACE AS PER PLANS AND SPECIFICATIONS, THE SUM OF <hr/> three thousand eight hundred ninety eight DOLLARS & zero CENTS <hr/> Per Unit (\$ 3,898.00)	<u>3,898.00</u>
4.	1	LS	CONSTRUCTION STAKING INCLUDING LOCATION, CONFIRMATION, AND TIE-IN OF PRE-ESTABLISHED BENCHMARKS, PROPERTY LINES, EASEMENTS, AND RIGHT OF WAYS, AS DESCRIBED IN PLANS, THE SUM OF <hr/> six hundred ninety four DOLLARS & zero CENTS <hr/> Per Unit (\$ 694.00)	<u>694.00</u>
5.	1	LS	EROSION CONTROL INCLUDING SWP3 SUBMISSION OF NOI AND NOT, INSTALLATION, INSPECTION, AND MAINTENANCE OF CONTROLS, AND SWP3 DOCUMENTATION THE SUM OF <hr/> one thousand six hundred twelve DOLLARS & zero CENTS <hr/> Per Unit (\$ 1,612.00)	<u>1,612.00</u>

CITY OF NACOGDOCHES, TEXAS
RAGUET ST. SANITARY SEWER IMPROVEMENTS

ITEM	QUANTITY	UNIT	DESCRIPTION & UNIT PRICE (FILL IN UNIT PRICE IN SCRIPT & NUMBERS)	TOTAL PRICE
6.	1	LS	<p>PRE-CONSTRUCTION LOCATION & CONFIRMATION OF EXISTING UTILITIES INCLUDING COORDINATION WITH TEXAS 811, FRANCHISE UTILITY COMPANIES, AND THE CITY OF NACOGDOCHES, LOCATION AND VERIFICATION OF EXACT DEPTH, LOCATION, SIZE, AND MATERIALS OF ALL UTILITIES PRIOR TO COMMENCING CONSTRUCTION ACTIVITIES, ALL EQUIPMENT, MATERIALS, LABOR & SUPERINTENDENCE, ALL IN ACCORDANCE WITH THE PLANS & SPECS, THE SUM OF</p> <hr/> <div style="display: flex; justify-content: space-between;"> five hundred ninety two DOLLARS & </div> <div style="display: flex; justify-content: space-between;"> zero CENTS </div> <hr/> <p style="text-align: center;">Per Unit</p> <p>(\$ 592.00)</p>	<hr/> <p style="font-size: 1.2em;">592.00</p> <hr/>
7.	1	LS	<p>BYPASS PUMPING, PUMPING OR PIPING TO KEEP LINE IN SERVICE, COMPLETE IN PLACE, READY FOR SERVICE, TO INCLUDE 24/7 SUPERVISION, AND BACKUP PUMP, EQUIPMENT, INCIDENTALS, ALL MATERIALS, LABOR & SUPERINTENDENCE, AND TESTING IN ACCORDANCE WITH THE PLANS & SPECS, THE SUM OF</p> <hr/> <div style="display: flex; justify-content: space-between;"> seven thousand seven hundred ninety six DOLLARS & </div> <div style="display: flex; justify-content: space-between;"> zero CENTS </div> <hr/> <p style="text-align: center;">Per Unit</p> <p>(\$ 7,796.00)</p>	<hr/> <p style="font-size: 1.2em;">7,796.00</p> <hr/>
8.	2194	LF	<p>REMOVE EXISTING 8" SANITARY SEWER LINE AND REPLACE WITH NEW 12" D2241 PR 160 SDR 26 PVC SANITARY SEWERLINE, FURNISHED & INSTALLED, COMPLETE IN PLACE, READY FOR SERVICE, ALL FITTINGS, EQUIPMENT, INCIDENTALS, BACKFILLING, SURFACE RESTORATION, ALL MATERIALS, LABOR & SUPERINTENDENCE, AND TESTING ALL IN ACCORDANCE WITH THE PLANS & SPECS, THE SUM OF</p> <hr/> <div style="display: flex; justify-content: space-between;"> ninety eight DOLLARS & </div> <div style="display: flex; justify-content: space-between;"> fifty five CENTS </div> <hr/> <p style="text-align: center;">Per Unit</p> <p>(\$ 98.55)</p>	<hr/> <p style="font-size: 1.2em;">216,218.70</p> <hr/>

CITY OF NACOGDOCHES, TEXAS
RAGUET ST. SANITARY SEWER IMPROVEMENTS

ITEM	QUANTITY	UNIT	DESCRIPTION & UNIT PRICE (FILL IN UNIT PRICE IN SCRIPT & NUMBERS)	TOTAL PRICE
9.	5	EA	REMOVE EXISTING CONCRETE MANHOLE, AND REPLACE WITH NEW 4' DIA. CONCRETE MANHOLE, FURNISHED & INSTALLED, COMPLETE IN PLACE, READY FOR SERVICE, ALL FITTINGS, EQUIPMENT, INCIDENTALS, FOUNDATION, BACKFILLING, SURFACE RESTORATION, ALL MATERIALS, LABOR & SUPERINTENDENCE, AND TESTING ALL IN ACCORDANCE WITH THE PLANS & SPECS, THE SUM OF	
			<u>six thousand six hundred twenty two</u> DOLLARS & <u>fifty</u> CENTS Per Unit (\$ 6,622.50)	<u>33,112.50</u>
10.	3	EA	REMOVE EXISTING CONCRETE DROP MANHOLE, AND REPLACE WITH NEW 4' DIA. CONCRETE MANHOLE, FURNISHED & INSTALLED, COMPLETE IN PLACE, READY FOR SERVICE, ALL FITTINGS, EQUIPMENT, INCIDENTALS, FOUNDATION, BACKFILLING, SURFACE RESTORATION, ALL MATERIALS, LABOR & SUPERINTENDENCE, AND TESTING ALL IN ACCORDANCE WITH THE PLANS & SPECS, THE SUM OF	
			<u>eight thousand nine hundred nineteen</u> DOLLARS & <u>zero</u> CENTS Per Unit (\$ 8,919.00)	<u>26,757.00</u>
11.	32	VF	ADDITIONAL HEIGHT BEYOND SIX FOOT BASE FOR 4' DIA. MANHOLE RISERS, FURNISHED AND INSTALLED, COMPLETE IN PLACE, READY FOR SERVICE, INCLUDING ALL FITTINGS, EQUIPMENT, INCIDENTALS, FOUNDATION, BACKFILLING, EMBEDMENT, SURFACE RESTORATION, ALL MATERIALS, LABOR & SUPERINTENDENCE, AND TESTING ALL IN ACCORDANCE WITH THE PLANS & SPECS, THE SUM OF	
			<u>three hundred forty nine</u> DOLLARS & <u>fifty</u> CENTS Per Unit (\$ 349.50)	<u>11,184.00</u>

CITY OF NACOGDOCHES, TEXAS
RAGUET ST. SANITARY SEWER IMPROVEMENTS

ITEM	QUANTITY	UNIT	DESCRIPTION & UNIT PRICE (FILL IN UNIT PRICE IN SCRIPT & NUMBERS)	TOTAL PRICE
12.	13	EA	<p>SANITARY SEWER SERVICE INCLUDING SERVICE LINE, AND DOUBLE CLEANOUT AT PROPERTY, FURNISHED & INSTALLED, COMPLETE IN PLACE, READY FOR SERVICE, ALL FITTINGS, EQUIPMENT, INCIDENTALS, BACKFILLING, SURFACE RESTORATION, ALL MATERIALS, LABOR & SUPERINTENDENCE, AND TESTING ALL IN ACCORDANCE WITH THE PLANS & SPECS, THE SUM OF</p> <hr/> <p style="text-align: right;">two thousand seven hundred twenty one DOLLARS &</p> <hr/> <p style="text-align: right;">zero CENTS</p> <hr/> <p style="text-align: center;">Per Unit</p> <p style="text-align: right;">(\$ 2,721.00)</p>	<u>35,373.00</u>
13.	20	LF	<p>REMOVE EXISTING 8" DUCTILE IRON PIPE AND REPLACE WITH NEW 12" DUCTILE IRON PIPE AT BOX CULVERT, (MAY REEQUIRE CORING OF BOX CULVERT) FURNISHED & INSTALLED, COMPLETE IN PLACE, READY FOR SERVICE, ALL FITTINGS, EQUIPMENT, INCIDENTALS, BACKFILLING, SURFACE RESTORATION, ALL MATERIALS, LABOR & SUPERINTENDENCE, AND TESTING ALL IN ACCORDANCE WITH THE PLANS & SPECS, THE SUM OF</p> <hr/> <p style="text-align: right;">three hundred twenty three DOLLARS &</p> <hr/> <p style="text-align: right;">zero CENTS</p> <hr/> <p style="text-align: center;">Per Unit</p> <p style="text-align: right;">(\$ 323.00)</p>	<u>6,460.00</u>
14.	2000	SY	<p>REPAIR OF HMAC PAVEMENT, FURNISHED & INSTALLED, COMPLETE IN PLACE, READY FOR SERVICE, INCLUDING, ALL EQUIPMENT, INCIDENTALS, MATERIALS, LABOR & SUPERINTENDENCE, AND TESTING ALL IN ACCORDANCE WITH THE PLANS & SPECS, THE SUM OF</p> <hr/> <p style="text-align: right;">one hundred DOLLARS &</p> <hr/> <p style="text-align: right;">thirty five CENTS</p> <hr/> <p style="text-align: center;">Per Unit</p> <p style="text-align: right;">(\$ 100.35)</p>	<u>200,700.00</u>
15.	50	SY	<p>REPAIR OF CONCRETE DRIVEWAYS, FURNISHED & INSTALLED, COMPLETE IN PLACE, READY FOR SERVICE, INCLUDING, ALL EQUIPMENT, INCIDENTALS, MATERIALS, LABOR & SUPERINTENDENCE, AND TESTING ALL IN ACCORDANCE WITH THE PLANS & SPECS, THE SUM OF</p> <hr/> <p style="text-align: right;">sixty DOLLARS &</p> <hr/> <p style="text-align: right;">zero CENTS</p> <hr/> <p style="text-align: center;">Per Unit</p> <p style="text-align: right;">(\$ 60.00)</p>	<u>3,000.00</u>

CITY OF NACOGDOCHES, TEXAS
RAGUET ST. SANITARY SEWER IMPROVEMENTS

ITEM	QUANTITY	UNIT	DESCRIPTION & UNIT PRICE (FILL IN UNIT PRICE IN SCRIPT & NUMBERS)	TOTAL PRICE
16.	100	LF	REPAIR OF CONCRETE CURB AND GUTTER, FURNISHED & INSTALLED, COMPLETE IN PLACE, READY FOR SERVICE, INCLUDING, ALL EQUIPMENT, INCIDENTALS, MATERIALS, LABOR & SUPERINTENDENCE, AND TESTING ALL IN ACCORDANCE WITH THE PLANS & SPECS, THE SUM OF <hr/> fifty four DOLLARS & zero CENTS <hr/> Per Unit (\$ 54.00)	<u>5,400.00</u>
17.	2194	LF	POST CONSTRUCTION TV INSPECTION OF COMPLETED SANITARY SEWER LINE, PAID FOR ONLY ON ENGINEER/OWNER APPROVAL, COMPLETE IN PLACE, READY FOR SERVICE, TO INCLUDE EQUIPMENT, INCIDENTALS, ALL MATERIALS, LABOR & SUPERINTENDENCE, AND TESTING IN ACCORDANCE WITH THE PLANS & SPECS, THE SUM OF <hr/> two DOLLARS & zero CENTS <hr/> Per Unit (\$ 2.00)	<u>4,388.00</u>
18.	1	LS	OWNER'S ALLOWANCE FOR MATERIALS TESTING. CONTRACTOR SHALL PAY ALL NECESSARY LAB FEES, TO BE REIMBURSED THROUGH THIS BID ITEM. ONLY DIRECT INVOICES FROM THE LAB WILL BE REIMBURSED, THE SUM OF <hr/> Five Thousand DOLLARS & Zero CENTS <hr/> Per Unit (\$ 5,000.00)	<u>\$5,000.00</u>
19.	1	LS	OWNER'S ALLOWANCE FOR FIELD CHANGES - TO BE DISBURSED ONLY WITH SPECIFIC WRITTEN APPROVAL OF OWNER, THE SUM OF <hr/> Thrity Five Thousand DOLLARS & Zero CENTS <hr/> Per Unit (\$ 35,000.00)	<u>\$35,000.00</u>
Total Base Bid (Sum of Items 1-19)				<u>658553.20</u>

BID BOND

N/A

KNOW ALL BY THESE PRESENTS, That we, A+ Professor of Plumbing dba RAD Civil

of 13213 State Highway 155 S Ste A , Tyler, TX 75703

(hereinafter called the Principal), as Principal, and The Ohio Casualty Insurance Company

(hereinafter called the Surety), as Surety are held and firmly bound unto City of Nacogdoches, Texas

(hereinafter called the Obligee) in the penal sum of Five Percent of Bid Amount

Dollars (5%))

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 to the Obligee on a contract for Removal and replacement of approximately 2,200 LF of existing 8" sanitary sewer with new

12" PVC sanitary sewer by open cut along Raguet Street, including TV inspections, traffic control, manhole replacements, service reconnections, pavement/driveway/curb/gutter repairs, restoration

NOW, THEREFORE, If the said Contract be timely awarded to the Principal and the Principal shall, within such time as may be specified, enter into the Contract in writing, and give bond, if bond is required, with surety acceptable to the Obligee for the faithful performance of the said Contract, then this obligation shall be void; otherwise to remain in full force and effect.

Signed and sealed this 6th day of May, 2026.

A+ Professor of Plumbing dba RAD Civil (Seal)

Brent McDonald, President Principal Title

Ashley Munts, Operations Manager Witness

The Ohio Casualty Insurance Company

By Kristina Mendoza Attorney-in-Fact

Janet Madriles Witness



CALIFORNIA ACKNOWLEDGMENT

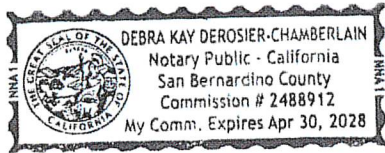
CIVIL CODE § 1189

A notary public or other officer completing this certificate verifies only the identity of the individual who signed the document to which this certificate is attached, and not the truthfulness, accuracy, or validity of that document.

State of California }
County of San Bernardino }

On May 6th, 2026 before me, Debra Kay Derosier Chamberlain, Notary Public
Date Here Insert Name and Title of the Officer
personally appeared Kristina Mendoza
Name(s) of Signer(s)

who proved to me on the basis of satisfactory evidence to be the person(s) whose name(s) is/are subscribed to the within instrument and acknowledged to me that he/she/they executed the same in his/her/their authorized capacity(ies), and that by his/her/their signature(s) on the instrument the person(s), or the entity upon behalf of which the person(s) acted, executed the instrument.



I certify under PENALTY OF PERJURY under the laws of the State of California that the foregoing paragraph is true and correct.

WITNESS my hand and official seal.

Signature [Handwritten Signature]
Signature of Notary Public

Place Notary Seal and/or Stamp Above

OPTIONAL

Completing this information can deter alteration of the document or fraudulent reattachment of this form to an unintended document.

Description of Attached Document

Title or Type of Document: Bid Bond

Document Date: 5/6/2026 Number of Pages: 1

Signer(s) Other Than Named Above: _____

Capacity(ies) Claimed by Signer(s)

Signer's Name: _____ Signer's Name: _____

Corporate Officer – Title(s): _____ Corporate Officer – Title(s): _____

Partner – Limited General Partner – Limited General

Individual Attorney in Fact Individual Attorney in Fact

Trustee Guardian or Conservator Trustee Guardian or Conservator

Other: _____ Other: _____

Signer is Representing: _____ Signer is Representing: _____



POWER OF ATTORNEY

Liberty Mutual Insurance Company
The Ohio Casualty Insurance Company
West American Insurance Company

Certificate No: 8215853 - 971988

KNOWN ALL PERSONS BY THESE PRESENTS: That The Ohio Casually Insurance Company is a corporation duly organized under the laws of the State of New Hampshire, that Liberty Mutual Insurance Company is a corporation duly organized under the laws of the State of Massachusetts, and West American Insurance Company is a corporation duly organized under the laws of the State of Indiana (herein collectively called the "Companies"), pursuant to and by authority herein set forth, does hereby name, constitute and appoint, Alissa Lehman, Amanda Johnson, Christopher J. Moore, Gina Perez, Helena E. Toves, Janet Madriles, Jessica Santos, Kaitlin VanHassel, Kristen Kammeyer, Kristina Mendoza, Melissa S. Kienzle, Serena Espinosa, Tamara M. Lentz, Tonja C. Dishmon, Whitney Conner

all of the city of Redlands state of CA each individually if there be more than one named, its true and lawful attorney-in-fact to make, execute, seal, acknowledge and deliver, for and on its behalf as surety and as its act and deed, any and all undertakings, bonds, recognizances and other surety obligations, in pursuance of these presents and shall be as binding upon the Companies as if they have been duly signed by the president and attested by the secretary of the Companies in their own proper persons.

IN WITNESS WHEREOF, this Power of Attorney has been subscribed by an authorized officer or official of the Companies and the corporate seals of the Companies have been affixed thereto this 30th day of March, 2026.



Liberty Mutual Insurance Company
The Ohio Casualty Insurance Company
West American Insurance Company

By: [Signature]

Nathan J. Zangerle, Assistant Secretary

Not valid for mortgage, note, loan, letter of credit, currency rate, interest rate or residual value guarantees.

State of PENNSYLVANIA ss
County of MONTGOMERY

On this 30th day of March, 2026 before me personally appeared Nathan J. Zangerle, who acknowledged himself to be the Assistant Secretary of Liberty Mutual Insurance Company, The Ohio Casualty Company, and West American Insurance Company, and that he, as such, being authorized so to do, execute the foregoing instrument for the purposes therein contained by signing on behalf of the corporations by himself as a duly authorized officer.

IN WITNESS WHEREOF, I have hereunto subscribed my name and affixed my notarial seal at Plymouth Meeting, Pennsylvania, on the day and year first above written.



Commonwealth of Pennsylvania - Notary Seal
Teresa Pastella, Notary Public
Montgomery County
My commission expires March 28, 2029
Commission number 1126044
Member, Pennsylvania Association of Notaries

By: [Signature]
Teresa Pastella, Notary Public

For bond and/or Power of Attorney (POA) verification inquiries, please call 610-832-8240 or email HOSUR@libertymutual.com.

This Power of Attorney is made and executed pursuant to and by authority of the following By-laws and Authorizations of The Ohio Casualty Insurance Company, Liberty Mutual Insurance Company, and West American Insurance Company which resolutions are now in full force and effect reading as follows:

ARTICLE IV - OFFICERS: Section 12. Power of Attorney.

Any officer or other official of the Corporation authorized for that purpose in writing by the Chairman or the President, and subject to such limitation as the Chairman or the President may prescribe, shall appoint such attorneys-in-fact, as may be necessary to act in behalf of the Corporation to make, execute, seal, acknowledge and deliver as surety any and all undertakings, bonds, recognizances and other surety obligations. Such attorneys-in-fact, subject to the limitations set forth in their respective powers of attorney, shall have full power to bind the Corporation by their signature and execution of any such instruments and to attach thereto the seal of the Corporation. When so executed, such instruments shall be as binding as if signed by the President and attested to by the Secretary. Any power or authority granted to any representative or attorney-in-fact under the provisions of this article may be revoked at any time by the Board, the Chairman, the President or by the officer or officers granting such power or authority.

ARTICLE XIII - Execution of Contracts: Section 5. Surety Bonds and Undertakings.

Any officer of the Company authorized for that purpose in writing by the chairman or the president, and subject to such limitations as the chairman or the president may prescribe, shall appoint such attorneys-in-fact, as may be necessary to act in behalf of the Company to make, execute, seal, acknowledge and deliver as surety any and all undertakings, bonds, recognizances and other surety obligations. Such attorneys-in-fact subject to the limitations set forth in their respective powers of attorney, shall have full power to bind the Company by their signature and execution of any such instruments and to attach thereto the seal of the Company. When so executed such instruments shall be as binding as if signed by the president and attested by the secretary.

Certificate of Designation - The President of the Company, acting pursuant to the Bylaws of the Company, authorizes Nathan J. Zangerle, Assistant Secretary to appoint such attorneys-in-fact as may be necessary to act on behalf of the Company to make, execute, seal, acknowledge and deliver as surety any and all undertakings, bonds, recognizances and other surety obligations.

Authorization - By unanimous consent of the Company's Board of Directors, the Company consents that facsimile or mechanically reproduced signature of any assistant secretary of the Company, wherever appearing upon a certified copy of any power of attorney issued by the Company in connection with surety bonds, shall be valid and binding upon the Company with the same force and effect as though manually affixed.

I, Renee C. Llewellyn, the undersigned, Assistant Secretary, The Ohio Casualty Insurance Company, Liberty Mutual Insurance Company, and West American Insurance Company do hereby certify that the original power of attorney of which the foregoing is a full, true and correct copy of the Power of Attorney executed by said Companies, is in full force and effect and has not been revoked.

IN TESTIMONY WHEREOF, I have hereunto set my hand and affixed the seals of said Companies this 6th day of May, 2026.



By: [Signature]
Renee C. Llewellyn, Assistant Secretary

CONTRACTOR DATA SHEET

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

Name of Company: A+ Professor of Plumbing, Inc dba RAD Civil Services

Company Years in Business: 18+

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

Project	Municipality	\$ Amount	Type	Date
See Attached References				

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
Brent McDonald	20+	see attached

Project Manager	Years Experience	Projects
Chad McDonald	20+	see attached



RAD Civil Services - References Package – Cover Sheet

Company Information

Business Name: A+ Professor of Plumbing, Inc.

Doing Business As: RAD Civil Services; Rub-A-Dub Plumbing

Federal Tax ID: 26-3858720

Date Organized: 2007

Date Incorporated: 12/10/2008 **State:** Texas

Owner / Responsible Master Plumber: Brent McDonald, RMP #38248

Business Address: 13213 Hwy 155 South, Suite A, Tyler, TX 75703

Email: amunts@rubadubplumbing.com

Telephone – (903) 525-6336

Document Purpose

This reference package provides a verified list of past projects, client contacts, and performance history for evaluation in support of bidding and qualification requirements. For further questions or information, please refer to contact information listed above.

RAD Civil Services – References

TIN 26-3858720

Corporate Profile

RAD Civil Services, operating under **A+ Professor of Plumbing, Inc.**, is a licensed, experienced, and municipally qualified plumbing and underground utility contractor based in Tyler, Texas. Under the leadership of **Owner and Responsible Master Plumber Brent McDonald (RMP #38248)**, the company provides comprehensive water, sewer, septic, and pipeline rehabilitation services across East Texas, with a proven track record supporting cities, engineering firms, commercial facilities, and special-use sites.

RAD Civil Services has established itself as a dependable contractor for **TxCDBG-funded municipal infrastructure improvements, lift station upgrades, sewer line replacements, septic system installations, and complex pipe rehabilitation projects**. The company's past and current projects include work for the **Cities of San Augustine, Talco, Burton, Tyler, and Athens**, as well as commercial and industrial clients such as **Goodwill Industries, Woodcreek Shopping Center, and Solar Turbines**. These projects demonstrate RAD Civil Services's ability to execute contracts ranging from small, targeted repairs to multi-hundred-thousand-dollar utility upgrades with full regulatory compliance and documentation.

RAD Civil Services maintains a highly credentialed workforce, including master plumbers, journeyman plumbers, tradesman plumbers, OSSF installers, OSSF maintenance providers, OSSF apprentices, and NASSCO-certified technicians. Specialized training includes **PACP/LACP/MACP certifications, ITCP-CIPP, NuFlow NuDrain Platinum certification, Customer Service Inspector licensing, and Qualified Preparer of SWP3** environmental compliance training. This technical breadth enables the company to self-perform nearly all scope items on water, sewer, and septic projects, reducing reliance on subcontractors and improving schedule reliability.

Equipped with backhoes, track hoes, skid steers, mini-excavators, pipe-cutting equipment, hydrostatic testing systems, and trench safety systems, RAD Civil Services is capable of handling both standard and deep utility excavations, manhole installations, service relocations, and trenchless rehabilitation tasks. The company's experience and equipment resources ensure efficient field operations, safe work practices, and adherence to engineering specifications.

Known for its reliability, communication, and strong engineering partnerships, RAD Civil Services has built lasting relationships with municipal engineers, project managers, and public works departments. Their experience with **TxCDBG compliance**, including certified payroll, labor standards, documentation, safety procedures, preconstruction requirements, and closeout processes, makes them a trusted choice for grant-funded and public-sector infrastructure work.

RAD Civil Services – References
TIN 26-3858720

Current Projects

Project Name & Type	Contract Amount	Engineer Contact	Contract Date
City of San Augustine – Sewer Line Improvements TxCDBG CDV23-0491	\$307,999.00	Brian Pritchett (903) 236-7700	11/24/25
City of Talco – Sewer Rehabilitation TxCDBG CDV23-0379	\$274,900.00	Brian Pritchett (903) 236-7700	12/1/25
City of Burton – Knittel Lift Station Improvements	\$354,721.00	Chad Emmel (903) 968-6474	In Contracting

Past Projects

Project Name & Type	Contract Amount	Contact	Completed
Chatfield WSC – Vargas Water Line Improvements	\$13,650.00	Eddie Aguilar (936) 634-5528	3/26/2026
City of Tyler – VES Sewer Line Repair	\$170,269.00	Cody Bain (903) 531-1135	01/2026
City of Tyler – Private Water Service Relocation	\$263,062.00	Jacob Yanker (903) 533-2095	12/2025
Goodwill Industries of East Texas – 6” Sch40 Sewer Line Replacement	\$23,981.00	Marlin Reed (903) 340-2032	03/2025
City of Athens – Cain Center Exterior Drain Lines Rehab	\$16,888.00	City Manager (903) 675-5131	07/2024
Woodcreek Shopping Center – Complete Sewer Line Rehab	\$120,229.00	Sam Gurav (903) 534-1200	11/2023
City of Athens – Cain Center Pool Line Rehab	\$23,106.00	City Manager (903) 675-5131	09/2021
East Cedar Creek WSD = 8” Cast Iron Sewer Main Liner Rehab	\$37,604.00	General Manager (903) 887-7103	10/2021
Solar Turbines – 2HP lift station w/500’ sch40 6-in	\$38,960.05	General Manager (903) 880-1233	01/2013

RAD Civil Services – References

TIN 26-3858720

Licensing & Certifications

Brent McDonald, Owner/President

Responsible Master Plumber	Texas RMP 38248
Journeyman Plumber	40004
OSSF Installer II	OS0031648
OSSF Maintenance Provider	MP0001980
OSSF Site Evaluator	OS0034408
Customer Service Inspector	CI0011270
NASSCO: PACP/LACP/MACP	P0045977-0222024
ITCP-CIPP	C0046929-032024
NuFlow NuDrain Platinum Certified	Master Technician
OSHA	30-hour OSHA Certification

Employees:

Name	Position	License/Certification Type	#
Chad McDonald		Master Plumber	19020
Clint Tarkington		Plumber's Apprentice	139277
Ernest Akin		OSSF Apprentice	OS0034908
		OSSF Maintenance Technician	MT0002528
		Journeyman Plumber	55716
Michael Witherspoon		OSSF Apprentice	OS0034907
		OSSF Maintenance Technician	MT0002333
		Journeyman Plumber	55279
Nolan Saufley		Operator	
Byron Boggs		Tradesman Plumber	10552
Jose Guerrero		Plumber's Apprentice	
		Drain Cleaner	Endorsement
Brandon Hanson		Plumber's Apprentice	148454
Micheal Wagner		Journeyman Plumber	59401
Troy Holloway		NuFlow NuDrain Platinum Certified	Master Technician
		Plumber's Apprentice	164259
		OSSF Apprentice	OS0039200
Ashley Munts		Qualified Preparer of SWP3 (QPSWP3)	
		Qualified Compliance Inspector of Stormwater (Texas)	

RAD Civil Services – References
TIN 26-3858720

Financial Institution:

Texas Bank and Trust | P.O. Box 3188 | Longview, TX 75606
Cameron Robb | Business Development Officer, Treasury Management Services
(903) 252-3122

Trade References:

- o Coburn's Tyler – 600 E Houston St, Tyler, TX 75702
(903) 593-8491 – Andy/Justin afaggard@coburns.com

- o Pro Star Rental – 13154 Hwy 155 S, Ste A., Tyler, TX 75703
(903) 939-0286 Lisa.Pickering@prostarrental.com

- o Underground Utility Supply – Longview/Tyler
(903) 787-8840 – Zack office@undergroundutilitysupply.com

Surety Company:

The Ohio Casualty Insurance Company
175 Berkeley St., Boston, MA 02116

Bonding Agent:

Saint Moore Insurance Agency 1150 Brookside Ave Ste Q Redlands, CA 92373	Kristina Mendoza kristina@stmooreinsurance.com (909) 793-2151
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Available Equipment:

- Backhoe
 - Trackhoe
 - Skid steer
 - Excavators/Mini-Excavators
 - Pipe Installation & Cutting Equipment
 - Hydrostatic Testing Equipment
 - Trench Safety Equipment
-

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: Brent McDonald Title: President

Typed Name: Brent McDonald Company Name: RAD Civil Services

Phone No: 903-525-6336 Fax No: n/a

Email: operations@radcivilservices.com

Bid Address: 13213 hwy 155 S, Ste A, Tyler, TX 75703
P.O. Box or Street City State Zip

Remit Address: 13213 hwy 155 S, Ste A, Tyler, TX 75703
P.O. Box or Street City State Zip

Federal Tax ID No: 26-3858720

DUNS No: _____

Date: 5-11-2026

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 Applies to blasting operations
- Collapse 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 RAD Civil Services, a limited liability corporation (the "Contractor"), for **Construction Services for Raguet Street Sanitary Sewer 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 Raguet Street Sanitary Sewer 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 **Six Hundred Fifty-Eight Thousand Five Hundred Fifty-Three and 20/100 Dollars (\$ 658,553.20).**

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 Nacogdoches, 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 Nacogdoches 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.

RAD CIVIL SERVICES

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: TX20260084 01/02/2026

Superseded General Decision Number: TX20250084

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

Modification Number	Publication Date
0	01/02/2026

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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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>.

Note: Executive Order 13658 generally applies to contracts subject to the Davis-Bacon Act that were awarded on or between January 1, 2015 and January 29, 2022, and that have not been renewed or extended on or after January 30, 2022. Executive Order 13658 does not apply to contracts subject only to the Davis-Bacon Related Acts regardless of when they were awarded. If a contract is subject to Executive Order 13658, 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 the contract in 2025. The applicable Executive Order minimum wage rate will be adjusted annually. Additional information on contractor requirements and worker protections under Executive Order 13658 is available at www.dol.gov/whd/govcontracts.

Unlisted classifications needed for work not included within the scope of the classifications listed may be added after award only as provided in the labor standards contract clauses (29CFR 5.5 (a) (1) (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 **Six Hundred Fifty-Eight Thousand Five Hundred Fifty-Three and 20/100 Dollars (\$ 658,553.20)** 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 Raguet Street Sanitary Sewer 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

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 §

THE COUNTY OF NACOGDOCHES §

KNOW ALL MEN BY THESE PRESENTS:

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 **Six Hundred Fifty-Eight Thousand Five Hundred Fifty-Three and 20/100 Dollars (\$ 658,553.20)** 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 Raguet Street Sanitary Sewer 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



CERTIFICATE OF LIABILITY INSURANCE

DATE (MM/DD/YYYY)

04/16/2026

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

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

PRODUCER Saint Moore Insurance Agency - Texas 1150 Brookside Avenue, Suite Q Redlands CA 92373	CONTACT NAME: Amanda Johnson PHONE (A/C, No, Ext): (909) 793-2151 E-MAIL ADDRESS: amanda@stmooreinsurance.com	FAX (A/C, No): (909) 798-7068
	INSURER(S) AFFORDING COVERAGE	
INSURED A+ Professor of Plumbing dba RAD Civil Services 13213 State Highway 155 S Tyler TX 75703 (903) 525-6336	INSURER A: United Fire & Casualty Company NAIC# 13021	
	INSURER B: Texas Mutual Insurance Company 22945	
	INSURER C:	
	INSURER D:	
	INSURER E:	
	INSURER F:	

COVERAGES **TD** **CERTIFICATE NUMBER:** Cert ID 13624 (2) **REVISION NUMBER:**

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

INSR LTR	TYPE OF INSURANCE	ADDL SUBR INSD WVD	POLICY NUMBER	POLICY EFF (MM/DD/YYYY)	POLICY EXP (MM/DD/YYYY)	LIMITS	
A	COMMERCIAL GENERAL LIABILITY <input type="checkbox"/> CLAIMS-MADE <input checked="" type="checkbox"/> OCCUR GEN'L AGGREGATE LIMIT APPLIES PER: <input type="checkbox"/> POLICY <input checked="" type="checkbox"/> PRO-JECT <input type="checkbox"/> LOC OTHER:		10138684765	04/15/2026	04/15/2027	EACH OCCURRENCE	\$ 1,000,000
						DAMAGE TO RENTED PREMISES (Ea occurrence)	\$ 100,000
						MED EXP (Any one person)	\$ 5,000
						PERSONAL & ADV INJURY	\$ 1,000,000
						GENERAL AGGREGATE	\$ 2,000,000
						PRODUCTS - COMP/OP AGG	\$ 2,000,000
							\$
A	AUTOMOBILE LIABILITY <input checked="" type="checkbox"/> ANY AUTO <input type="checkbox"/> OWNED AUTOS ONLY <input type="checkbox"/> SCHEDULED AUTOS <input type="checkbox"/> HIRED AUTOS ONLY <input type="checkbox"/> NON-OWNED AUTOS ONLY		10111280682	04/15/2026	04/15/2027	COMBINED SINGLE LIMIT (Ea accident)	\$ 1,000,000
						BODILY INJURY (Per person)	\$
						BODILY INJURY (Per accident)	\$
						PROPERTY DAMAGE (Per accident)	\$
							\$
A	<input type="checkbox"/> UMBRELLA LIAB <input checked="" type="checkbox"/> OCCUR <input checked="" type="checkbox"/> EXCESS LIAB <input type="checkbox"/> CLAIMS-MADE DED RETENTION \$		10169518611	04/15/2026	04/15/2027	EACH OCCURRENCE	\$ 5,000,000
						AGGREGATE	\$ 5,000,000
						Following Form	\$ 5,000,000
B	WORKERS COMPENSATION AND EMPLOYERS' LIABILITY ANY PROPRIETOR/PARTNER/EXECUTIVE OFFICER/MEMBER EXCLUDED? (Mandatory in NH) If yes, describe under DESCRIPTION OF OPERATIONS below	Y/N <input checked="" type="checkbox"/> Y <input type="checkbox"/> N/A	0002109316	04/15/2026	04/15/2027	<input checked="" type="checkbox"/> PER STATUTE <input type="checkbox"/> OTHER	
						E.L. EACH ACCIDENT	\$ 1,000,000
						E.L. DISEASE - EA EMPLOYEE	\$ 1,000,000
						E.L. DISEASE - POLICY LIMIT	\$ 1,000,000
							\$
							\$

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

CERTIFICATE HOLDER**CANCELLATION**

For the benefit of insured

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

AUTHORIZED REPRESENTATIVE

Exhibit E
FINAL AFFIDAVIT OF ALL BILLS PAID

FINAL BILLS PAID AFFIDAVIT
BY CONTRACTOR

BEFORE ME, the undersigned authority, personally appeared as _____, known to me to be a credible person, and after
(Name)
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 – TABLE OF CONTENTS
Raguet St. Sanitary Sewer Improvements
City of Nacogdoches, Texas

Division	Section Title	Pages
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SPECIFICATIONS GROUP

Facility Construction Subgroup

DIVISION 03 - CONCRETE

031000.00	CONCRETE FORMING & ACCESSORIES	9
032000.00	CONCRETE REINFORCING	5
033000.00	CAST-IN-PLACE CONCRETE	10
033900.00	CONCRETE CURING	2
036000.00	GROUTING	5

Site and Infrastructure Subgroup

DIVISION 31 - EARTHWORK

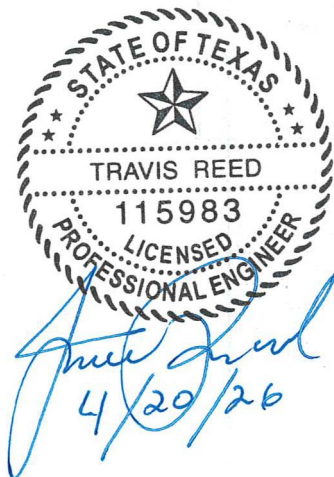
310513.00	SOILS FOR EARTHWORK	3
311000.00	SITE CLEARING	3
312213.00	ROUGH GRADING	4
312316.00	EXCAVATION	2
312317.00	TRENCHING	6
312500.00	EROSION AND SEDIMENTATION CONTROLS	2

DIVISION 32 - EXTERIOR IMPROVEMENTS

321313	PAVEMENT REPAIR	
329219.00	SEEDING & SODDING	6
		7

DIVISION 33 - UTILITIES

330130.13	PIPE AND MANHOLE TESTING	5
330130.16	TV INSPECTION OF SANITARY & STORM SEWER PIPELINES	3
330513.16	PUBLIC MANHOLES AND STRUCTURES	8
330516.13	PRECAST CONCRETE UTILITY STRUCTURES	10
331113.00	PUBLIC UTILITY PIPING	8



END OF TABLE OF CONTENTS

SECTION 03 10 00 – CONCRETE FORMING & ACCESSORIES

PART 1 - GENERAL

1.1 SUMMARY

A. Section Includes:

1. Formwork for cast-in place concrete.
2. Shoring, bracing, and anchorage.
3. Form accessories.
4. Form stripping.

1.2 UNIT PRICE - MEASUREMENT AND PAYMENT

- A. All items including but not limited to materials, equipment, overhead, coordination, testing, labor, and supervision required for a complete and operable project shall be included in the bid for the project. All measurement and payment shall be based on the items of work that are specifically listed in the Bid Proposal. Any items not specifically listed in the Bid Proposal shall be considered subsidiary to unit cost items within the Bid Proposal and no additional payment shall be made for subsidiary items.

1.3 REFERENCES

A. American Concrete Institute:

1. ACI 117 - Standard Specifications for Tolerances for Concrete Construction and Materials.
2. ACI 301 - Specifications for Structural Concrete.
3. ACI 318 - Building Code Requirements for Structural Concrete.
4. ACI 347 - Guide to Formwork for Concrete.

B. American Forest and Paper Association:

1. AF&PA - National Design Specifications for Wood Construction.

C. The Engineered Wood Association:

1. APA/EWA PS 1 - Voluntary Product Standard for Construction and Industrial Plywood.

D. American Society of Mechanical Engineers:

1. ASME A17.1 - Safety Code for Elevators and Escalators.

E. ASTM International:

1. ASTM D1751 - Standard Specification for Preformed Expansion Joint Filler for Concrete Paving and Structural Construction (Nonextruding and Resilient Bituminous Types).
2. ASTM E96/E96M - Standard Test Methods for Water Vapor Transmission of Materials.

F. West Coast Lumber Inspection Bureau:

1. WCLIB - Standard Grading Rules for West Coast Lumber.

1.4 DESIGN REQUIREMENTS

- A. Design, engineer and construct formwork, shoring and bracing in accordance with the ACI to conform to design requirements to achieve concrete shape, line and dimension as indicated in the plan Drawings.

1.5 SUBMITTALS

- A. If a releasing agent is used, provide a product data and application method submittal.
- B. Only provide the following formwork submittals when structures exceed 20' in length or when noted in the Plan Drawings.
 1. Shop Drawings Signed and sealed by professional engineer.
 - a. Submit formwork, shoring, and reshoring shop drawings.
 - b. Indicate the following:
 - 1) Pertinent dimensions, openings, methods of construction, types of connections, materials, joint arrangement and details, ties and shores, location of framing, studding and bracing, and temporary supports.
 - 2) Means of leakage prevention for concrete exposed to view in finished construction.
 - 3) Sequence and timing of erection and stripping assumed compressive strength at time of stripping, height of lift and height of drop during placement.
 - 4) Vertical, horizontal and special loads in accordance with ACI 347, Section 2.2 and camber diagrams, when applicable.
 - 5) Notes to formwork erector showing size and location of conduits and piping embedded in concrete in accordance with ACI 318, Section 6.3.
 - 6) Procedure and schedule for removal of shores and installation and removal of reshores.
 2. Product Data: Submit data on void form materials and installation requirements.
 3. Design Data: Signed and sealed by professional engineer.
 - a. Indicate design data for any required formwork, shoring, and reshores.
 - b. Indicate loads transferred to structure during process of concreting, shoring and reshoring.
 - c. Include structural calculations to support design.

1.6 QUALITY ASSURANCE

- A. Perform Work in accordance with the ACI.
- B. For wood products furnished for work of this Section, comply with AF&PA.
- C. Perform Work in accordance with all local and state standard specifications.

1.7 DELIVERY, STORAGE, AND HANDLING

- A. Deliver void forms and installation instructions in manufacturer's packaging.
- B. Store off ground in ventilated and protected manner to prevent deterioration from moisture.

1.8 COORDINATION

- A. Coordinate this Section with other sections of work, requiring attachment of components to formwork.

PART 2 - PRODUCTS

2.1 WOOD FORM MATERIALS

- A. Form Materials: At discretion of Contractor.
 - 1. Forms shall be of suitable material and of a type, size, shape, quality and strength to insure construction as designed.
 - 2. Wood products for use in forming concrete shall conform to ACI Standard SP-4 Formwork for Concrete.
 - 3. The forms shall be true to line and grade, mortar tight and sufficiently rigid to resist deflection during placing of the concrete. The responsibilities for adequacy shall rest with the CONTRACTOR.
 - 4. All dirt, chips, sawdust, nails and other foreign matter shall be completely removed from forms before any concrete is deposited therein. The surfaces of forms shall be smooth and free from irregularities, dents, sags and holes that would deface the finished surfaces. Forms previously used shall be thoroughly cleaned of all dirt, mortar and foreign matter before being reused.

2.2 PREFABRICATED FORMS

- A. Furnish and install materials in accordance with state, local, and manufacturer's specifications & standards.
- B. Preformed Steel Forms: Minimum 16gage matched, tight fitting, stiffened to support weight of concrete without deflection detrimental to tolerances and appearance of finished surfaces.
- C. Glass Fiber Fabric Reinforced Plastic Forms: Matched, tight fitting, stiffened to support weight of concrete without deflection detrimental to tolerances and appearance of finished concrete surfaces.
- D. Pan Type: Steel or Glass fiber of size and profile required.
- E. Tubular Column Type: Round, spirally wound laminated fiber, wood, or glass fiber material, surface treated with release agent, non-reusable, sizes as indicated in drawings.
- F. Void Forms: Moisture resistant treated paper faces, biodegradable, structurally sufficient to support weight of wet concrete mix until initial set; min 2inches thick.
- G. Steel Forms: Sheet steel, suitably reinforced, and designed for particular use indicated on Drawings.

- H. Form Liners: Smooth, durable, grainless and non-staining hardboard, unless otherwise indicated on Drawings.
- I. Framing, Studding and Bracing: Stud or No. 3 structural light framing grade.

2.3 FORMWORK ACCESSORIES

- A. Form Ties: Metal form ties of an approved type or an approved substitute shall be used to hold forms in place. All metal ties or other appliances used inside the forms to hold them in correct alignment shall be removed to a depth of at least ½-inches from the surface of the concrete. Burning off of rods, bolts or ties shall not be permitted. The cavities produced shall be carefully cleaned and completely filled with retempered sand-cement mortar mixed in proportions of 1-to-3 and the concrete shall be left smooth and even.
- B. Spreaders: Standard, non-corrosive metal form clamp assembly, of type acting as spreaders and leaving no metal within 1 inch of concrete face. Wire ties, wood spreaders, through bolts or pipe spreaders are not permitted.
- C. Form Anchors and Hangers:
 - 1. Do not use anchors and hangers exposed concrete leaving exposed metal at concrete surface.
 - 2. Symmetrically arrange hangers supporting forms from structural steel members to minimize twisting or rotation of member.
 - 3. Penetration of structural steel members is not permitted.
- D. Form Release Agent: The contractor is allowed, but not required to use form release agents. Colorless mineral oil that will not stain concrete, or absorb moisture, or impair natural bonding or color characteristics of coating intended for use on concrete. Care shall be exercised that no releasing agent is deposited on previously placed concrete, reinforcement or embedded metal items.
- E. Vapor Retarder: Where indicated on Drawings, 8 mil thick polyethylene sheet.
- F. Bituminous Joint Filler: ASTM D1751.
- G. Nails, Spikes, Lag Bolts, Through Bolts, Anchorages: Size, strength and character to maintain formwork in place while placing concrete.
- H. Water Stops: Type & size as indicated in drawings. Minimum requirements: Rubber/PVC, minimum 1,750 psi tensile strength, minimum 50 degrees F to plus 175 degrees F working temperature range, min 6 inch wide, maximum possible lengths, ribbed profile, preformed corner sections, heat welded jointing. Water stops are not required where walls act strictly as baffles. Water stops must be cast in to concrete on both sides formed into keyways. Not to be inserted into concrete after concrete is poured.

2.4 COATINGS

- A. Coatings for Aluminum: Polyamide epoxy finish coat with paint manufacturer's recommended primer for aluminum substrate. Apply one coat primer and one coat finish

PART 3 - EXECUTION

3.1 EXAMINATION

- A. Verify lines, levels, and centers before proceeding with formwork. Verify dimensions agree with Drawings.
- B. When formwork is placed after reinforcement resulting in insufficient concrete cover over reinforcement before proceeding, request instructions from Engineer.

3.2 INSTALLATION

- A. Earth Forms: Earth forms are not permitted unless contractor receives written approval from engineer. When approved, the following shall apply:
 - 1. Trench earth forms neatly, accurately, and at least 2 inches wider than footing widths indicated on Drawings.
 - 2. Trim sides and bottom of earth forms.
 - 3. Construct wood edge strips at top of each side of trench to secure reinforcing and prevent trench from sloughing.
 - 4. Form sides of footings where earth sloughs.
 - 5. Tamp earth forms firm and clean forms of debris and loose material before depositing concrete.
- B. Formwork - General:
 - 1. Provide top form for sloped surfaces steeper than 1.5 horizontal to 1 vertical to hold shape of concrete during placement, unless it can be demonstrated that top forms can be omitted.
 - 2. Construct forms to correct shape and dimensions, mortar-tight, braced, and of sufficient strength to maintain shape and position under imposed loads from construction operations.
 - 3. Camber forms where necessary to produce level finished soffits unless otherwise shown on Drawings.
 - 4. Carefully verify horizontal and vertical positions of forms. Correct misaligned or misplaced forms before placing concrete.
 - 5. Complete wedging and bracing before placing concrete.
- C. Forms for Smooth Finish Concrete:
 - 1. Smooth finish concrete is required for all surfaces that shall not be completely enclosed or hidden below the permanent surface of the ground.
 - 2. Use steel, plywood or lined board forms.
 - 3. Use clean and smooth plywood and form liners, uniform in size, and free from surface and edge damage capable of affecting resulting concrete finish.
 - 4. Install form lining with close-fitting square joints between separate sheets without springing into place.
 - 5. Use full size sheets of form lines and plywood wherever possible.
 - 6. Tape joints to prevent protrusions in concrete.
 - 7. Use care in forming and stripping wood forms to protect corners and edges.
 - 8. Level and continue horizontal joints.
 - 9. Keep wood forms wet until stripped.
 - 10. Any lumber or material which becomes badly checked or warped prior to placing concrete shall not be used.

- D. Architectural Form Liners:
1. Erect architectural side of formwork first.
 2. Attach form liner to forms before installing form ties.
 3. Install form liners square, with joints and pattern aligned.
 4. Seal form liner joints to prevent grout leaks.
 5. Dress joints and edges to match form liner pattern and texture.
- E. Forms for Surfaces to Receive Membrane Waterproofing: Use plywood or steel forms. After erection of forms, tape form joints to prevent protrusions in concrete.
- F. Framing, Studding and Bracing:
1. Space studs at 16 inches on center maximum for boards and 12 inches on center maximum for plywood.
 2. Size framing, bracing, centering, and supporting members with sufficient strength to maintain shape and position under imposed loads from construction operations.
 3. Construct beam soffits of material minimum of 2 inches thick.
 4. Distribute bracing loads over base area on which bracing is erected.
 5. When placed on ground, protect against undermining, settlement or accidental impact.
- G. Erect formwork, shoring, and bracing to achieve design requirements, in accordance with requirements of ACI 301 and ACI 318.
- H. Arrange and assemble formwork to permit dismantling and stripping. Do not damage concrete during stripping. Permit removal of remaining principal shores.
- I. Obtain Architect/Engineer's approval before framing openings in structural members not indicated on Drawings.
- J. Install fillet and chamfer strips on external corners of beams, joists and, columns
- K. Install void forms in accordance with manufacturer's recommendations.
- L. Do not reuse wood formwork more than 3 times for concrete surfaces to be exposed to view. Do not patch formwork.

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. Care shall be exercised that no releasing agent is deposited on previously placed concrete, reinforcement or embedded metal items.
- C. Do not apply form release agent where concrete surfaces are indicated to receive special finishes or applied coverings that are affected by agent. Soak inside surfaces of untreated forms with clean water. Keep surfaces coated prior to placement of concrete.
- D. Reuse and Coating of Forms: Thoroughly clean forms and reapply form coating before each reuse. For exposed work, do not reuse forms with damaged faces or edges. Apply form coating to forms in accordance with manufacturer's specifications. Do not coat forms for concrete indicated to receive "scored finish". Apply form coatings before placing reinforcing steel.

3.4 INSTALLATION - INSERTS, EMBEDDED PARTS, AND OPENINGS

- A. Install formed openings for items to be embedded in or passing through concrete work.
- B. Locate and set in place items required to be cast directly into concrete.
- C. Coordinate with Work of other sections & plan drawings in forming and placing openings, slots, reglets, recesses, sleeves, bolts, anchors, other inserts, and components of other Work.
- D. Install accessories straight, level, and plumb. Ensure items are not disturbed during concrete placement.
- E. Install water stops continuous without displacing reinforcement. Heat seal joints watertight
- F. Provide temporary ports or openings in formwork where required to facilitate cleaning and inspection. Locate openings at bottom of forms to allow flushing water to drain.
- G. 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.
- H. Form Ties:
 - 1. Use sufficient strength and sufficient quantity to prevent spreading of forms.
 - 2. Place ties at least 1 inch away from finished surface of concrete.
 - 3. Leave inner rods in concrete when forms are stripped.
 - 4. Space form ties equidistant, symmetrical and aligned vertically and horizontally unless otherwise shown on Drawings.
- I. Arrangement: Arrange formwork to allow proper erection sequence and to permit form removal without damage to concrete.
- J. Construction Joints:
 - 1. Install surfaced pouring strip where construction joints intersect exposed surfaces to provide straight line at joints.
 - 2. Just prior to subsequent concrete placement, remove strip and tighten forms to conceal shrinkage.
 - 3. Show no overlapping of construction joints. Construct joints to present same appearance as butted plywood joints.
 - 4. Arrange joints in continuous line straight, true and sharp.
- K. Embedded Items:
 - 1. Make provisions for pipes, sleeves, anchors, inserts, reglets, anchor slots, nailers, water stops, and other features.
 - 2. Do not embed wood or uncoated aluminum in concrete.
 - 3. Obtain installation and setting information for embedded items furnished under other Specification sections.
 - 4. Securely anchor embedded items in correct location and alignment prior to placing concrete.
 - 5. Verify conduits and pipes, including those made of coated aluminum, meet requirements of ACI 318 for size and location limitations.
- L. Openings for Items Passing Through Concrete:

1. Frame openings in concrete where indicated on Drawings. Establish exact locations, sizes, and other conditions required for openings and attachment of work specified under other sections.
2. Coordinate work to avoid cutting and patching of concrete after placement.
3. Perform cutting and repairing of concrete required as result of failure to provide required openings.

M. Screeds:

1. Set screeds and establish levels for tops of concrete slabs and levels for finish on slabs.
2. Slope slabs to drain where required or as shown on Drawings.
3. Before depositing concrete, remove debris from space to be occupied by concrete and thoroughly wet forms. Remove freestanding water.

N. Screed Supports:

1. For concrete over waterproof membranes and vapor retarder membranes, use cradle, pad or base type screed supports which will not puncture membrane.
2. Staking through membrane is not be permitted.

O. Cleanouts and Access Panels:

1. Provide removable cleanout sections or access panels at bottoms of forms to permit inspection and effective cleaning of loose dirt, debris and waste material.
2. Clean forms and surfaces against which concrete is to be placed. Remove chips, saw dust and other debris. Thoroughly blow out forms with compressed air just before concrete is placed.

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. Ensure that water and debris drain to exterior through clean-out ports.
- D. During cold weather, remove ice and snow from within forms. Do not use de-icing salts. Do not use water to clean out forms, unless formwork and concrete construction proceed within heated enclosure. Use compressed air or other means to remove foreign matter.

3.6 FORM REMOVAL

- A. Do not remove forms or bracing until concrete has gained sufficient strength to carry its own weight and imposed loads and removal has been approved by Architect/Engineer.
- B. Loosen forms carefully. Do not wedge pry bars, hammers, or tools against finish concrete surfaces scheduled for exposure to view. Do not jar the formwork during the initial set.
- C. Store removed forms in manner that surfaces to be in contact with fresh concrete will not be damaged. Discard damaged forms.
- D. Leave forms in place for minimum number of days as specified in ACI 347.

3.7 ERECTION TOLERANCES

- A. Construct formwork to maintain tolerances required by ACI 301 and ACI 318.

3.8 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. Notify Architect/Engineer after placement of reinforcing steel in forms, but prior to placing concrete. Contractor shall give the owner & engineer a minimum 24 hours notice before beginning placement of concrete to permit the inspection of forms & rebar
- C. Schedule concrete placement to permit formwork inspection before placing concrete.

END OF SECTION

SECTION 03 20 00 - CONCRETE REINFORCING

PART 1 - GENERAL

1.1 SUMMARY

A. Section Includes:

1. Reinforcing bars.
2. Welded wire fabric.
3. Reinforcement accessories.

1.2 UNIT PRICE - MEASUREMENT AND PAYMENT

- A. All items including but not limited to materials, equipment, overhead, coordination, testing, labor, and supervision required for a complete and operable project shall be included in the bid for the project. All measurement and payment shall be based on the items of work that are specifically listed in the Bid Proposal. Any items not specifically listed in the Bid Proposal shall be considered subsidiary to unit cost items within the Bid Proposal and no additional payment shall be made for subsidiary items.

1.3 REFERENCES

A. American Concrete Institute:

1. ACI 301 - Specifications for Structural Concrete.
2. ACI 318 - Building Code Requirements for Structural Concrete.
3. ACI 530.1 - Specifications for Masonry Structures.
4. ACI SP-66 - ACI Detailing Manual.

B. ASTM International:

1. ASTM A82/A82M - Standard Specification for Steel Wire, Plain, for Concrete Reinforcement.
2. ASTM A184/A184M - Standard Specification for Fabricated Deformed Steel Bar Mats for Concrete Reinforcement.
3. A185/A185M-07 Standard Specification for Steel Welded Wire Reinforcement, Plain, for Concrete.
4. ASTM A496/A496M - Standard Specification for Steel Wire, Deformed, for Concrete Reinforcement.
5. ASTM A497/A497M - Standard Specification for Steel Welded Wire Fabric, Deformed, for Concrete Reinforcement.
6. ASTM A615/A615M - Standard Specification for Deformed and Plain Billet-Steel Bars for Concrete Reinforcement.
7. ASTM A704/A704M - Standard Specification for Welded Steel Plain Bar or Rod Mats for Concrete Reinforcement.
8. ASTM A706/A706M - Standard Specification for Low-Alloy Steel Deformed and Plain Bars for Concrete Reinforcement.
9. ASTM A767/A767M - Standard Specification for Zinc-Coated (Galvanized) Steel Bars for Concrete Reinforcement.
10. ASTM A775/A775M - Standard Specification for Epoxy-Coated Steel Reinforcing Bars.

11. ASTM A884/A884M - Standard Specification for Epoxy-Coated Steel Wire and Welded Wire Reinforcement.
12. ASTM A934/A934M - Standard Specification for Epoxy-Coated Prefabricated Steel Reinforcing Bars.
13. ASTM A996/A996M - Standard Specification for Rail-Steel and Axle-Steel Deformed Bars for Concrete Reinforcement.

C. American Welding Society:

1. AWS D1.4 - Structural Welding Code - Reinforcing Steel.

D. Concrete Reinforcing Steel Institute:

1. CRSI - Manual of Standard Practice.
2. CRSI - Placing Reinforcing Bars.

1.4 SUBMITTALS

- A. Shop Drawings: Indicate bar sizes, spacing's, locations, and quantities of reinforcing steel and welded wire fabric, bending and cutting schedules, and supporting and spacing devices
- B. Certificates: Submit AWS qualification certificate for welders employed on the Work.
- C. Manufacturer's Certificate: Certify Products meet or exceed specified requirements.
 1. Submit certified copies of mill test report of reinforcement materials analysis.

1.5 QUALITY ASSURANCE

- A. Perform Work in accordance with ACI 301 and ACI 318
- B. Prepare shop drawings in accordance with ACI SP-66.
- C. Perform Work in accordance with state and local standard specifications.

1.6 QUALIFICATIONS

- A. Welders: AWS qualified within previous 12 months.

PART 2 - PRODUCTS

2.1 REINFORCEMENT

- A. Reinforcing Steel: ASTM A615/A615M, 60 ksi yield grade, deformed billet bars, uncoated finish.
- B. Deformed Reinforcement: ASTM A996/A996M; 60 ksi yield strength, Type R steel bars, unfinished.
- C. Welded Deformed Wire Fabric: ASTM A497/A497M; in flat sheets; unfinished.
- D. Structural steel shall be A-36 unless otherwise noted on plans.

2.2 ACCESSORY MATERIALS

- A. Tie Wire: Minimum 16 gage annealed type.
- B. Chairs, Bolsters, Bar Supports, Spacers: Sized and shaped for strength and support of reinforcement during concrete placement conditions including load bearing pad on bottom to prevent vapor retarder puncture.
- C. Special Chairs, Bolsters, Bar Supports, Spacers Adjacent to Weather Exposed Concrete Surfaces: Plastic-coated steel type; size and shape to meet Project conditions.

2.3 FABRICATION

- A. Fabricate concrete reinforcement in accordance with CRSI Manual of Practice ACI 318.
- B. Form standard hooks for 180 degree bends, 90 degree bend, stirrup and tie hooks, as indicated on Drawings.
- C. Form reinforcement bends with minimum diameters in accordance with ACI 318.
- D. Fabricate column reinforcement with offset bends at reinforcement splices.
- E. Form spiral column reinforcement from minimum 3/8 inch diameter continuous deformed bar or wire.
- F. Form ties and stirrups from the following:
 - 1. For bars No. 10 and Smaller: No. 3 deformed bars.
 - 2. For bars No. 11 and Larger: No. 4 deformed bars.
- G. Weld reinforcement in accordance with AWS D1.4.
- H. Locate reinforcement splices not indicated on Drawings, at point of minimum stress.

PART 3 - EXECUTION

3.1 PLACEMENT

- A. Place, support and secure reinforcement against displacement. Do not deviate from required position beyond specified tolerance.
 - 1. Do not weld crossing reinforcement bars for assembly except as permitted by Engineer.
- B. Do not displace or damage vapor retarder.
- C. Accommodate placement of formed openings.
- D. Space reinforcement bars with minimum clear spacing in accordance with ACI 318.
 - 1. Where bars are indicated in multiple layers, place upper bars directly above lower bars.
- E. Maintain concrete cover around reinforcement in accordance with ACI 318 as follows:

Reinforcement Location		Minimum Concrete Cover
Footings and Concrete Formed Against Earth		3 inches
Concrete exposed to earth or weather	No. 6 bars and larger	2 inches
	No. 5 bars and smaller	1-1/2 inches
Supported Slabs, Walls, and Joists	No. 14 bars and larger	1-1/2 inches
	No. 11 bars and smaller	3/4 inches
Beams and Columns		1-1/2 inches
Shell and Folded Plate Members	No. 6 bars and larger	3/4 inches
	No. 5 bars and smaller	1/2 inches

F. If applicable, bond and ground reinforcement in accordance with the requirements outlined in the electrical plans.

3.2 ERECTION TOLERANCES

A. Install reinforcement within the following tolerances for flexural members, walls, and compression members:

Reinforcement Depth	Depth Tolerance	Concrete Cover Tolerance
Greater than 8 inches	plus or minus 3/8 inch	minus 3/8 inch
Less than 8 inches	plus or minus 1/2 inch	minus 1/2 inch

B. Install reinforcement within the tolerances specified in ACI 530.1 for foundation walls.

3.3 FIELD QUALITY CONTROL

A. Perform field inspection and testing in accordance with ACI 318.

B. Provide free access to Work and cooperate with appointed firm.

C. Reinforcement Inspection:

1. Placement Acceptance: Specified and ACI 318 material requirements and specified placement tolerances.
2. Welding: Inspect welds in accordance with AWS D1.1.
3. Periodic Placement Inspection: Inspect for correct materials, fabrication, sizes, locations, spacing, concrete cover, and splicing.
4. Weldability Inspection: Inspect for reinforcement weldability when formed from steel other than ASTM A706/A706M.
5. Continuous Weld Inspection: Inspect reinforcement as required by ACI 318.
6. Periodic Weld Inspection: Other welded connections.

END OF SECTION

SECTION 03 30 00 - CAST-IN-PLACE CONCRETE

PART 1 - GENERAL

1.1 SUMMARY

A. Section Includes Cast-in-Place Concrete for Following Items:

1. Building frame members.
2. Beams, lintels, and columns.
3. Shear walls.
4. Retaining walls.
5. Foundation walls.
6. Footings.
7. Supported slabs.
8. Slabs on grade.
9. Control, expansion, and contraction joint devices.
10. Equipment pads.
11. Light pole base.
12. Flagpole base.
13. Thrust blocks.
14. Manholes.

1.2 UNIT PRICE - MEASUREMENT AND PAYMENT

A. All items including but not limited to materials, equipment, overhead, coordination, testing, labor, and supervision required for a complete and operable project shall be included in the bid for the project. All measurement and payment shall be based on the items of work that are specifically listed in the Bid Proposal. Any items not specifically listed in the Bid Proposal shall be considered subsidiary to unit cost items within the Bid Proposal and no additional payment shall be made for subsidiary items.

1.3 REFERENCE STANDARDS

A. American Concrete Institute:

1. ACI 301 - Specifications for Structural Concrete.
2. ACI 305R - Guide to Hot Weather Concreting.
3. ACI 306.1 - Standard Specification for Cold Weather Concreting.
4. ACI 308.1 - Specification for Curing Concrete.
5. ACI 318 - Building Code Requirements for Structural Concrete.

B. ASTM International:

1. ASTM B221 - Standard Specification for Aluminum and Aluminum-Alloy Extruded Bars, Rods, Wire, Profiles, and Tubes.
2. ASTM C31 - Standard Practice for Making and Curing Concrete Test Specimens in the Field.
3. ASTM C33 - Standard Specification for Concrete Aggregates.
4. ASTM C39 - Standard Test Method for Compressive Strength of Cylindrical Concrete Specimens.

5. ASTM C42 - Standard Test Method for Obtaining and Testing Drilled Cores and Sawed Beams of Concrete.
6. ASTM C94 - Standard Specification for Ready-Mixed Concrete.
7. ASTM C143 - Standard Test Method for Slump of Hydraulic-Cement Concrete.
8. ASTM C150 - Standard Specification for Portland Cement.
9. ASTM C172 - Standard Practice for Sampling Freshly Mixed Concrete.
10. ASTM C173 - Standard Test Method for Air Content of Freshly Mixed Concrete by the Volumetric Method.
11. ASTM C231 - Standard Test Method for Air Content of Freshly Mixed Concrete by the Pressure Method.
12. ASTM C260 - Standard Specification for Air-Entraining Admixtures for Concrete.
13. ASTM C330 - Standard Specification for Lightweight Aggregates for Structural Concrete.
14. ASTM C494 - Standard Specification for Chemical Admixtures for Concrete.
15. ASTM C595 - Standard Specification for Blended Hydraulic Cements.
16. ASTM C618 - Standard Specification for Coal Fly Ash and Raw or Calcined Natural Pozzolan for Use in Concrete.
17. ASTM C685 - Standard Specification for Concrete Made by Volumetric Batching and Continuous Mixing.
18. ASTM C845 - Standard Specification for Expansive Hydraulic Cement.
19. ASTM C989 - Standard Specification for Slag Cement for Use in Concrete and Mortars.
20. ASTM C1017 - Standard Specification for Chemical Admixtures for Use in Producing Flowing Concrete.
21. ASTM C1064 - Standard Test Method for Temperature of Freshly Mixed Hydraulic-Cement Concrete.
22. ASTM C1107 - Standard Specification for Packaged Dry, Hydraulic-Cement Grout (Nonshrink).
23. ASTM C1116 - Standard Specification for Fiber-Reinforced Concrete.
24. ASTM C1157 - Standard Performance Specification for Hydraulic Cement.
25. ASTM C1218 - Standard Test Method for Water-Soluble Chloride in Mortar and Concrete.
26. ASTM C1240 - Standard Specification for Silica Fume Used in Cementitious Mixtures.
27. ASTM D994 - Standard Specification for Preformed Expansion Joint Filler for Concrete (Bituminous Type).
28. ASTM D1751 - Standard Specification for Preformed Expansion Joint Filler for Concrete Paving and Structural Construction (Nonextruding and Resilient Bituminous Types).
29. ASTM D1752 - Standard Specification for Preformed Sponge Rubber Cork and Recycled PVC Expansion Joint Fillers for Concrete Paving and Structural Construction.
30. ASTM D6690 - Standard Specification for Joint and Crack Sealants, Hot Applied, for Concrete and Asphalt Pavements.
31. ASTM E96 - Standard Test Methods for Water Vapor Transmission of Materials.
32. ASTM E119 - Standard Test Methods for Fire Tests of Building Construction and Materials.
33. ASTM E1643 - Standard Practice for Selection, Design, Installation, and Inspection of Water Vapor Retarders Used in Contact with Earth or Granular Fill Under Concrete Slabs.
34. ASTM E1745 - Standard Specification for Plastic Water Vapor Retarders Used in Contact with Soil or Granular Fill under Concrete Slabs.

1.4 COORDINATION

- A. Coordinate placement of joint devices with erection of concrete formwork and placement of form accessories.

1.5 SUBMITTALS

- A. Product Data: Submit data on joint devices and attachment accessories.
- B. Design Data:
 - 1. Submit concrete mix design for each concrete strength.
 - 2. Submit separate mix designs if admixtures are required for following:
 - a. Hot and cold weather concrete Work.
 - b. Air entrained concrete Work.
 - 3. Identify mix ingredients and proportions, including admixtures.
 - 4. Identify chloride content of admixtures and whether or not chlorides were added during manufacture.
- C. Manufacturer's Certificate: Certify that products meet or exceed specified requirements.
- D. Manufacturer Instructions: Submit installation procedures and interfacing required with adjacent Work.
- E. Field Quality-Control Submittals: Indicate results of Contractor-furnished tests and inspections.

1.6 CLOSEOUT SUBMITTALS

- A. Project Record Documents: Record actual locations of embedded utilities and components concealed from view in finished construction.

1.7 QUALITY ASSURANCE

- A. Concrete mixing plant shall conform to TxDOT standards and be certified in the state of Texas.
- B. Perform Work according to ACI 318.
- C. Comply with ACI 305R when pouring concrete during hot weather.
- D. Comply with ACI 306.1 when pouring concrete during cold weather.
- E. Acquire cement and aggregate from one source for Work.
- F. Perform Work according to city standards.

1.8 AMBIENT CONDITIONS

- A. Maintain concrete temperature after installation at minimum 50 degrees F for minimum seven days.
- B. Maintain high-early strength concrete temperature after installation at minimum 50 degrees F for minimum three days.

PART 2 - PRODUCTS

2.1 MATERIALS

A. Concrete:

1. Cement:
 - a. Comply with ASTM C150
 - b. Type: Portland.
2. Blended Cement:
 - a. Comply with ASTM C595.
3. Hydraulic Cement:
 - a. Comply with ASTM C1157.
4. Normal Weight Aggregates:
 - a. Comply with ASTM C33.
 - b. Coarse Aggregate Maximum Size: According to ACI 318.
5. Lightweight Aggregate:
 - a. Comply with ASTM C330.
 - b. Coarse Aggregate Maximum Size: According to ACI 318.
6. Water:
 - a. Comply with ACI 318.
 - b. Potable, without deleterious amounts of chloride ions.
 - c. Furnish materials according to city standards.
7. Air Entrainment: Comply with ASTM C260.
8. Chemical:
 - a. Comply with ASTM C494.
9. Fly Ash Calcined Pozzolan: Comply with ASTM C618, Class C.
10. Silica Fume: Comply with ASTM C1240.
11. Slag:
 - a. Description: Ground-granulated blast-furnace slag.
 - b. Comply with ASTM C989.
 - c. Grade 100.
12. Plasticizing:
 - a. Comply with ASTM C1017.
 - b. Type I, plasticizing.

B. Joint Devices and Filler:

1. Joint Filler, Type A:
 - a. Description: Asphalt-impregnated fiberboard or felt.
 - b. Comply with ASTM D1751 D994.
 - c. Thickness: 1/4 inch.
 - d. Profile: Tongue-and-groove.

2. Joint Filler, Type B:
 - a. Description: Recycled PVC.
 - b. Comply with ASTM D1752.
 - c. Thickness: 1/4 inch.

3. Joint Filler, Type C:
 - a. Description: Premolded sponge rubber.
 - b. Comply with ASTM D1752.
 - c. Thickness: 1/4 inch.

4. Construction Joint Devices:
 - a. Material: Integral extruded plastic.
 - b. Thickness: 1/2 inch.
 - c. Profile: Tongue-and-groove with removable top strip exposing sealant trough and knockout holes spaced at 6 inches o.c.

5. Expansion and Contraction Joint Devices:
 - a. Comply with ASTM B221.
 - b. Material: Extruded aluminum.
 - c. Filler Strip: Resilient neoprene with Shore A hardness of 35 to permit plus or minus 25 percent joint movement with full recovery.
 - d. Cover Plate: Extruded aluminum, of longest manufactured length at each location, and recessed mounted.
 - e. Color: As selected.

6. Sealant:
 - a. Description: two-part liquid neoprene.

2.2 CONCRETE MIX

- A. Select proportions for concrete according to ACI 318 field test data.
- B. Performance and Design Criteria:

Class of Concrete ¹	Minimum Cementitious Lb./CY	28 Day Min. Compressive Strength ² psi	28 Day Min. Beam Strength ^{2,3} psi	Maximum Water/ Cementitious Ratio	Coarse Aggregate Maximum Size ⁴
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A	470	3000	500	0.58	1.5"
B	376	2000	330	0.71	1.5"
C	564	3600	600	0.53	1.5"
D	282	1500	250	0.97	1.5"
E	564	3000	500	0.62	1.5"
F	611	4200	700	0.49	1.5"
S	564	3600	600	0.44	1.5"
H ⁵	611	See Plans	N/A	0.49	1"
M	As directed	As directed	As Directed	As Directed	As Directed

- (1) All exposed horizontal concrete shall have entrained air
- (2) Min strength required by owner
- (3) ASTM C78 (Third Point); Reduced by 10% when Typ II Cement used
- (4) Smaller nominal max size aggregate may be used if strength satisfied
- (5) Prestressed concrete

C. Admixtures:

- 1. Include admixture types and quantities indicated in concrete mix designs only if approved by Architect/Engineer.
- 2. Do not use calcium chloride or admixtures containing calcium chloride.
- 3. Add air entrainment admixture to concrete mix for Work exposed to freezing and thawing.
- 4. For concrete exposed to deicing chemicals, limit fly ash, pozzolans, silica fumes, and slag content as required by applicable code.

D. Average Compressive Strength Reduction: Permitted according to ACI 318.

E. Ready-Mixed Concrete: Mix and deliver concrete according to ASTM C94 & C685.

F. Site-Mixed Concrete: Mix concrete according to ACI 318.

2.3 ACCESSORIES

A. Vapor Retarder:

- 1. Description: Clear polyethylene film.
- 2. Comply with ASTM E1745, Class A B C.
- 3. Thickness: 6 mils.
- 4. Type: As recommended for below-grade application.
- 5. Joint Tape: As recommended by manufacturer.

B. Non-shrink Grout:

1. Description: Premixed compound consisting of non-metallic aggregate, cement, and water-reducing and plasticizing agents.
2. Comply with ASTM C1107.
3. Minimum Compressive Strength: 2,400 psi in 48 hours and 7,000 psi in 28 days.

C. Concrete Reinforcing Fibers:

1. Description: High-strength industrial-grade fibers specifically engineered for secondary reinforcement of concrete.
2. Comply with ASTM C1116.
3. Tensile Strength: 130 ksi.
4. Toughness: 15 ksi.
5. Fiber Length: 3/4 inch.
6. Fiber Count: 34 million/lb.

PART 3 - EXECUTION

3.1 EXAMINATION

- A. Verify requirements for concrete cover over reinforcement.
- B. Verify that anchors, seats, plates, reinforcement, and other items to be cast into concrete are accurately placed, positioned securely, and will not interfere with placing concrete.

3.2 PREPARATION

- A. Section 01 70 00 - Execution and Closeout Requirements: Requirements for installation preparation.
- B. Previously Placed Concrete:
 1. Prepare previously placed concrete by cleaning with steel brush and applying bonding agent.
 2. Remove laitance, coatings, and unsound materials.
- C. In locations where new concrete is doweled to existing work, drill holes in existing concrete, blow/clean all holes thoroughly, insert steel dowels, and pack solid with non-shrink grout or epoxy.
- D. Remove debris and ice from formwork, reinforcement, and concrete substrates.
- E. Remove water from areas receiving concrete before concrete is placed.

3.3 INSTALLATION

- A. Placing Concrete:
 1. Place concrete according to ACI 318.
 2. Notify testing laboratory and Engineer minimum 24 hours prior to commencement of operations.
 3. Ensure that reinforcement, inserts, embedded parts, formed expansion and contraction joints, not disturbed during concrete placement.

4. Install vapor retarder under interior slabs on grade according to ASTM E1643.
 5. Lap joints minimum 6 inches and seal watertight by taping edges and ends.
 6. Repairs:
 - a. Repair vapor retarder damaged during placement of concrete reinforcement.
 - b. Using vapor retarder material, lap over damaged areas minimum 6 inches and seal watertight.
 7. Joint Filler:
 - a. Separate slabs on grade from vertical surfaces with 1/4-inch-thick joint filler.
 - b. Place joint filler in floor slab pattern placement sequence; set top to required elevations; secure to resist movement by wet concrete.
 - c. Extend joint filler from bottom of slab to within 1/2 inch of finished slab surface.
 8. Joint Devices:
 - a. Coordination: Install construction joint devices in coordination with floor slab pattern placement sequence; set top to required elevations; secure to resist movement by wet concrete.
 - b. Install joint device anchors, maintaining correct position to allow joint cover to be flush with floor and wall finish.
 - c. Install joint covers in longest practical length when adjacent construction activity is complete.
 9. Deposit concrete at final position, preventing segregation of mix.
 10. Place concrete in continuous operation for each panel or section as determined by predetermined joints.
 11. Consolidate concrete.
 12. Maintain records of concrete placement, including date, location, quantity, air temperature, and test samples taken.
 13. Place concrete continuously between predetermined expansion, control, and construction joints.
 14. Place floor slabs in indicated checkerboard or saw-cut pattern.
 15. Saw-Cut Joints:
 - a. Saw-cut joints within 12 hours after placing.
 - b. Use 3/16 inch thick blade.
 - c. Cut into 1/4 depth of slab thickness.
 16. Screeding:
 - a. Screed floors and slabs on grade level.
 - b. Surface Flatness: maximum 1/4 inch in 10 feet.
- B. Concrete Finishing:
1. Provide formed concrete surfaces to be left exposed with smooth-rubbed finish.
 2. Finish concrete floor surfaces as specified in Section 03 35 00 - Concrete Finishing and ACI 318.
 3. Steel trowel all floor or slab surfaces.
 4. In areas with floor drains, maintain floor elevation at walls and pitch surfaces uniformly to drains at 1/8 inch per foot nominal or as indicated on Drawings.

C. Curing and Protection:

1. Immediately after placement, protect concrete from premature drying, excessively hot or cold temperatures, and mechanical injury.
2. Protect concrete footings from freezing for minimum of 7 days.
3. Maintain concrete with minimal moisture loss at relatively constant temperature for period as necessary for hydration of cement and hardening of concrete.
4. Cure floor surfaces according to ACI 318.

3.4 FIELD QUALITY CONTROL

- A. Perform inspection and testing according to ACI 318.
- B. Submit proposed mix design of each class of concrete to inspection and testing firm for review prior to commencement of Work.
- C. Field verify locations of all surrounding structures and piping prior to soil disturbing activities or placement of concrete formwork.
- D. Concrete Inspections:
 1. Continuous Placement Inspection: Inspect for proper installation procedures.
 2. Periodic Curing Inspection: Inspect for specified curing temperature and procedures.
- E. Strength Test Samples:
 1. Sampling Procedures: Comply with ASTM C172.
 2. Cylinder Molding and Curing Procedures:
 - a. Comply with ASTM C31.
 - b. Cylinder Specimens: Field cured.
 3. Test cylinders shall be prepared by the contractor for owner's use in quality assurance. A minimum of one set of concrete cylinders shall be prepared for each structure, for each day's pour, and for each 50 CY of concrete poured. Each test set shall consist of at least 4 cylinders. The contractor may at his option elect to prepare additional cylinders for his own use.
 4. Sample concrete and make one set of three cylinders for every 75 cu. yd. or less of each class of concrete placed each day, and for every 5,000 sq. ft. of surface area for slabs and walls.
 5. If volume of concrete for a class of concrete would provide less than five sets of cylinders, take samples from five randomly selected batches, or from every batch if less than five batches are used.
 6. Make one additional cylinder during cold weather concreting and field cure.
- F. Field Testing:
 1. Slump Test Method: Comply with ASTM C143.
 2. Air Content Test Method: Comply with ASTM C173 C231.
 3. Temperature Test Method: Comply with ASTM C1064.
 4. Compressive Strength Concrete:
 - a. Measure slump and temperature for each sample.
 - b. Measure air content in air-entrained concrete for each sample.
- G. Cylinder Compressive Strength Testing:

1. Test Method: Comply with ASTM C39.
2. Test Acceptance: According to ACI 318.
3. Test one cylinder at seven days.
4. Test one cylinder at 28 days.
5. Retain one cylinder for 90 days for testing when requested by Engineer.
6. Dispose of remaining cylinders if testing is not required.

H. Core Compressive Strength Testing:

1. Sampling and Testing Procedures: Comply with ASTM C42.
2. Test Acceptance: According to ACI 318.
3. Drill three cores for each failed strength test from failed concrete.

I. Water-Soluble Chloride Ion Concentration Test Method:

1. Comply with ASTM C1218.
2. Test at 28 days.
3. Maximum Chloride Ion Concentration: As permitted by applicable code.

J. Patching:

1. Allow Architect/Engineer to inspect concrete surfaces immediately upon removal of forms.
2. Honeycombing or Embedded Debris in Concrete:
 - a. Not acceptable.
 - b. Notify Architect/Engineer upon discovery.
3. Patch imperfections according to ACI 318.

K. Defective Concrete:

1. Description: Concrete not conforming to required lines, details, dimensions, tolerances, or specified requirements.
2. Repair or replacement of defective concrete will be determined by Architect/Engineer.
3. Do not patch, fill, touch up, repair, or replace exposed concrete except upon express direction of Architect/Engineer for each individual area.

3.5 ATTACHMENTS

A. Schedule - Concrete Strengths unless otherwise noted on plan drawings:

1. Sidewalks & Driveways = 3,600 psi @ 28 days.
2. Foundations and slabs on grade = 3,600 psi @ 28 days.
3. Structures = 4,200 psi @ 28 days.
4. Roadway = 4,200 psi @ 28 days.

END OF SECTION

SECTION 03 39 00 - CONCRETE CURING

PART 1 - GENERAL

1.1 SUMMARY

- A. Section includes initial and final curing of horizontal and vertical concrete surfaces.

1.2 REFERENCES

- A. American Concrete Institute:

1. ACI 301 - Specifications for Structural Concrete.
2. ACI 302.1 - Guide for Concrete Floor and Slab Construction.
3. ACI 308.1 - Standard Specification for Curing Concrete.
4. ACI 318 - Building Code Requirements for Structural Concrete.

- B. ASTM International:

1. ASTM C171 - Standard Specification for Sheet Materials for Curing Concrete.
2. ASTM C309 - Standard Specification for Liquid Membrane-Forming Compounds for Curing Concrete.
3. ASTM C1315 - Standard Specification for Liquid Membrane-Forming Compounds Having Special Properties for Curing and Sealing Concrete.
4. ASTM D2103 - Standard Specification for Polyethylene Film and Sheeting.

1.3 SUBMITTALS

- A. Section 01 33 00 - Submittal Procedures: Submittal procedures.
- B. Product Data: Submit data on all curing compounds compatibilities, and limitations.

1.4 QUALITY ASSURANCE

- A. Perform Work in accordance with ACI 318.
- B. Perform Work in accordance with state and local standard specifications.

1.5 DELIVERY, STORAGE, AND HANDLING

- A. Deliver curing materials in manufacturer's packaging including application instructions.

PART 2 - PRODUCTS

2.1 MATERIALS

- A. Membrane Curing Compound: ASTM C309, Type 1D, Class A.

PART 3 - EXECUTION

3.1 EXAMINATION

- A. Verify substrate surfaces are ready to be cured.

3.2 INSTALLATION – HORIZONTAL AND VERTICAL SURFACES

- A. Cure concrete in accordance with ACI 308.1 using membrane curing method.
- B. Membrane Curing Compound: Apply curing compound in two coats with second coat applied at right angles to first.

3.3 PROTECTION OF FINISHED WORK

- A. Section 01 70 00 - Execution and Closeout Requirements: Protecting finished Work.
- B. Do not permit traffic over unprotected floor surface.

END OF SECTION

SECTION 03 60 00 - GROUTING

PART 1 - GENERAL

1.1 SUMMARY

A. Section Includes:

1. Portland cement grout.
2. Rapid curing epoxy grout.
3. Non-shrink cementitious grout.

1.2 UNIT PRICE - MEASUREMENT AND PAYMENT

- A. All items including but not limited to materials, equipment, overhead, coordination, testing, labor, and supervision required for a complete and operable project shall be included in the bid for the project. All measurement and payment shall be based on the items of work that are specifically listed in the Bid Proposal. Any items not specifically listed in the Bid Proposal shall be considered subsidiary to unit cost items within the Bid Proposal and no additional payment shall be made for subsidiary items.

1.3 REFERENCES

A. American Concrete Institute:

1. ACI 301 - Specifications for Structural Concrete.
2. ACI 318 - Building Code Requirements for Structural Concrete.

B. American Society of Testing and Materials:

1. ASTM C33 - Standard Specification for Concrete Aggregates.
2. ASTM C40 - Test Method for Organic Impurities in Fine Aggregates for Concrete.
3. ASTM C150 - Standard Specification for Portland Cement.
4. ASTM C191 - Test Method for Time of Setting of Hydraulic Cement by Vicat Needle.
5. ASTM C307 - Test Method for Tensile Strength of Chemical-Resistant Mortar, Grouts, and Monolithic Surfacing.
6. ASTM C531 - Test Method for Linear Shrinkage and Coefficient of Thermal Expansion of Chemical-Resistant Mortars, Grouts, Monolithic Surfacing, and Polymer Concretes.
7. ASTM C579 - Test Method for Compressive Strength of Chemical-Resistant Mortars, Grouts, monolithic Surfacing and Polymer Concretes.
8. ASTM C827 - Test Method for Change in Height at Early Ages of Cylindrical Specimens from Cementitious Mixtures.

C. U. S. Army Corps of Engineers Concrete Research Division (CRD):

1. CRD C621 - Non-Shrink Grout.

1.4 SUBMITTALS

- A. Product Data: Submit product data on grout.
- B. Manufacturer's Installation Instructions: Submit manufacturer's instructions for mixing, handling, surface preparation and placing epoxy type and non-shrink type grouts.
- C. Manufacturer's Certificate: Certify Products meet or exceed specified requirements.

1.5 QUALITY ASSURANCE

- A. Perform Work in accordance with state and local standard specifications

1.6 DELIVERY, STORAGE, AND HANDLING

- A. Deliver grout in manufacturer's unopened containers with proper labels intact.
- B. Store grout in a dry shelter, protect from moisture.

1.7 ENVIRONMENTAL REQUIREMENTS

- A. Do not perform grouting if temperatures exceed 95 degrees F.
- B. Maintain minimum temperature of 40 degrees F before, during, and after grouting, until grout has set.

PART 2 - PRODUCTS

2.1 PORTLAND CEMENT GROUT MATERIALS

- A. Portland Cement: ASTM C150, Type I and II.
- B. Water:
 - 1. Potable; containing no impurities, suspended particles, algae or dissolved natural salts in quantities capable of causing:
 - a. Corrosion of steel.
 - b. Volume change increasing shrinkage cracking.
 - c. Efflorescence.
 - d. Excess air entraining.
- C. Fine Aggregate:
 - 1. Washed natural sand.
 - 2. Gradation in accordance with ASTM C33 and represented by smooth granulometric curve within required limits.

3. Free from injurious amounts of organic impurities as determined by ASTM C40.

D. Mix:

1. Portland cement, sand and water. Do not use ferrous aggregate or staining ingredients in grout mixes.

2.2 RAPID CURING EPOXY GROUT

A. Furnish materials in accordance with state and local standard specifications.

B. Rapid Curing Epoxy Grout: High strength, three component epoxy grout formulated with thermosetting resins and inert fillers. Rapid-curing, high adhesion, and resistant to ordinary chemicals, acids and alkalies.

Property	Test	Result
Compressive Strength	ASTM C579	12,000 psi at 7 days
Tensile Strength	ASTM C307	2,000 psi minimum
Coefficient of Expansion	ASTM C531	30x10-6 in per degree F
Shrinkage	ASTM C827	None

2.3 NON-SHRINK CEMENTITIOUS GROUT

A. Furnish materials in accordance with state and local standard specifications.

B. Non-shrink Cementitious Grout: Pre-mixed ready for use formulation requiring only addition of water; non-shrink, non-corrosive, non-metallic, non-gas forming, no chlorides.

C. Properties: Certified to maintain initial placement volume or expand after set and meet the following minimum properties when tested in accordance with CRD-C621, for Type D non-shrink grout:

Property	Test	Time	Result
Setting Time	ASTM C191	Initial	2 hours (Approx)
		Final	3 hours (Approx)
Expansion			0.10% - 0.4% Maximum
Compressive Strength	CRD-C621	1 day	4,000 psi
		7 days	7,000 psi
		28 days	10,000 psi to 10,800 psi

2.4 FORMWORK

A. Refer to Section 03 10 00 for formwork requirements.

2.5 CURING

A. Prevent rapid loss of water from grout during first 48 hours by use of approved membrane curing compound or with use of wet burlap method.

PART 3 - EXECUTION

3.1 EXAMINATION

- A. Verify areas to receive grout.

3.2 PREPARATION

- A. Remove defective concrete, laitance, dirt, oil, grease and other foreign material from concrete surfaces by brushing, hammering, chipping or other similar means until sound, clean concrete surface is achieved.
- B. Rough concrete lightly, but not enough to interfere with placement of grout.
- C. Remove foreign materials from metal surfaces in contact with grout.
- D. Align, level and maintain final positioning of components to be grouted.
- E. Saturate concrete surfaces with clean water; remove excess water, leave none standing.

3.3 INSTALLATION - FORMWORK

- A. Construct leakproof forms anchored and shored to withstand grout pressures.
- B. Install formwork with clearances to permit proper placement of grout.

3.4 MIXING

- A. Mix and prepare rapid curing epoxy grout in accordance with manufacturer's instructions.
 - 1. Capable of developing minimum compressive strength of 2400 psi in 48 hours and 7000 psi in 28 days.

3.5 PLACING GROUT

- A. Place grout material quickly and continuously.
- B. Do not use pneumatic-pressure or dry-packing methods.
- C. Apply grout from one side only to avoid entrapping air.
- D. Do not vibrate placed grout mixture, or permit placement when area is being vibrated by nearby equipment.
- E. Thoroughly compact final installation and eliminate air pockets.
- F. Do not remove leveling shims for at least 48 hours after grout has been placed.

3.6 CURING

- A. Immediately after placement, protect grout from premature drying, excessively hot or cold temperatures, and mechanical injury.
- B. After grout has attained its initial set, keep damp for minimum of 3 days.

3.7 FIELD QUALITY CONTROL

- A. Field inspection and testing will be performed in accordance with ACI 301 and ACI 318.
- B. Submit proposed mix design of each class of grout to inspection and testing firm for review prior to commencement of Work.
- C. Tests of grout components may be performed to ensure conformance with specified requirements.

END OF SECTION

SECTION 31 05 13 - SOILS FOR EARTHWORK

PART 1 - GENERAL

1.1 SUMMARY

- A. Section Includes:
 - 1. General Fill.
 - 2. Select Fill.
 - 3. Topsoil

1.2 UNIT PRICES - MEASUREMENT AND PAYMENT

- A. All items including but not limited to materials, equipment, overhead, coordination, testing, labor, and supervision required for a complete and operable project shall be included in the bid for the project. All measurement and payment shall be based on the items of work that are specifically listed in the Bid Proposal. Any items not specifically listed in the Bid Proposal shall be considered subsidiary to unit cost items within the Bid Proposal and no additional payment shall be made for subsidiary items.

1.3 REFERENCES

- A. American Association of State Highway and Transportation Officials:
 - 1. AASHTO T180 - Standard Specification for Moisture-Density Relations of Soils Using a 4.54-kg (10-lb) Rammer and a 457-mm (18-in.) Drop.
- B. ASTM International:
 - 1. ASTM D698 - Standard Test Method for Laboratory Compaction Characteristics of Soil Using Standard Effort (12,400 ft-lbf/ft³ (600 kN-m/m^{3 - 2. ASTM D1557 - Standard Test Methods for Laboratory Compaction Characteristics of Soil Using Modified Effort (56,000 ft-lbf/ft³ (2,700 kN-m/m^{3 - 3. ASTM D2487 - Standard Classification of Soils for Engineering Purposes (Unified Soil Classification System).}}

1.4 SUBMITTALS

- A. Samples: Select fill samples shall be taken, stored, and transported per the testing laboratory requirements.
- B. Materials Source: Submit name of imported materials source.
- C. Manufacturer's Certificate: Certify materials meet or exceed specified requirements.

1.5 QUALITY ASSURANCE

- A. Furnish each offsite material from single source throughout the Work.

PART 2 - PRODUCTS

2.1 GENERAL FILL

- A. On-site or imported materials free from lumps or clods ≥ 6 " diameter. P.I.<20 LL<45

2.2 SELECT FILL

- A. Imported fill material free from lumps or clods > 2 " diameter P.I.<10 LL<40
- B. Free of rocks, frozen material, debris, and organics.

2.3 TOPSOIL MATERIALS

- A. Topsoil
 - 1. Imported borrow.
 - 2. Friable loam.
 - 3. Reasonably free of roots, rocks larger than 1/2 inch, subsoil, debris, large weeds, and foreign matter.
 - a. Screening: Single screened.
 - 4. Acidity range (pH) of 5.5 to 7.5.
 - 5. Containing minimum of 4 percent and maximum of 25 percent inorganic matter.

2.4 SOURCE QUALITY CONTROL

- A. Testing and Analysis of Subsoil Material: Perform in accordance with ASTM D698.
- B. Testing and Analysis of Topsoil Material: Perform in accordance with ASTM D698.
- C. When tests indicate materials do not meet specified requirements, change material and retest.
- D. Furnish materials of each type from same source throughout the Work.

PART 3 - EXECUTION

3.1 EXCAVATION

- A. Excavate general fill, select fill, and topsoil from areas designated. Strip topsoil to full depth of topsoil in designated areas.
- B. Stockpile excavated material meeting requirements for general fill, select fill, and topsoil].
- C. Remove excess excavated materials not intended for reuse, from site.
- D. Remove excavated materials not meeting requirements for general fill, select fill, & topsoil.

3.2 STOCKPILING

- A. Stockpile materials on site at approved locations designated by Engineer.
- B. Stockpile in sufficient quantities to meet Project schedule and requirements.
- C. Separate differing materials with dividers or stockpile apart to prevent mixing.
- D. Stockpile topsoil 8 feet high maximum.
- E. Prevent intermixing of soil types or contamination.
- F. Direct surface water away from stockpile site to prevent erosion or deterioration of materials.
- G. Stockpile potentially hazardous materials on impervious material and cover to prevent erosion and leaching, until disposed of.

3.3 STOCKPILE CLEANUP

- A. Remove stockpile, leave area in clean and neat condition. Grade site surface to prevent free standing surface water.
- B. When borrow area is indicated, leave area in clean and neat condition. Grade site surface to prevent free standing surface water.

END OF SECTION

SECTION 31 10 00 - SITE CLEARING

PART 1 - GENERAL

1.1 SUMMARY

A. Section Includes:

1. Removing surface debris.
2. Removing designated paving, curbs, pads, and misc. concrete.
3. Removing designated trees, shrubs, and other plant life.
4. Removing abandoned utilities.
5. Excavating topsoil.

1.2 UNIT PRICE - MEASUREMENT AND PAYMENT

- #### A.
- All items including but not limited to materials, equipment, overhead, coordination, testing, labor, and supervision required for a complete and operable project shall be included in the bid for the project. All measurement and payment shall be based on the items of work that are specifically listed in the Bid Proposal. Any items not specifically listed in the Bid Proposal shall be considered subsidiary to unit cost items within the Bid Proposal and no additional payment shall be made for subsidiary items.

1.3 QUALITY ASSURANCE

- #### A.
- Conform to city code for, disposal of debris. No burning or herbicides allowed
- #### B.
- Perform Work in accordance with state and local standard specifications.

PART 2 - PRODUCTS

PART 3 - EXECUTION

3.1 EXAMINATION

- #### A.
- Verify existing plant life designated to remain is tagged or identified.
- #### B.
- Identify waste area for placing removed materials.

3.2 PREPARATION

- #### A.
- Call Local Utility Line Information service at 811 or 1-800-545-6005 not less than three working days before performing Work.
1. Request underground utilities to be located and marked within and surrounding construction areas. All existing utilities shall have their locations and depths field verified prior to soil disturbing activities.

3.3 PROTECTION

- A. Locate, identify, and protect utilities indicated to remain, from damage.
- B. Protect trees, plant growth, and features designated to remain, as final landscaping.
- C. Protect bench marks, survey control points, and existing structures from damage or displacement.

3.4 CLEARING

- A. Clear areas required for access to site and execution of Work to minimum depth of 6" inches.
- B. Remove trees and shrubs within marked areas. Remove stumps, main root ball, root system to depth of 24 inches, surface rock.
- C. Clear undergrowth and deadwood, without disturbing subsoil.

3.5 REMOVAL & DEMO

- A. The removal and disposal of all items shall be the responsibility of the contractor. All items designated by owner to be salvaged shall be delivered and off loaded to the owner including valves and fittings.
- B. Remove debris, rock, and extracted plant life from site.
- C. Remove paving, curbs, pads, and all misc. concrete items designated for demo. Potentially hazardous materials such as septic tanks must be removed to a min 18" below grade depth and backfilled with non-organic, granular material, per TCEQ Requirements Chapter 285, Subchapter D.
- D. Remove abandoned utilities. Indicated removal termination point for underground utilities on Record Documents.
- E. Existing manholes and utility lines to be abandoned shall be plugged with class B concrete and abandoned in place unless otherwise instructed on plans. Manholes shall be filled with sand or gravel.
- F. Continuously clean-up and remove waste materials from site. Do not allow materials to accumulate on site.
- G. Do not burn or bury materials on site. Leave site in clean condition.
- H. Holes or voids left from the demolition of structures, trees, rocks, etc. shall be filled and compacted to meet the existing surrounding grades. This work will be considered subsidiary to the unit prices in the bid form.

3.6 TOPSOIL EXCAVATION

- A. Excavate topsoil from areas to be further excavated, relandscaped, or regraded, without mixing with foreign materials for use in finish grading.
- B. Do not excavate wet topsoil.

- C. Stockpile in area designated on site to depth not exceeding 8 feet and protect from erosion. Stockpile material on impervious material and cover over with same material, until disposal.
- D. Remove excess topsoil not intended for reuse, from site.

END OF SECTION

SECTION 31 22 13 - ROUGH GRADING

PART 1 - GENERAL

1.1 SUMMARY

- A. Section Includes:
1. Excavating topsoil.
 2. Excavating subsoil.
 3. Cutting, grading, filling, rough contouring, and compacting.

1.2 UNIT PRICE - MEASUREMENT AND PAYMENT

- A. All items including but not limited to materials, equipment, overhead, coordination, testing, labor, and supervision required for a complete and operable project shall be included in the bid for the project. All measurement and payment shall be based on the items of work that are specifically listed in the Bid Proposal. Any items not specifically listed in the Bid Proposal shall be considered subsidiary to unit cost items within the Bid Proposal and no additional payment shall be made for subsidiary items.

1.3 REFERENCES

- A. American Association of State Highway and Transportation Officials:
1. AASHTO T180 - Standard Specification for Moisture-Density Relations of Soils Using a 4.54-kg (10-lb) Rammer and a 457-mm (18-in.) Drop.
- B. ASTM International:
1. ASTM C136 - Standard Test Method for Sieve Analysis of Fine and Coarse Aggregates.
 2. ASTM D698 - Standard Test Method for Laboratory Compaction Characteristics of Soil Using Standard Effort (12,400 ft-lbf/ft³ (600 kN-m/m³)).
 3. ASTM D1556 - Standard Test Method for Density and Unit Weight of Soil in Place by the Sand-Cone Method.
 4. ASTM D1557 - Standard Test Methods for Laboratory Compaction Characteristics of Soil Using Modified Effort (56,000 ft-lbf/ft³ (2,700 kN-m/m³)).
 5. ASTM D2167 - Standard Test Method for Density and Unit Weight of Soil in Place by the Rubber Balloon Method.
 6. ASTM D2419 - Standard Test Method for Sand Equivalent Value of Soils and Fine Aggregate.
 7. ASTM D2434 - Standard Test Method for Permeability of Granular Soils (Constant Head).
 8. ASTM D2922 - Standard Test Method for Density of Soil and Soil-Aggregate in Place by Nuclear Methods (Shallow Depth).
 9. ASTM D3017 - Standard Test Method for Water Content of Soil and Rock in Place by Nuclear Methods (Shallow Depth).

1.4 SUBMITTALS

- A. Samples: Submit, in air-tight containers, 10 lb sample of each type of select fill to testing laboratory, when required.

- B. Materials Source: Submit name of imported materials suppliers.
- C. Manufacturer's Certificate: Certify Products meet or exceed specified requirements.

1.5 CLOSEOUT SUBMITTALS

- A. Project Record Documents: Accurately record actual locations of utilities remaining by horizontal dimensions, elevations or inverts, and slope gradients.

1.6 QUALITY ASSURANCE

- A. Perform Work in accordance with ASTM C136, ASTM D2419, and ASTM D2434.
- B. Perform Work in accordance with state and local standard specifications.

PART 2 - PRODUCTS

2.1 MATERIALS

- A. Topsoil: As specified in Section 31 05 13.
- B. General Fill: As specified in Section 31 05 13.

PART 3 - EXECUTION

3.1 EXAMINATION

- A. Verify survey bench mark and intended elevations for the Work are as indicated on Drawings.

3.2 PREPARATION

- A. Call Local Utility Line Information service than three working days before performing Work.
 - 1. Request underground utilities to be located and marked within and surrounding construction areas.
- B. Identify required lines, levels, contours, and datum.
- C. Notify utility company to remove and relocate utilities where applicable.
- D. Protect utilities indicated to remain from damage.
- E. Protect plant life, lawns, rock outcropping and other features remaining as portion of final landscaping.
- F. Protect bench marks, survey control point, existing structures, fences, sidewalks, paving, and curbs from excavating equipment and vehicular traffic. Any damaged incurred shall be at the expense of the contractor.

3.3 TOPSOIL EXCAVATION

- A. Excavate topsoil from areas to be further excavated, relandscaped, or regraded, without mixing with foreign materials for use in finish grading.
- B. Do not excavate wet topsoil.
- C. Stockpile in area designated on site to depth not exceeding 8 feet and protect from erosion. Stockpile material on impervious material and cover over with same material, until disposal.
- D. Remove excess topsoil not intended for reuse, from site.

3.4 SUBSOIL EXCAVATION

- A. Excavate subsoil from areas to be further excavated, relandscaped, or regraded.
- B. Excavate and process wet material to obtain optimum moisture content.
- C. Remove excess subsoil not intended for reuse, from site.
- D. Stockpile subsoil in area designated on site to depth not exceeding 8 feet and protect from erosion.
- E. Benching Slopes: Horizontally bench existing slopes greater than 1:4 to key placed fill material to slope to provide firm bearing.
- F. Stability: Replace damaged or displaced subsoil as specified for fill.

3.5 FILLING

- A. Fill areas to contours and elevations with unfrozen materials.
- B. Place material in continuous layers as follows:
 - 1. General Fill: Maximum 8 inches compacted depth. Compact to 90% modified proctor.
 - 2. Select Fill: Maximum 6 inches compacted depth. Compact to 95% modified proctor
- C. Maintain optimum moisture content of fill materials to attain required compaction density. $\pm 3\%$ optimum.
- D. Make grade changes gradual. Blend slope into level areas.
- E. Repair or replace items indicated to remain damaged by excavation or filling.

3.6 TOLERANCES

- A. Top Surface of Subgrade: Plus or minus 1/10 foot from required elevation.

3.7 FIELD QUALITY CONTROL

- A. 01 70 00 - Execution and Closeout Requirements: Field inspecting, testing, adjusting, and balancing.

- B. Perform laboratory material tests in accordance with ASTM D698.
- C. Perform in place compaction tests in accordance with the following:
 - 1. Density Tests: ASTM D2922.
 - 2. Moisture Tests: ASTM D3017.
- D. When tests indicate Work does not meet specified requirements, remove Work, replace and retest.
- E. Frequency of Tests: Minimum 1 test per lift, per 1,000 SF

END OF SECTION

SECTION 31 23 16 - EXCAVATION

PART 1 - GENERAL

1.1 SUMMARY

- A. Section Includes:
 - 1. Excavating for slabs-on-grade.
- B. Related Sections:
 - 1. Section 31 05 13 - Soils for Earthwork: Stockpiling excavated materials.
 - 2. Section 31 05 16 - Aggregates for Earthwork: Stockpiling excavated materials.
 - 3. Section 31 22 13 - Rough Grading: Topsoil and subsoil removal from site surface.
 - 4. Section 31 23 17 - Trenching: Excavating for utility trenches.
 - 5. Section 31 23 18 - Rock Removal: Removal of rock during excavating.
 - 6. Section 31 23 23 - Fill.

1.2 UNIT PRICE - MEASUREMENT AND PAYMENT

- A. Excavating Soil Materials:
 - 1. Basis of Measurement: See Bid Proposal
 - 2. Basis of Payment: Includes excavating to required elevations, loading and placing materials in stockpile and or removing from site. Over Excavating: Payment will not be made for over excavated work nor for replacement materials.

1.3 REFERENCES

- A. Refer to local utility standards when working within 24 inches of utility lines.

1.4 SUBMITTALS

- A. Section 01 33 00 - Submittal Procedures: Requirements for submittals.
- B. Excavation Protection Plan: Describe sheeting, shoring, and bracing materials and installation required to protect excavations and adjacent structures and property; include structural calculations to support plan.
- C. Shop Drawings: Indicate soil densification grid for each size and configuration footing requiring soils densification.
- D. Contractor shall deliver representative soil samples (1 per each excavation site, not to exceed 4 total) to independent testing lab for proctor testing at contractors expense and submit proctor report to project engineer for evaluation.

1.5 PREPARATION

- A. Call 811 not less than three working days before performing Work.
 - 1. Request underground utilities to be located and marked within and surrounding construction areas.
- B. Identify required lines, levels, contours, and datum.
- C. Protect utilities indicated to remain from damage.

- D. Protect plant life and other features remaining as portion of final landscaping.
- E. Protect bench marks, survey control points, existing structures, fences, paving, and curbs from excavating equipment and vehicular traffic.

1.6 SOIL DENSITY

- A. Densify existing subsoils below slabs to attain relative density rating of 92% standard proctor density, plus or minus 2% of optimum moisture content.
- B. Density Testing: Contractor shall provide random nuclear density testing by an independent laboratory at contractors expense at a rate of 1 test per 8 inch lift of fill material placed for each area of work. Testing results shall be provided to the owner and project engineer in a timely manner by the independent testing laboratory.

1.7 EXCAVATION

- A. Slope banks to angle of repose.
- B. Grade top perimeter of excavation to prevent surface water from draining into excavation.
- C. Trim excavation. Remove loose matter.
- D. Remove lumped subsoil, boulders, and rock up to 1/3 cu yd measured by volume. Remove larger material as specified in Section 31 23 23.
- E. Notify Engineer of unexpected subsurface conditions before proceeding.
- F. Over excavated areas shall be filled with structural fill as directed by the engineer at the contractor's expense.
- G. Stockpile subsoil in area designated on site to depth not exceeding 8 feet and protect from erosion.
- H. Any items damage by excavation which are indicated to remain shall be immediately reported to the owner and repaired or replaced at the contractors expense.

1.8 FIELD QUALITY CONTROL

- A. Request Engineer for visual inspection of density testing and provide 24 hour notice for request of inspection of excavation prior to backfilling and before installing subsequent work.

1.9 PROTECTION

- A. Prevent displacement or loose soil from falling into excavation; maintain soil stability.
- B. Protect bottom of excavations and soil adjacent to and beneath foundation from freezing.
- C. Protect structures, utilities and other facilities from damage caused by settlement, lateral movement, undermining, washout, and other hazards created by earth operations.

END OF SECTION

SECTION 31 23 17 - TRENCHING

PART 1 - GENERAL

1.1 SUMMARY

- A. Section Includes:
1. Excavating trenches for utilities
 2. Backfilling and compaction.

1.2 UNIT PRICE - MEASUREMENT AND PAYMENT

- A. All items including but not limited to materials, equipment, overhead, coordination, testing, labor, and supervision required for a complete and operable project shall be included in the bid for the project. All measurement and payment shall be based on the items of work that are specifically listed in the Bid Proposal. Any items not specifically listed in the Bid Proposal shall be considered subsidiary to unit cost items within the Bid Proposal and no additional payment shall be made for subsidiary items.

1.3 REFERENCES

- A. American Association of State Highway and Transportation Officials:
1. AASHTO T180 - Standard Specification for Moisture-Density Relations of Soils Using a 4.54-kg (10-lb) Rammer and a 457-mm (18-in.) Drop.
- B. ASTM International:
1. ASTM D698 - Standard Test Method for Laboratory Compaction Characteristics of Soil Using Standard Effort (12,400 ft-lbf/ft³ (600 kN-m/m³)).
 2. ASTM D1556 - Standard Test Method for Density and Unit Weight of Soil in Place by the Sand-Cone Method.
 3. ASTM D1557 - Standard Test Methods for Laboratory Compaction Characteristics of Soil Using Modified Effort (56,000 ft-lbf/ft³ (2,700 kN-m/m³)).
 4. ASTM D2167 - Standard Test Method for Density and Unit Weight of Soil in Place by the Rubber Balloon Method.
 5. ASTM D2922 - Standard Test Method for Density of Soil and Soil-Aggregate in Place by Nuclear Methods (Shallow Depth).
 6. ASTM D3017 - Standard Test Method for Water Content of Soil and Rock in Place by Nuclear Methods (Shallow Depth).

1.4 DEFINITIONS

- A. Utility: Any buried pipe, duct, conduit, or cable.

1.5 SUBMITTALS

- A. Excavation Protection Plan: Describe sheeting, shoring, and bracing materials and installation required to protect excavations and adjacent structures and property; include structural calculations to support plan.

- B. Product Data: Submit data for geotextile fabric indicating fabric and construction.
- C. Samples: Submit, in air-tight containers, 10 lb sample of each type of fill to testing laboratory.
- D. Materials Source: Submit name of imported fill materials suppliers.
- E. Manufacturer's Certificate: Certify Products meet or exceed specified requirements.

1.6 QUALITY ASSURANCE

- A. Perform Work in accordance with state and city standard specifications

1.7 QUALIFICATIONS

- A. When trenching 5' or deeper, prepare excavation protection plan under direct supervision of Professional Engineer experienced in design of this Work and licensed in State of Texas.

1.8 COORDINATION

- A. Verify Work associated with lower elevation utilities is complete before placing higher elevation utilities.

PART 2 - PRODUCTS

2.1 FILL MATERIALS

- A. Unless a more rigorous detail specifically designated otherwise on plans, in no case is a lesser standard approved.
- B. Bedding
 - 1. Sanitary and storm sewer lines - Class 1 embedment material, crushed stone, ¾" maximum size, fines included.
 - 2. Waterlines and forcemains – Clean washed sand
- C. Haunching
 - 1. Sanitary and storm sewer lines - Class 1 material, crushed stone, ¾" maximum size, fines included.
 - 2. Waterlines and forcemains – Clean washed sand
- D. Initial Backfill
 - 1. General site fill – On-site or imported materials free from lumps or clods ≥ 6" diameter P.I. <20 and LL<45
- E. Final Backfill
 - 1. General site fill – On-site or imported materials free from lumps or clods ≥ 6" diameter P.I. <20 and LL<45

PART 3 - EXECUTION

3.1 LINES AND GRADES

- A. Lay pipes to lines and grades indicated on Drawings.
 - 1. Engineer and Owner reserves right to make changes in lines, grades, and depths of utilities when changes are required for Project conditions.
- B. Use laser-beam instrument with qualified operator to establish lines and grades.

3.2 PREPARATION

- A. Call Local Utility Line Information service at Texas one call not less than three working days before performing Work. Contractor shall also be responsible for notifying owner and engineer.
 - 1. Request underground utilities to be located and marked within and surrounding construction areas.
- B. Identify required lines, levels, contours, and datum locations.
- C. Protect plant life, lawns, rock outcropping and other features remaining as portion of final landscaping.
- D. Protect bench marks, existing structures, fences, sidewalks, paving, and curbs from excavating equipment and vehicular traffic.
- E. Maintain and protect above and below grade utilities indicated to remain.
- F. Relocate controls and reroute traffic as required during progress of Work. Conduct work in conformance with traffic control plan approved by owner and engineer.

3.3 TRENCHING

- A. Excavate subsoil required for utilities.
- B. Do not advance open trench more than 100 feet ahead of installed pipe.
- C. Cut trenches sufficiently wide to enable installation and allow inspection. Remove water or materials that interfere with Work.
- D. Excavate bottom of trenches maximum 2 feet wider than outside diameter of pipe.
- E. Excavate trenches to depth indicated on Drawings. Provide uniform and continuous bearing and support for bedding material and pipe.
- F. Do not interfere with 45 degree bearing splay of foundations.
- G. When Project conditions permit, slope side walls of excavation starting 2 feet above top of pipe. When side walls can not be sloped, provide sheeting and shoring to protect excavation as specified in excavation safety plan.

- H. When subsurface materials at bottom of trench are loose or soft, excavate to greater depth as directed by Engineer until suitable material is encountered.
- I. Cut out soft areas of subgrade not capable of compaction in place. Backfill with bedding material and compact to density equal to or greater than requirements for subsequent backfill material.
- J. Trim excavation. Hand trim for bell and spigot pipe joints. Remove loose matter.
- K. Correct areas over excavated areas with compacted bedding material as specified for authorized excavation or replace with fill concrete as directed by Engineer.
- L. Remove excess subsoil not intended for reuse, from site.
- M. Stockpile subsoil in area designated on site to depth not exceeding 8 feet and protect from erosion.

3.4 SHEETING AND SHORING

- A. Sheet, shore, and brace excavations to prevent danger to persons, structures and adjacent properties and to prevent caving, erosion, and loss of surrounding subsoil.
- B. Support trenches more than 5 feet deep excavated through unstable, loose, or soft material. Provide sheeting, shoring, bracing, or other protection to maintain stability of excavation.
- C. Design sheeting and shoring to be removed at completion of excavation work.
- D. Repair damage caused by failure of the sheeting, shoring, or bracing and for settlement of filled excavations or adjacent soil.
- E. Repair damage to new and existing Work from settlement, water or earth pressure or other causes resulting from inadequate sheeting, shoring, or bracing.

3.5 BACKFILLING

- A. Backfill trenches to contours and elevations with unfrozen fill materials.
- B. Systematically backfill to allow maximum time for natural settlement. Do not backfill over porous, wet, frozen, or spongy subgrade surfaces.
- C. Place fill material in continuous layers and compact to 90% modified proctor in general areas and 95% modified proctor under paving and future structures.
- D. Place material in continuous layers of maximum 6" thickness
- E. Employ placement method that does not disturb or damage foundation perimeter drainage, utilities in trench, and trenchwall stability.
- F. Maintain $\pm 3\%$ optimum moisture content of fill materials to attain required compaction density.
- G. Do not leave more than 50 feet of trench open at end of working day.
- H. Protect open trench to prevent danger to the public.

3.6 TOLERANCES

- A. Top Surface of Backfilling Under Paved Areas: Plus or minus 1"
- B. Top Surface of General Backfilling: Plus or minus 1" from required elevations.

3.7 FIELD QUALITY CONTROL

- A. Perform laboratory material tests in accordance with ASTM D1557. ASTM D698.
- B. Perform in place compaction tests in accordance with the following:
 - 1. Density Tests: or ASTM D2922.
 - 2. Moisture Tests: ASTM D3017.
- C. When tests indicate Work does not meet specified requirements, remove Work, replace, compact, and retest.
- D. Frequency of Tests: minimum one per lift per 1,000' of trench

3.8 PROTECTION OF FINISHED WORK

- A. Section 01 70 00 - Execution and Closeout Requirements: Protecting finished work.
- B. Reshape and re-compact fills subjected to vehicular traffic during construction.

END OF SECTION

SECTION 31 25 00 - EROSION AND SEDIMENTATION CONTROLS

PART 1 - GENERAL

1.1 SUMMARY

A. Section Includes:

1. Erosion Control Requirements

1.2 UNIT PRICE - MEASUREMENT AND PAYMENT

- A. All items including but not limited to materials, equipment, overhead, coordination, testing, labor, and supervision required for a complete and operable project shall be included in the bid for the project. All measurement and payment shall be based on the items of work that are specifically listed in the Bid Proposal. Any items not specifically listed in the Bid Proposal shall be considered subsidiary to unit cost items within the Bid Proposal and no additional payment shall be made for subsidiary items.

1.3 SWPPP REQUIREMENTS

- A. When applicable with TCEQ requirements, contractor shall create a complete stormwater pollution prevention plan (SWPPP), Notice of Intent (NOI), and notice of termination (NOT), and pay all fees associated with these permits. These requirements shall be met prior to performing any soil disturbing activities.
- B. The contractor shall be responsible for installation, maintenance, and inspection of all temp. and permanent erosion control measures in accordance with the SWP3, TCEQ requirements, and ISWM design manual for construction.
- C. Temporary or permanent erosion control measures shall be used to prevent silt from leaving the project site during construction. Temporary erosion controls may include silt fences, straw wattles, berms, dikes, swales, strips or undisturbed vegetation, rock filter check dams, and other methods as required by the engineer or his representative and as specified in the plans and contract documents.
- D. All finished grade slopes steeper than 6:1 and flow lines of all drainage ditches and swales, shall be completely covered with soil retention blanket (SRB) to promote re-vegetation and to prohibit erosion. SRB shall be per TxDOT item 169, Class 1, Type B. Other areas shall be covered with hay or straw mulch immediately after permanent seeding. SRBs, mulch, hay, fertilizers, and water used to promote re-vegetation is subsidiary to the unit prices included within the bid form.
- E. All disturbed permeable surfaces must be graded to a smooth and uniform appearance that can be easily mowed with a small push mower. Permanent vegetation must be established according to seeding specifications. Residential lawns shall be re-established with block sod to match existing type of lawn grass.

1.4 SUBMITTALS

- A. Product Data: Submit minimum one copy of the fully executed SWPPP

1.5 QUALITY ASSURANCE

- A. Perform Work in accordance with any State and local standards.
- B. Maintain at least one copy of the SWPPP document on site.

PART 2 - PRODUCTS

- A. This Section is Intentionally Left Blank.

PART 3 - EXECUTION

3.1 FIELD QUALITY CONTROL

- A. Inspect erosion control devices on an as needed basis and after each runoff event. Make necessary repairs to ensure erosion and sediment controls are in good working order.

3.2 CLEANING

- A. When sediment accumulation in sedimentation structures has reached a point one-third depth of sediment structure or device, remove and dispose of sediment.
- B. Do not damage structure or device during cleaning operations.
- C. Do not permit sediment to erode into construction or site areas or natural waterways.
- D. Clean channels when depth of sediment reaches approximately one half channel depth.

END OF SECTION

SECTION 32 13 13 – PAVEMENT REPAIR

PART 1 - GENERAL

1.1 SUMMARY

A. Section Includes:

1. Pavement Repair requirements for asphalt and concrete pavements.
2. This section includes the minimum requirements for pavement repair unless otherwise indicated in the plan drawings. All pavement repair of public roadways including city, county, or state roads shall be per TxDOT specifications.

1.2 PRICE AND PAYMENT PROCEDURES

- #### A. All items including but not limited to materials, equipment, overhead, coordination, testing, labor, and supervision required for a complete and operable project shall be included in the bid for the project. All measurement and payment shall be based on the items of work that are specifically listed in the Bid Proposal. Any items not specifically listed in the Bid Proposal shall be considered subsidiary to unit cost items within the Bid Proposal and no additional payment shall be made for subsidiary items.

1.3 REFERENCE STANDARDS

A. American Association of State Highway and Transportation Officials:

1. AASHTO M17 - Standard Specification for Mineral Filler for Bituminous Paving Mixtures.
2. AASHTO M29 - Standard Specification for Fine Aggregate for Bituminous Paving Mixtures.
3. AASHTO M140 - Standard Specification for Emulsified Asphalt.
4. AASHTO M208 - Standard Specification for Cationic Emulsified Asphalt.
5. AASHTO M288 - Standard Specification for Geotextile Specification for Highway Applications.
6. AASHTO M320 - Standard Specification for Performance-Graded Asphalt Binder.
7. AASHTO M324 - Standard Specification for Joint and Crack Sealants, Hot Applied, for Concrete and Asphalt Pavements.
8. AASHTO MP1a - Standard Specification for Performance-Graded Asphalt Binder.

B. American Concrete Institute:

1. ACI 301 - Specifications for Structural Concrete.
2. ACI 304 - Guide for Measuring, Mixing, Transporting, and Placing Concrete.

C. Asphalt Institute:

1. AI MS-2 - Mix Design Methods for Asphalt Concrete and Other Hot-Mix Types.
2. AI MS-19 - Basic Asphalt Emulsion Manual.
3. AI SP-2 - Superpave Mix Design.

D. ASTM International:

1. ASTM A184/A184M - Standard Specification for Fabricated Deformed Steel Bar Mats for Concrete Reinforcement.
2. ASTM A185/A185M - Standard Specification for Steel Welded Wire Fabric, Plain, for Concrete Reinforcement.
3. ASTM A497/A497M - Standard Specification for Steel Welded Wire Fabric, Deformed, for Concrete Reinforcement.
4. ASTM A615/A615M - Standard Specification for Deformed and Plain Billet-Steel Bars for Concrete Reinforcement.
5. ASTM A706/A706M - Standard Specification for Low-Alloy Steel Deformed and Plain Bars for Concrete Reinforcement.
6. ASTM A767/A767M - Standard Specification for Zinc-Coated (Galvanized) Steel Bars for Concrete Reinforcement.
7. ASTM A775/A775M - S Standard Specification for Epoxy-Coated Steel Reinforcing Bars.
8. ASTM A884/A884M - Standard Specification for Epoxy-Coated Steel Wire and Welded Wire Reinforcement.
9. ASTM A934/A934M - Standard Specification for Epoxy-Coated Prefabricated Steel Reinforcing Bars.
10. ASTM C31/C31M - Standard Practice for Making and Curing Concrete Test Specimens in the Field.
11. ASTM C33 - Standard Specification for Concrete Aggregates.
12. ASTM C39/C39M - Standard Test Method for Compressive Strength of Cylindrical Concrete Specimens.
13. ASTM C94/C94M - Standard Specification for Ready-Mixed Concrete.
14. ASTM C143/C143M - Standard Test Method for Slump of Hydraulic Cement Concrete.
15. ASTM C150 - Standard Specification for Portland Cement.
16. ASTM C172 - Standard Practice for Sampling Freshly Mixed Concrete.
17. ASTM C173/C173M - Standard Test Method for Air Content of Freshly Mixed Concrete by the Volumetric Method.
18. ASTM C231 - Standard Test Method for Air Content of Freshly Mixed Concrete by the Pressure Method.
19. ASTM C260 - Standard Specification for Air-Entraining Admixtures for Concrete.
20. ASTM C309 - Standard Specification for Liquid Membrane-Forming Compounds for Curing Concrete.
21. ASTM C494/C494M - Standard Specification for Chemical Admixtures for Concrete.
22. ASTM C595 - Standard Specification for Blended Hydraulic Cements.
23. ASTM C618 - Standard Specification for Coal Fly Ash and Raw or Calcined Natural Pozzolan for Use as a Mineral Admixture in Concrete.
24. ASTM C979 - Standard Specification for Pigments for Integrally Colored Concrete.
25. ASTM C989 - Standard Specification for Ground Granulated Blast-Furnace Slag for Use in Concrete and Mortars.
26. ASTM C1017/C1017M - Standard Specification for Chemical Admixtures for Use in Producing Flowing Concrete.
27. ASTM C1064/C1064M - Standard Test Method for Temperature of Freshly Mixed Hydraulic-Cement Concrete.
28. ASTM C1116 - Standard Specification for Fiber-Reinforced Concrete and Shotcrete.
29. ASTM C1315 - Standard Specification for Liquid Membrane-Forming Compounds Having Special Properties for Curing and Sealing Concrete.
30. ASTM C1371-2004a - Standard Test Method for Determination of Emittance of Materials Near Room Temperature Using Portable Emissometers.
31. ASTM C1549-2004 - Standard Test Method for Determination of Solar Reflectance Near Ambient Temperature Using a Portable Solar Reflectometer.
32. ASTM D1751 - Standard Specification for Preformed Expansion Joint Filler for Concrete Paving and Structural Construction (Nonextruding and Resilient Bituminous Types).
33. ASTM D1752 - Standard Specification for Preformed Sponge Rubber and Cork Expansion Joint Fillers for Concrete Paving and Structural Construction.

34. ASTM D6690 - Standard Specification for Joint and Crack Sealants, Hot Applied, for Concrete and Asphalt Pavements.
35. ASTM E408-1971(1996)e1 - Standard Test Methods for Total Normal Emittance of Surfaces Using Inspection-Meter Techniques.
36. ASTM E903-1996 - Standard Test Method for Solar Absorptance, Reflectance, and Transmittance of Materials Using Integrating Spheres.
37. ASTM E1918-1997 - Standard Test Method for Measuring Solar Reflectance of Horizontal and Low-Sloped Surfaces in the Field.
38. ASTM E1980-2001 - Standard Practice for Calculating Solar Reflectance Index of Horizontal and Low-Sloped Opaque Surfaces.

1.4 PRE-INSTALLATION MEETINGS

- A. Convene minimum one week prior to commencing work of this section.

1.5 SUBMITTALS

A. Product Data:

1. Submit data on concrete materials, joint filler, admixtures, and curing compounds.
2. Submit product information for asphalt and aggregate materials.
3. Submit mix design with laboratory test results supporting design.

B. Design Data:

1. Submit concrete mix design for each concrete strength.
2. Identify mix ingredients and proportions, including admixtures.
3. Identify chloride content of admixtures and whether or not chloride was added during manufacture.

1.6 QUALITY ASSURANCE

- A. Asphalt & Concrete mixing plant shall conform to TxDOT standards and be certified in the state of Texas.
- B. Obtain materials from same source throughout project.
- C. Perform Work in accordance with state and local standard specifications including ACI 301 and TxDOT.

1.7 AMBIENT CONDITIONS

- A. Do not place concrete when base surface temperature is less than 40 degrees F, or surface is wet or frozen.

PART 2 - PRODUCTS

2.1 CONCRETE PAVING

- A. Performance / Design Criteria:

1. Paving: Minimum design for any concrete repair shall be 6" concrete surface thickness or match existing if greater than 6" with #4 reinforcing bars @ 24" c-c each way doweled into existing concrete minimum 12" deep. Concrete strength shall be minimum 4,500 psi for TxDOT pavement and 3,600 psi for all other paving at 28 days.

B. Concrete Materials:

1. All concrete materials shall be as specified in "03 30 00 – Cast-in-Place Concrete" "03 10 00 – Concrete Formwork & Accessories" "03 20 00 – Concrete Reinforcement".

C. Aggregate Subbase & Base Course: Unless otherwise noted in plans, the following are minimum base and subbase specifications:

1. Minimum 12" Subbase – Natural ground/approved site soils with topsoil removed and compacted to 95% modified proctor.
2. See embedment detail for materials in trench.

2.2 ASPHALT PAVEMENT

- A. 2" TxDOT Type D HMAC riding surface on tack coat.
- B. Base Course for asphalt pavement repair shall be minimum 6" thick reinforced concrete as indicated on drawings.

2.3 SOURCE QUALITY CONTROL

- A. Submit proposed mix design of each concrete and asphalt to engineer for review.

PART 3 - EXECUTION

3.1 EXAMINATION

- A. Verify utilities beneath paving have been backfilled, compacted, and tested prior to pavement repair. Verify compacted subgrade and subbase is dry and ready to support paving and imposed loads and at correct elevations and gradients. Manhole frames and lids must be in the correct position and elevation prior to pavement placement.
 1. Proof roll subbase with loaded dump truck in minimum two perpendicular passes to identify soft spots.
 2. Remove soft subbase and replace with compacted select fill.

3.2 PREPARATION

- A. Moisten substrate to minimize absorption of water from fresh concrete.
- B. Coat surfaces of manholes, catch basins and any metal frames with oil to prevent bond with concrete paving.
- C. Notify Engineer minimum 24 hours prior to commencement of paving operations.

3.3 INSTALLATION

- A. Subbase and base Course:
 - 1. Prepare subbase
 - 2. Perform capaction testing as required.
- B. Concrete Forms:
 - 1. Place and secure forms and screeds to correct location, dimension, profile, and gradient.
 - 2. Assemble formwork to permit easy stripping and dismantling without damaging concrete.
- C. Concrete Reinforcement:
 - 1. Place reinforcing as described in this specification.
 - 2. Interrupt reinforcing at contraction and expansion joints.
 - 3. Place reinforcing to achieve paving and curb alignment as necessary
 - 4. Provide doweled joints at 24 inch spacing at interruptions of concrete with one end of dowel set in capped sleeve to allow longitudinal movement.
- D. Placing Concrete:
 - 1. Place concrete in accordance with ACI 301.
 - 2. Match existing pavement joints unless otherwise indicated on drawings.
- E. Concrete Finishing:
 - 1. Match existing pavement finish.
 - 2. Area Paving: Light broom.
 - 3. Sidewalk Paving: Light broom, radius to 1 inch, and trowel joint edges.
 - 4. Median Barrier: Light broom, radius to 1 inch, and trowel joint edges.
 - 5. Curbs and Gutters: Light broom.
 - 6. Direction of Texturing: Transverse to paving direction.
 - 7. Inclined Vehicular Ramps: Broomed perpendicular to slope.
 - 8. Place curing compound on exposed concrete surfaces immediately after finishing.
- F. Concrete Curing and Protection
 - 1. Immediately after placement, protect concrete from premature drying, excessively hot or cold temperatures, and mechanical injury.
 - 2. Maintain concrete with minimal moisture loss at relatively constant temperature for period necessary for hydration of cement and hardening of concrete.
 - 3. Cure concrete according to "Section 03 39 00 – Concrete Curing"
- G. Asphalt Tack Coat:
 - 1. Apply tack coat in accordance with. TxDOT
 - 2. Apply tack coat on asphalt and concrete surfaces over subgrade surface at uniform rate.
 - a. New Surfaces: 1/2 gal/sq yd.
 - b. Existing Surfaces: 1/2 gal/sq yd.
 - 3. Apply tack coat to contact surfaces of curbs, gutters and concrete.

4. Coat surfaces of manhole frames with oil to prevent bond with asphalt paving. Do not tack coat these surfaces.

H. Single Course Asphalt Paving:

1. Install Work in accordance with City and TxDOT standards.
2. Place asphalt within 24 hours of applying primer or tack coat.
3. Place asphalt wearing course to 2 inch compacted thickness.
4. Compact paving by rolling to specified density. Do not displace or extrude paving from position. Hand compact in areas inaccessible to rolling equipment.
5. Perform rolling with consecutive passes to achieve even and smooth finish without roller marks.

3.4 TOLERANCES

- A. Maximum Variation of Surface Flatness: 1/4 inch 10 ft
- B. Maximum Variation From elevations indicated on drawings: 1/2 inch
- C. Maximum Variation From compacted thickness: 1/4"

3.5 FIELD QUALITY CONTROL

- A. Perform field inspection and testing in accordance with ASTM C94 ACI 301 and state and local standard specifications including TxDOT.
- B. Inspect reinforcing placement for size, spacing, location, support.
- C. Testing firm will take cylinders and perform slump and air entrainment tests in accordance with ACI 301.
- D. Strength Test Samples:
 1. Sampling Procedures: ASTM C172.
 2. Cylinder Molding and Curing Procedures: ASTM C31/C31M, cylinder specimens, field cured.
 3. Sample concrete and make one set of three cylinders for every 75 cu yds or less of each class of concrete placed each day and for every 5,000 sf of surface area paving.
 4. Make one additional cylinder during cold weather concreting, and field cure.
- E. Field Testing:
 1. Slump Test Method: ASTM C143/C143M.
 2. Air Content Test Method: ASTM C173/C173M.
 3. Temperature Test Method: ASTM C1064/C1064M.
 4. Measure slump and temperature for each compressive strength concrete sample.
 5. Measure air content in air entrained concrete for each compressive strength concrete sample.
- F. Cylinder Compressive Strength Testing:
 1. Test Method: ASTM C39/C39M.
 2. Test Acceptance: Average compressive strength of three consecutive test maximum 500 psi less than specified compressive strength.

3. Test one cylinder at 7 days.
 4. Test two cylinders at 28 days.
 5. Retain one cylinder for 90 days for testing when requested by Engineer.
 6. Dispose remaining cylinders when testing is not required.
- G. Maintain records of placed concrete items. Record date, location of pour, quantity, air temperature, and test samples taken.
- H. Asphalt Paving Mix Temperature: Measure temperature at time of placement.
- I. Asphalt Paving Thickness: ASTM D3549; test one core sample from every 1000 square yards compacted paving.
- J. Asphalt Paving Density: ASTM D2950 nuclear method; test one location for every 1000 square yards compacted paving.

3.6 PROTECTION

- A. Immediately after placement, protect paving from premature drying, excessive hot or cold temperatures, and mechanical injury.
- B. Do not permit pedestrian or vehicular traffic over paving for 7 days minimum after finishing.

END OF SECTION

SECTION 32 92 19 – SEEDING & SODDING

PART 1 - GENERAL

1.1 SUMMARY

- A. Section Includes:
 - 1. Fertilizing.
 - 2. Seeding.
 - 3. Hydroseeding.
 - 4. Mulching.
 - 5. Fertilizing
 - 6. Preparation of subsoil
 - 7. Placing topsoil
 - 8. Sod Installation
 - 9. Maintenance.

1.2 UNIT PRICE - MEASUREMENT AND PAYMENT

- A. All items including but not limited to materials, equipment, overhead, coordination, testing, labor, and supervision required for a complete and operable project shall be included in the bid for the project. All measurement and payment shall be based on the items of work that are specifically listed in the Bid Proposal. Any items not specifically listed in the Bid Proposal shall be considered subsidiary to unit cost items within the Bid Proposal and no additional payment shall be made for subsidiary items.

1.3 REFERENCES

- A. ASTM International:
 - 1. ASTM C602 - Standard Specification for Agricultural Liming Materials.

1.4 DEFINITIONS

- A. Weeds: Vegetative species other than specified species to be established in given area.

1.5 SUBMITTALS

- A. Section 01 33 00 - Submittal Procedures: Requirements for submittals.
- B. Product Data: Submit data for seed mix, fertilizer, mulch, and other accessories.
- C. Manufacturer's Certificate: Certify Products meet or exceed specified requirements.

1.6 QUALITY ASSURANCE

- A. Unless otherwise directed in the contract drawings, all disturbed areas shall be re-graded to pre-construction contours and permanent vegetation established.

- B. Seed: Provide seed mixture in containers showing percentage of seed mix, germination percentage, inert matter percentage, weed percentage, year of production, net weight, date of packaging, and location of packaging.
- C. Sod: Root development capable of supporting its own weight without tearing, when suspended vertically by holding upper two corners.
- D. Perform Work in accordance with state and local standard specifications.

1.7 DELIVERY, STORAGE, AND HANDLING

- A. Deliver grass seed mixture in sealed containers. Seed in damaged packaging is not acceptable.
- B. Deliver fertilizer in waterproof bags showing weight, chemical analysis, and name of manufacturer.

1.8 MAINTENANCE SERVICE

- A. Maintain seeded and sodded areas immediately after placement until grass is well established and exhibits vigorous growing condition for two cuttings.

PART 2 - PRODUCTS

2.1 SEED MIXTURE

- A. Materials in accordance with state and local standard specifications
- B. Seed Mixture:
 1. Gross Weight x Purity x Germination = Pure Live Seed
 2. March-September = Bermuda Grass (Hulled) 50 lb/acre
 3. October-February = Rye Grass combined with Bermuda grass (unhulled) 20 lb/acre

2.2 SOD

- A. Furnish materials in accordance with and local state or city standard specifications.
- B. Sod: Approved grade; cultivated grass sod; type indicated in schedule at end of section; with strong fibrous root system, free of stones, burned or bare spots; containing no more than 10 weeds per 1000 sq ft. Match existing type of lawn grass.

2.3 ACCESSORIES

- A. Mulching Material: Use straw mulch consisting of oat, wheat, or rice straw or hay mulch of either Bermudagrass or prairie grasses. Use straw or hay mulch free of Johnson grass and other noxious and foreign materials. Keep the mulch dry and do not use molded or rotted material.

- B. Tacking Methods: Use a tacking agent in accordance with the manufacturer's recommendations or crimping method on all straw or haw mulch operations. Use tacking agents as approved or as specified on the plans.
- C. Mulching Material for Hydroseeding: Use only cellulose fiber mulches that are on TxDOT's approved product list and erosion control approved product list. Keep mulch dry until applied. Do not use molded or rotted material.
- D. Fertilizer (when applicable): Commercial grade; recommended for grass; of proportion necessary to eliminate deficiencies of topsoil to the following proportions: Nitrogen 25 percent, phosphoric acid 50 percent, soluble potash 25 percent. Application rate shall be 10 lbs per 1,000 SF
- E. Water: Clean, fresh and free of substances or matter capable of inhibiting vigorous growth of grass.
- F. Erosion Fabric: Jute matting, open weave.
- G. Herbicide: none.
- H. Stakes: Softwood lumber, chisel pointed.
- I. String: Inorganic fiber.

PART 3 - EXECUTION

3.1 EXAMINATION

- A. Verify prepared soil base is ready to receive the Work of this section.

3.2 FERTILIZING

- A. Apply fertilizer at application rate of 10 lbs per 1,000 SF.
- B. Apply after smooth raking of topsoil.
- C. Do not apply fertilizer at same time or with same machine used to apply seed.
- D. Mix fertilizer thoroughly into upper 2 inches of topsoil.
- E. Lightly water soil to aid dissipation of fertilizer. Irrigate top level of soil uniformly.

3.3 PREPARATION OF SUBSOIL

- A. Prepare sub-soil and eliminate uneven areas and low spots.
- B. Maintain lines, levels, profiles and contours. Make changes in grade gradual. Blend slopes into level areas. Must be able to be mowed with a small push lawn mower.
- C. Remove foreign materials and undesirable plants and their roots. Do not bury foreign material beneath areas to be seeded or sodded.

- D. Remove contaminated subsoil.
- E. Scarify sub-soil to depth of 4 inches where topsoil is to be placed.
- F. Repeat cultivation in areas where equipment, used for hauling and spreading topsoil, has compacted subsoil.

3.4 PLACING & TILLING OF TOPSOIL

- A. Spread or till topsoil to minimum depth of 3 inches over area to be sodded.
- B. When applicable, place topsoil during dry weather and on dry unfrozen subgrade.
- C. Remove vegetable matter and foreign non-organic material from topsoil while spreading/tilling.
- D. Grade topsoil to eliminate rough, low or soft areas and to ensure positive drainage.

3.5 SEEDING

- A. Apply seed at required rate 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. Do not sow immediately following rain, when ground is too dry, or when winds are over 12 mph.
- D. Immediately following seeding and compacting, apply mulch to thickness of 1/8 inches. Maintain clear of shrubs and trees.
- E. Apply water with fine spray immediately after each area has been mulched. Saturate to 4 inches of soil.

3.6 HYDROSEEDING

- A. Apply fertilizer, mulch and seeded slurry with hydraulic seeder at specified rate evenly in one pass.
- B. After application, apply water with fine spray immediately after each area has been hydroseeded. Saturate to 4 inches of soil and maintain moisture levels two to four inches.
- C. Tacking agent shall be Guar Gum, polyacrylamide, or other approved by owner.

3.7 SEED PROTECTION

- A. Cover seeded slopes where grade is 4 inches per foot or greater with erosion fabric. Roll fabric onto slopes without stretching or pulling.
- B. Lay fabric smoothly on surface, bury top end of each section in 6 inch deep excavated topsoil trench. Overlap edges and ends of adjacent rolls minimum 12 inches. Backfill trench and rake smooth, level with adjacent soil.
- C. Secure outside edges and overlaps at 36 inch intervals with stakes.

- D. Lightly dress slopes with topsoil to ensure close contact between fabric and soil.
- E. At sides of ditches, lay fabric laps in direction of water flow. Lap ends and edges minimum 6 inches.

3.8 LAYING SOD

- A. Moisten prepared surface immediately prior to laying sod.
- B. Lay sod within 24 hours of delivery to site to prevent deterioration.
- C. Lay sod tight with no open joints visible, and no overlapping; stagger end joints 12 inches minimum. Do not stretch or overlap sod pieces.
- D. Lay smooth and align with adjoining grass areas.
- E. Place top elevation of sod 1/2 inch below adjoining edging, paving, curbs, and structures.
- F. On slopes 6 inches per foot and steeper, lay sod perpendicular to slope and secure every row with wooden pegs at maximum 2 feet on center. When using "big roll", lay sod parallel to slope. Drive pegs flush with soil portion of sod.
- G. Do not place sod when temperature is lower than 32 degrees F.
- H. Prior to placing sod, on slopes exceeding 8 inches per foot or where indicated, place wire mesh over topsoil. Securely anchor wire mesh in place with wood pegs sunk firmly into ground.
- I. Water sodded areas immediately after installation. Saturate sod to 4 inches of soil.
- J. When required, roll before first watering.

3.9 MAINTENANCE

- A. Mow grass at regular intervals to maintain at maximum height of 2-1/2 inches. Do not cut more than 1/3 of grass blade at each mowing. Perform first mowing when seedlings are 40 percent higher than desired height.
- B. Do not let clippings lay in clumps.
- C. Water to prevent grass and soil from drying out.
- D. Immediately reseed areas showing bare spots.
- E. Repair washouts or gullies.
- F. Any seeded areas with less than 25% established growth after 12 weeks shall be sodded per this specification.

3.10 SCHEDULE

- A. Seed or sod all disturbed areas.

- B. Sod shall be installed in all locations specifically designated on plans.
- C. Sod in privately-owned areas shall match existing turf grass in each location.
- D. Sod type in public R-O-W and general areas shall be Bermuda grass sod unless otherwise noted on plans.

END OF SECTION

SECTION 33 01 30.13 – PIPE AND MANHOLE TESTING

PART 1 - GENERAL

1.1 SUMMARY

A. Section Includes:

1. Testing of Gravity Sewer Piping:
2. Testing of pressure piping for waterline or force main.
3. Deflection testing of plastic sewer piping.
4. Testing of Manholes:

1.2 UNIT PRICE - MEASUREMENT AND PAYMENT

- A. All items including but not limited to materials, equipment, overhead, coordination, testing, labor, and supervision required for a complete and operable project shall be included in the bid for the project. All measurement and payment shall be based on the items of work that are specifically listed in the Bid Proposal. Any items not specifically listed in the Bid Proposal shall be considered subsidiary to unit cost items within the Bid Proposal and no additional payment shall be made for subsidiary items.

1.3 REFERENCE STANDARDS

A. ASTM International:

1. ASTM C1244 - Standard Test Method for Concrete Sewer Manholes by the Negative Air Pressure (Vacuum) Test Prior to Backfill.
2. ASTM D2122 - Standard Test Method for Determining Dimensions of Thermoplastic Pipe and Fittings.

B. American Water Works Association:

1. AWWA C600 - Installation of Ductile Iron Mains and Their Appurtenances.

1.4 SUBMITTALS

A. Submit following items prior to start of testing:

1. Testing procedures.
2. List of test equipment.
3. Testing sequence schedule.
4. Provisions for disposal of flushing and test water.
5. Certification of test gage calibration.
6. Deflection mandrel drawings and calculations.

B. Test and Evaluation Reports: Indicate results of manhole and piping tests.

PART 2 - PRODUCTS

2.1 VACUUM TESTING

A. Equipment:

1. Vacuum pump.
2. Vacuum line.
3. Vacuum Tester Base:
 - a. Compression band seal.
 - b. Outlet port.
4. Shutoff valve.
5. Stopwatch.
6. Plugs.
7. Vacuum Gage: Calibrated to 0.1 in. Hg.

2.2 AIR TESTING

A. Equipment:

1. Air compressor.
2. Air supply line.
3. Shutoff valves.
4. Pressure regulator.
5. Pressure relief valve.
6. Stopwatch.
7. Plugs.
8. Pressure Gage: Calibrated to 0.1 psi.

2.3 HYDROSTATIC TESTING

A. Equipment:

1. Hydro pump.
2. Pressure hose.
3. Water meter.
4. Test connections.
5. Pressure relief valve.
6. Pressure Gage: Calibrated to 0.1 psi.

2.4 DEFLECTION TESTING

A. Equipment:

1. TCEQ compliant rigid "Go, no go" mandrels.
 - a. Must have an outside diameter equal to 95% of the inside diameter of the pipe.
 - b. Constructed of rigid metal or plastic that can withstand 200 psi without deformation. Adjustable or flexible mandrels are prohibited.
 - c. Must have 9 or more runners or legs of an odd number.
 - d. The length of the mandrel's barrel section must be equal to at least 75% of the inside diameter of the pipe.
2. Pull/retrieval ropes.

PART 3 - EXECUTION

3.1 EXAMINATION

- A. Verify that manholes and piping are ready for testing.
- B. Verify that trenches are backfilled.
- C. Verify that pressure piping thrust restraint system is installed.

3.2 PREPARATION

- A. Lamping:
 - 1. Lamp gravity piping after flushing and cleaning.
 - 2. Perform lamping operation by shining light at one end of each pipe section between manholes.
 - 3. Observe light at other end.
 - 4. Pipe not installed with uniform line and grade will be rejected.
 - 5. Remove and reinstall rejected pipe sections.
 - 6. Reclean and lamp until pipe section is installed to uniform line and grade.
- B. Plugs:
 - 1. Plug outlets, wye branches, and laterals.
 - 2. Brace plugs to resist test pressures.

3.3 FIELD QUALITY CONTROL

- A. Testing of Gravity Sewer Piping:
 - 1. Low Pressure Air Testing:
 - a. Test each reach of gravity sewer piping between manholes.
 - b. Introduce air pressure slowly to approximately 4 psig.
 - 1) Determine ground water elevation above spring line of piping.
 - 2) For every foot of ground water above spring line of piping, increase starting air test pressure by 0.43 psi.
 - 3) Do not increase pressure above 10 psig.
 - c. Allow pressure to stabilize for at least five minutes.
 - d. Adjust pressure to 3.5 psig or to increased test pressure as determined above when ground water is present.
 - e. Testing:
 - 1) Determine test duration for reach of sewer with single pipe size from following table; do not make allowance for laterals.

Pipe Diameter (inches)	Minimum Time (seconds)	Max Length for Min Time (feet)	Time for Longer Length (seconds/foot)
6	340	398	0.855
8	454	298	1.520
10	567	239	2.374
12	680	199	3.419
15	850	159	5.342
18	1020	133	7.693
21	1190	114	10.471
24	1360	100	13.676
27	1530	88	17.309
30	1700	80	21.369
33	1870	72	25.856

- 2) Record drop in pressure during testing period.
- 3) If air pressure drops more than 1.0 psi during testing period, piping has failed.
- 4) If 1.0 psi air pressure drop has not occurred during testing period, piping is acceptable; discontinue testing.
- 5) If piping fails, test reach of piping in incremental stages until leaks are isolated, repair leaks, and retest entire reach between manholes.

B. Testing of Pressure Piping (waterline and force main):

1. Test system according to AWWA C600 and following:

- a. Hydrostatically test each portion of pressure piping, including valved section, at equal to or greater than the pipe’s rated pressure (pressure class) unless otherwise specified by engineer.
- b. Conduct hydrostatic testing for at least two hours.
- c. Slowly fill with water portion of piping to be tested, expelling air from piping at high points.
- d. Install corporation cocks at high points.
- e. Close air vents and corporation cocks after air is expelled.
- f. Raise pressure to specified test pressure.
- g. Observe joints, fittings, and valves undergoing testing.
- h. Remove and renew cracked pipes, joints, fittings, and valves that show visible leakage.
- i. Retest.
- j. Correct visible deficiencies and continue testing at same test pressure for additional two hours to determine leakage rate.
- k. Maintain pressure within plus or minus 5.0 psi of test pressure.
- l. Allowed leakage rate shall not exceed 10 gallons per inch of pipe diameter per mile of pipe per day. Leakage is defined as quantity of water supplied to piping necessary to maintain test pressure during period of testing. Compute maximum allowable leakage using following formula:

$L = [SD \times \sqrt{P}]/C$
L = testing allowance, gph
S = length of pipe tested, feet
D = nominal diameter of pipe, inches
P = average test pressure during hydrostatic testing, psig
C = 155,400

Note:

1. When pipe undergoing testing contains sections of various diameters, calculate allowable leakage from sum of computed leakage for each pipe size.

2. If testing of piping indicates leakage greater than that allowed, locate source of leakage, make corrections, and retest until leakage is within acceptable limits.
3. Correct visible leaks regardless of quantity of leakage.

C. Deflection Testing of Sanitary Sewer Piping:

1. Perform vertical ring deflection testing on PVC and acrylonitrile butadiene styrene sewer piping after backfilling has been in place for at least 30 days but not longer than 12 months.
2. Allowable maximum deflection for installed plastic sewer pipe is no greater than five percent of original vertical internal diameter.
3. Perform deflection testing using properly sized rigid ball or "go, no go" mandrel.
4. Furnish rigid ball or mandrel with diameter not less than 95 percent of base or average inside diameter of pipe, as determined by ASTM standard to which pipe is manufactured; measure pipe diameter in compliance with ASTM D2122.
5. Perform testing without mechanical pulling devices.
6. Locate, excavate, replace, and retest piping that exceeds allowable deflection.

D. Testing of Manholes:

1. Description:
 - a. If air testing, test whenever possible prior to backfilling in order to more easily locate leaks.
 - b. Repair both outside and inside of joint to ensure permanent seal.
 - c. Test manholes with manhole frame set in place.
2. Vacuum test according to ASTM C1244 and following:
 - a. All testing shall conform with TCEQ requirements.
 - b. Plug pipe openings; securely brace plugs and pipe.
 - c. Inflate compression band to create seal between vacuum base and structure.
 - d. Connect vacuum pump to outlet port with valve open, then draw vacuum to 10 in. Hg.
 - e. Close valve.
 - f. Testing:
 - 1) Each manhole shall be tested for a minimum of 2 minutes.
 - 2) Record vacuum drop during test period.
 - 3) If vacuum drop is greater than 1 in. Hg during testing, repair & retest manhole.
 - 4) If vacuum drop of 1 in. Hg does not occur during test period, manhole is acceptable; discontinue testing.
 - 5) If vacuum test fails to meet 1 in. Hg drop in specified time after repair, repair and retest manhole.
 - 6) Manholes within 9' of potable water lines must not have any leaks indicated by a drop in pressure of zero.
3. If unsatisfactory testing results are achieved, repair manhole and retest until result meets criteria.
4. Repair visible leaks regardless of quantity of leakage.

END OF SECTION

SECTION 33 01 30.16 - TV INSPECTION OF SANITARY & STORM SEWER PIPELINES

PART 1 - GENERAL

1.1 SUMMARY

- A. Section Includes: TV Inspection for all Sanitary & Storm Sewer Piping. All gravity piping on this project require TV inspection.
 - 1. Pipeline flushing and cleaning.
 - 2. TV inspection of sewer pipelines.
 - 3. Audio-video recording of pipeline interior.

1.2 UNIT PRICE - MEASUREMENT AND PAYMENT

- A. All items including but not limited to materials, equipment, overhead, coordination, testing, labor, and supervision required for a complete and operable project shall be included in the bid for the project. All measurement and payment shall be based on the items of work that are specifically listed in the Bid Proposal. Any items not specifically listed in the Bid Proposal shall be considered subsidiary to unit cost items within the Bid Proposal and no additional payment shall be made for subsidiary items.

1.3 COORDINATION

- A. Coordinate Work of this Section with Engineer & Owner.

1.4 PREINSTALLATION MEETINGS

- A. Convene minimum one week prior to commencing Work of this Section.

1.5 SUBMITTALS

- A. Submit completed narrated digital file identified by Project name, street name, right-of-way property name, and manhole numbers.
- B. Digital Files become property of Owner.
- C. Inspection Logs:
 - 1. Submit cleaning and TV inspection logs for each section of sewer line to be rehabilitated and three copies of color digital files for Work performed.
 - 2. Include following minimum information:
 - a. Stationing and location of lateral services, wyes, or tees.
 - b. Clock time references.
 - c. Pipe joints.
 - d. Infiltration/inflow defects.
 - e. Cracks.
 - f. Leaks.
 - g. Offset joints.

- h. Other information required to assess condition of sewer.
- D. Submit specific detailed description of proposed bypass pumping system, including written description of plan addressing quantity, capacity, and location of pumping equipment.
- E. Submit spill plan to address any spills that might occur.
- F. Qualifications Statement:
 - 1. Submit qualifications for applicator.

1.6 QUALITY ASSURANCE

- A. Perform Work according to state and local standard specifications.

1.7 QUALIFICATIONS

- A. Applicator: Company specializing in performing Work of this Section with minimum 3 years documented experience.

PART 2 - PRODUCTS

2.1 Digital Files

- A. Description: Digital Files on flash drive or other media.
- B. Audio track containing simultaneously recorded narrative commentary and evaluations of videographer, describing in detail condition of pipeline interior.
- C. Digital files may not be required if engineer is on site at time of TVing.

PART 3 - EXECUTION

3.1 EXAMINATION

- A. Verify location of sewer pipelines to be inspected.

3.2 PREPARATION

- A. Flush and clean pipeline to remove sludge, dirt, sand, stone, grease, and other materials to ensure clear view of interior conditions.
- B. Intercept flushed debris at next downstream manhole using weir or screening device; remove and dispose of debris off Site.
- C. Furnish temporary bypass pumping system around Work area for time required to complete TV inspection.

3.3 APPLICATION

A. Closed-Circuit TV Camera System:

1. Use cameras specifically designed and constructed for closed-circuit sewer line inspection. Use camera equipment with pan and tilt capability to view each lateral connection at multiple angles.
2. Use camera capable of moving both upstream and downstream with minimum 1,000 feet horizontal distance within one setup and direct-reading cable position meter.
3. A Push style camera may be used in engineer is on site during time of inspection.

END OF SECTION

00SECTION 33 05 13.16 - PUBLIC MANHOLES AND STRUCTURES

PART 1 - GENERAL

1.1 SUMMARY

A. Section Includes:

1. Cast-in-place concrete manholes and structures with masonry transition to cover frame, covers, anchorage, and accessories.
2. Modular precast concrete manholes and structures with tongue-and-groove joints and masonry transition to cover frame, covers, anchorage, and accessories.
3. Masonry manhole and structure sections with masonry transition to cover frame, covers, anchorage, and accessories.
4. Doghouse manhole connections to existing sewer lines.
5. Bedding and cover materials.

1.2 UNIT PRICE - MEASUREMENT AND PAYMENT

- #### A.
- All items including but not limited to materials, equipment, overhead, coordination, testing, labor, and supervision required for a complete and operable project shall be included in the bid for the project. All measurement and payment shall be based on the items of work that are specifically listed in the Bid Proposal. Any items not specifically listed in the Bid Proposal shall be considered subsidiary to unit cost items within the Bid Proposal and no additional payment shall be made for subsidiary items.

1.3 REFERENCE STANDARDS

A. American Association of State Highway Transportation Officials:

1. AASHTO M288 - Standard Specification for Geotextile Specification for Highway Applications.
2. AASHTO M306 - Standard Specification for Drainage, Sewer, Utility, and Related Castings.

B. American Concrete Institute:

1. ACI 530/530.1 - Building Code Requirements and Specification for Masonry Structures.

C. ASTM International:

1. ASTM A48 - Standard Specification for Gray Iron Castings.
2. ASTM A123 - Standard Specification for Zinc (Hot-Dip Galvanized) Coatings on Iron and Steel Products.
3. ASTM C55 - Standard Specification for Concrete Building Brick.
4. ASTM C361 - Standard Specification for Reinforced Concrete Low-Head Pressure Pipe.
5. ASTM C478 - Standard Specification for Precast Reinforced Concrete Manhole Sections.
6. ASTM C497 - Standard Test Methods for Concrete Pipe, Manhole Sections, or Tile.
7. ASTM C913 - Standard Specification for Precast Concrete Water and Wastewater Structures.
8. ASTM C923 - Standard Specification for Resilient Connectors between Reinforced Concrete Manhole Structures, Pipes, and Laterals.

1.4 SUBMITTALS

- A. Product Data: Submit data for manhole covers, component construction, features, configuration, and dimensions.
- B. Shop Drawings:
 - 1. Indicate structure locations and elevations.
 - 2. Indicate sizes and elevations of piping, conduit, and penetrations.
- C. Manufacturer's Certificate: Certify that products meet or exceed specified requirements.
- D. Manufacturer Instructions: Submit detailed instructions on installation requirements, including storage and handling procedures.
- E. Field Quality-Control Submittals: Indicate results of Contractor-furnished tests and inspections.
- F. Qualifications Statements:
 - 1. Submit qualifications for manufacturer and installer.
 - 2. Submit manufacturer's approval of installer.

1.5 QUALITY ASSURANCE

- A. Perform Work according to state and local standard specifications.

1.6 QUALIFICATIONS

- A. Manufacturer: Company specializing in manufacturing products specified in this Section with minimum three years documented experience.
- B. Installer: Company specializing in performing Work of this Section with minimum three years' documented experience and approved by manufacturer.

1.7 DELIVERY, STORAGE, AND HANDLING

- A. Inspection: Accept materials on Site in manufacturer's original packaging and inspect for damage.
- B. Comply with precast concrete manufacturer's instructions and ASTM C913 for unloading, storing, and moving precast manholes and drainage structures.
- C. Storage:
 - 1. Store precast concrete manholes and drainage structures to prevent damage to Owner's property or other public or private property.
 - 2. Repair property damaged from materials storage.

PART 2 - PRODUCTS

2.1 MANHOLES AND STRUCTURES

A. Manhole and Structure Sections:

1. Description: Reinforced precast concrete conforming to ASTM C478 with gaskets conforming to ASTM C923.
2. Joints for Precast Manholes and Structures:
 - a. Conforming to ASTM C913.
 - b. Maximum Leakage: 0.025 gal. per hour per foot of joint at 3 feet of head.

B. Reinforcement:

1. Formed steel wire or reinforcing rods. Per ASTM A615 or A185
2. Finish: Unfinished.

C. Shaft Construction and Concentric or Eccentric Cone Top Section:

1. Pipe Sections: Reinforced precast concrete.
2. Joints:
 - a. Lipped male/female.
3. Sleeved to receive sections.

D. Shape: Unless otherwise indicated in drawings or bid proposal, manholes shall be cylindrical.

E. Clear Inside Dimensions:

1. Manhole diameters shall be as indicated in drawings and bid proposal. If not specified, a minimum manhole diameter of 48 inches shall be required.

F. Design Depth:

1. As indicated on Drawings.

G. Clear Opening:

1. Clear openings for each manhole shall be as indicated in drawings. If not specified, a minimum 30" Diameter clear opening will be required.

H. Pipe Entry: Furnish openings as indicated on Drawings. Contractor shall field verify penetration depths and locations prior to ordering/constructing manhole.

I. Structure Joint Gaskets:

1. ASTM C361.
2. Material: Rubber.

J. Steps: No steps unless specifically noted on plans.

2.2 FRAMES AND COVERS

A. Manufacturers:

1. Furnish materials according to state and local standard specifications.

B. Description:

1. Construction: ASTM A48, Class 30B, cast iron.
2. Lid:
 - a. Surface: Machined flat bearing.
 - b. Removable with pick holes.
3. Cover Design: Closed Waterproof.
4. Live Load Rating: HS20 minimum load rating
5. Cover: Molded with identifying name and logo.
 - a. Name of City
 - b. Sanitary Sewer, Storm Sewer, or other utility identifier.

2.3 RISER RINGS

A. Manufacturers:

1. Furnish materials according to state and local standard specifications.

B. Riser Rings:

1. 4 Inches to 6 Inches Thick:
 - a. Material: Precast concrete.
 - b. Comply with ASTM C478.
2. Less than 4 Inches Thick:
 - a. Material: Cast iron.
 - b. Comply with AASHTO M306.
3. Rubber Seal Wraps:
 - a. Wraps and Band Widths: Conform to ASTM C877, Type III.
 - b. Cone/Riser Ring Joint: Minimum 3 inches overlap.
 - c. Frame/Riser Ring Joint: 2 inches overlap.
 - d. Additional Bands: Overlap upper band by 2 inches.

C. As specified in Section 03 41 00 - Precast Structural Concrete.

D. Accessories:

1. Joint Sealant: Comply with ASTM C990.
2. Bolts:
 - a. Stainless Steel: Comply with ASTM F593.

2.4 MATERIALS

- A. Cover and Bedding:
 - 1. Bedding: Fill Type drainage stone to 12" over pipe.
 - 2. Cover: Fill Type compacted select fill.

2.5 ACCESSORIES

- A. Foundation Slab: Only when indicated on drawings
 - 1. Provide cast-in-place concrete as specified in Section 03 30 00 OR Precast concrete slab.
 - 2. Top Surface: Level.
- B. Bituminous Interior Manhole Coating:
 - 1. Manufacturers:
 - a. Furnish materials according to state and local standard specifications.
 - 2. Description: 3 mil coating unless otherwise noted on drawings
- C. Geotextile Filter Fabric:
 - 1. AASHTO M288, for subsurface drainage.
 - 2. Class A.
 - 3. Fabric:
 - a. Non-biodegradable.
 - b. Woven.
- D. Grout: As specified in technical specifications, non-shrink grout.
- E. Watertight Polyethylene Manhole Insert: When indicated on drawings
- F. Soil backfill from above pipe to Finish Grade:
 - 1. Soil Type: compacted select fill.
 - 2. Subsoil: No rocks over 6 inches in diameter, frozen earth, or foreign matter.

PART 3 - EXECUTION

3.1 EXAMINATION

- A. Verify that items provided by other Sections of Work are properly sized and located.
- B. Verify that built-in items are in proper location and are ready for roughing into Work.
- C. Verify correct size of manhole and structure excavation.

3.2 PREPARATION

- A. Mark each precast structure by indentation or waterproof paint showing date of manufacture, manufacturer, and identifying symbols and numbers as indicated on Drawings to indicate its intended use.
- B. Coordinate placement of inlet and outlet pipe or duct sleeves required by other Sections.
- C. Do not install manholes and structures where Site conditions induce loads exceeding structural capacity of manholes or structures.
- D. Inspect precast concrete manholes and structures immediately prior to placement in excavation to verify that they are internally clean and free from damage; remove and replace damaged units.

3.3 INSTALLATION

- A. Excavation and Backfill:
 - 1. Excavate for manholes and structures in indicated locations and depths.
 - 2. Provide clearance around sidewalls of manhole or structure for construction operations.
 - 3. If groundwater is encountered, prevent accumulation of water in excavations; place manhole or structure in dry trench.
 - 4. Where possibility exists of watertight manhole or structure becoming buoyant in flooded excavation, anchor manhole or structure to avoid flotation, as approved by Architect/Engineer.
- B. Foundation Slab: Only when indicated on drawings.
- C. Install manholes and structures supported at proper grade and alignment on crushed stone bedding over geotextile fabric.
- D. Backfill excavations for manholes and structures with compacted select fill, clean sand will be used if excavation inhibits compactive effort.
- E. Form and place manhole or structure cylinder plumb and level, to correct dimensions and elevations.
- F. As Work progresses, build fabricated metal items.
- G. Cut and fit for pipe conduit sleeves and vents.
- H. Grout base of shaft sections to achieve slope to exit piping, trowel smooth, and contour to form continuous drainage channel as indicated on Drawings.
- I. Paint interior with a coat of bituminous interior coating to achieve 3 mil min thickness.
- J. Set cover frames and covers level to correct elevations without tipping.
- K. Precast Concrete Manholes and Structures:
 - 1. Lift precast components at lifting points designated by manufacturer.
 - 2. When lowering manholes and structures into excavations and joining pipe to units, take precautions to ensure that interior of pipeline and structure remains clean.

3. Set precast structures, bearing firmly and fully on crushed stone bedding, compacted as specified in technical specifications or on other support system as indicated on Drawings.
4. Assembly:
 - a. Assemble multi-section manholes and structures by lowering each section into excavation.
 - b. Install rubber gasket joints between precast sections according to manufacturer's recommendations.
 - c. Lower, set level, and firmly position base section before placing additional sections.
5. Remove foreign materials from joint surfaces and verify sealing materials are placed properly.
6. Maintain alignment between sections by using guide devices affixed to lower section.
7. Joint sealing materials may be installed on Site or at manufacturer's plant.
8. Verify that installed manholes and structures meet required alignment and grade.
9. Remove knockouts or cut structure to receive piping without creating openings larger than required to receive pipe; fill annular spaces with mortar.
10. Cut pipe flush with interior of structure.
11. Shape inverts through manhole and structures as indicated on Drawings.

L. Cast-in-Place Concrete Manholes and Structures:

1. Prepare crushed stone bedding or other support system as indicated on Drawings to receive base slab as specified for precast structures.
2. Erect and brace forms against movement as specified in Section 03 10 00 - Concrete Forming and Accessories.
3. Install reinforcing steel as indicated on Drawings and as specified in Section 03 20 00 - Concrete Reinforcing.
4. Place and cure concrete as specified in Section 03 30 00 - Cast-in-Place Concrete.
5. Frames and Covers:
 - a. Set frames using mortar and precast grade rings and cones.
 - b. Set frame and cover 2 inches above finished grade for manholes and structures with covers located within unpaved areas, to allow area to be graded away from cover beginning 1 inch below top surface of frame.

M. Doghouse Manholes and Structures:

1. Stake out location and burial depth of existing sewer line in area of proposed manhole or structure.
2. Carefully excavate around existing sewer line to adequate depth for foundation slab installation.
3. Protect existing pipe from damage.
4. Cut out soft spots and replace with granular fill compacted to 95 percent maximum density.
5. Prepare crushed stone bedding or other support system, as indicated on Drawings, to receive foundation slab as specified for precast manholes and structures.
6. Install manhole or structure around existing pipe according to applicable Paragraphs in this Section.
7. Grout pipe entrances with waterproof non-shrink grout.
8. Block upstream flow at existing manhole or structure with expandable plug.
9. Use hydraulic saw to cut existing pipe at manhole or structure entrance and exit and along pipe length at a point halfway up the outside diameter on each side of the pipe.
10. Bottom half of pipe to remain as manhole flow channel.
11. Saw cut to smooth finish with top half of pipe flush with interior of manhole or structure.

12. Grout base of manhole or structure to achieve slope to manhole or structure channel and trowel smooth

N. Sanitary Manhole Drop Connections:

1. Construct drop connections into sanitary manholes as indicated on Drawings.

3.4 FIELD QUALITY CONTROL

- A. Test cast-in-place concrete as specified in Section 03 30 00 - Cast-in-Place Concrete.
- B. Test concrete manhole and structure sections according to ASTM C497.
- C. Vertical Adjustment of Existing Manholes and Structures:
 1. If required, adjust top elevation of existing manholes and structures to finished grades as indicated on Drawings.
 2. Frames, Grates, and Covers:
 - a. Carefully remove frames, grates, and covers cleaned of mortar fragments.
 - b. Reset to required elevation according to requirements specified for installation of castings.
 3. Reinforcing Bars:
 - a. Remove concrete without damaging existing vertical reinforcing bars if removal of existing concrete wall is required.
 - b. Clean vertical bars of concrete and bend into new concrete top slab or splice to required vertical reinforcement as indicated on Drawings.
 4. Clean and apply sand-cement bonding compound on existing concrete surfaces to receive cast-in-place concrete.

END OF SECTION

SECTION 33 05 16.13 - PRECAST CONCRETE UTILITY STRUCTURES

PART 1 - GENERAL

1.1 SUMMARY

- A. Section Includes:
1. Precast concrete utility structures.
 2. Drainage system catch basins.
 3. Drainage system inlets.
 4. Drainage system junction boxes.
 5. Drainage system sedimentation chambers.
 6. Drainage system retention/diversion structures.
 7. Sanitary sewer lift station pits.
 8. Sanitary sewer lift station valve chambers.
 9. Sanitary drain field dosing chambers.
 10. Knock-out boxes.
 11. Box culverts.
 12. Oil-water separators.
 13. Grease interceptors.
 14. Acid retention basins.
 15. Triturator pits.
 16. Irrigation well pits.
 17. Valve pits.
 18. End walls.
 19. Pipe ends.
 20. Frames and covers.
 21. Access hatches.

1.2 UNIT PRICE - MEASUREMENT AND PAYMENT

- A. All items including but not limited to materials, equipment, overhead, coordination, testing, labor, and supervision required for a complete and operable project shall be included in the bid for the project. All measurement and payment shall be based on the items of work that are specifically listed in the Bid Proposal. Any items not specifically listed in the Bid Proposal shall be considered subsidiary to unit cost items within the Bid Proposal and no additional payment shall be made for subsidiary items.

1.3 REFERENCE STANDARDS

- A. American Association of State Highway and Transportation Officials:
1. AASHTO HB-17 - Standard Specifications for Highway Bridges.
 2. AASHTO M306 - Standard Specification for Drainage, Sewer, Utility, and Related Castings.
- B. American Concrete Institute:
1. ACI 211.1 - Standard Practice for Selecting Proportions for Normal, Heavyweight, and Mass Concrete.
 2. ACI 211.2 - Standard Practice for Selecting Proportions for Structural Lightweight Concrete.
 3. ACI 318 - Building Code Requirements for Structural Concrete and Commentary.
- C. ASTM International:

1. ASTM A36 - Standard Specification for Carbon Structural Steel.
2. ASTM A48 - Standard Specification for Gray Iron Castings.
3. ASTM A82 - Standard Specification for Steel Wire, Plain, for Concrete Reinforcement.
4. ASTM A123 - Standard Specification for Zinc (Hot-Dip Galvanized) Coatings on Iron and Steel Products.
5. ASTM A185 - Standard Specification for Steel Welded Wire Reinforcement, Plain, for Concrete.
6. ASTM A496 - Standard Specification for Steel Wire, Deformed, for Concrete Reinforcement.
7. ASTM A497 - Standard Specification for Steel Welded Wire Reinforcement, Deformed, for Concrete.
8. ASTM A615 - Standard Specification for Deformed and Plain Carbon-Steel Bars for Concrete Reinforcement.
9. ASTM A706 - Standard Specification for Low-Alloy Steel Deformed and Plain Bars for Concrete Reinforcement.
10. ASTM A767 - Standard Specification for Zinc-Coated (Galvanized) Steel Bars for Concrete Reinforcement.
11. ASTM A775 - Standard Specification for Epoxy-Coated Steel Reinforcing Bars.
12. ASTM A780 - Standard Practice for Repair of Damaged and Uncoated Areas of Hot-Dip Galvanized Coatings.
13. ASTM A884 - Standard Specification for Epoxy-Coated Steel Wire and Welded Wire Reinforcement.
14. ASTM A996 - Standard Specification for Rail-Steel and Axle-Steel Deformed Bars for Concrete Reinforcement.
15. ASTM C31 - Standard Practice for Making and Curing Concrete Test Specimens in the Field.
16. ASTM C33 - Standard Specification for Concrete Aggregates.
17. ASTM C39 - Standard Test Method for Compressive Strength of Cylindrical Concrete Specimens.
18. ASTM C138 - Standard Test Method for Density (Unit Weight), Yield, and Air Content (Gravimetric) of Concrete.
19. ASTM C143 - Standard Test Method for Slump of Hydraulic-Cement Concrete.
20. ASTM C150 - Standard Specification for Portland Cement.
21. ASTM C173 - Standard Test Method for Air Content of Freshly Mixed Concrete by the Volumetric Method.
22. ASTM C192 - Standard Practice for Making and Curing Concrete Test Specimens in the Laboratory.
23. ASTM C231 - Standard Test Method for Air Content of Freshly Mixed Concrete by the Pressure Method.
24. ASTM C260 - Standard Specification for Air-Entraining Admixtures for Concrete.
25. ASTM C309 - Standard Specification for Liquid Membrane-Forming Compounds for Curing Concrete.
26. ASTM C330 - Standard Specification for Lightweight Aggregates for Structural Concrete.
27. ASTM C443 - Standard Specification for Joints for Concrete Pipe and Manholes, Using Rubber Gaskets.
28. ASTM C494 - Standard Specification for Chemical Admixtures for Concrete.
29. ASTM C618 - Standard Specification for Coal Fly Ash and Raw or Calcined Natural Pozzolan for Use in Concrete.
30. ASTM C857 - Standard Practice for Minimum Structural Design Loading for Underground Precast Concrete Utility Structures.
31. ASTM C890 - Standard Practice for Minimum Structural Design Loading for Monolithic or Sectional Precast Concrete Water and Wastewater Structures.
32. ASTM C891 - Standard Practice for Installation of Underground Precast Concrete Utility Structures.

33. ASTM C913 - Standard Specification for Precast Concrete Water and Wastewater Structures.
34. ASTM C923 - Standard Specification for Resilient Connectors Between Reinforced Concrete Manhole Structures, Pipes, and Laterals.
35. ASTM C989 - Standard Specification for Slag Cement for Use in Concrete and Mortars.
36. ASTM C990 - Standard Specification for Joints for Concrete Pipe, Manholes, and Precast Box Sections Using Preformed Flexible Joint Sealants.
37. ASTM C1107 - Standard Specification for Packaged Dry, Hydraulic-Cement Grout (Nonshrink).
38. ASTM C1244 - Standard Test Method for Concrete Sewer Manholes by the Negative Air Pressure (Vacuum) Test Prior to Backfill.
39. ASTM C1315 - Standard Specification for Liquid Membrane-Forming Compounds Having Special Properties for Curing and Sealing Concrete.
40. ASTM C1433 - Standard Specification for Precast Reinforced Concrete Monolithic Box Sections for Culverts, Storm Drains, and Sewers.
41. ASTM C1504 - Standard Specification for Manufacture of Precast Reinforced Concrete Three-Sided Structures for Culverts and Storm Drains.

D. American Welding Society:

1. AWS D1.1 - Structural Welding Code - Steel.
2. AWS D1.4 - Structural Welding Code - Reinforced Steel.

E. Federal Aviation Administration:

1. FAA AC 150/5320-6E - Airport Pavement Design and Evaluation.
2. FAA AC 150/5370-10F - Standards for Specifying Construction of Airports.

F. National Precast Concrete Association:

1. NPCA Plant Certification Program.
2. NPCA Quality Control Manual for Precast and Prestressed Concrete Plants.

G. South Coast Air Quality Management District:

1. SCAQMD Rule 1168 - Adhesive and Sealant Applications.

H. The Society for Protective Coatings:

1. SSPC Paint 20 - Zinc-Rich Primers (Type I - Inorganic and Type II - Organic).

1.4 SUBMITTALS

A. Product Data:

1. Submit data for frames and covers, steps, component construction, features, configuration, dimensions.

B. Shop Drawings:

1. Indicate structure locations, elevations, sections, equipment supports, piping, conduit, sizes and elevations of penetrations.
2. Indicate design, construction and installation details, typical reinforcement and additional reinforcement at openings and for each type, size, and configuration.

C. Submit concrete mix design for each different mix.

D. Manufacturer's Certificate: Certify that products meet or exceed specified requirements.

- E. Delegated Design Submittals: Submit signed and sealed Shop Drawings with design calculations and assumptions for custom fabrications.
- F. Manufacturer Instructions: Submit detailed instructions on installation requirements, including storage and handling procedures.
- G. Source Quality-Control Submittals: Indicate results of shop factory tests and inspections.
- H. Field Quality-Control Submittals: Indicate results of Contractor-furnished tests and inspections.
- I. Qualifications Statements:
 - 1. Submit qualifications for manufacturer, installer, and licensed professional.
 - 2. Submit manufacturer's approval of installer.

1.5 QUALITY ASSURANCE

- A. Obtain precast concrete utility structures from single source.
- B. Perform structural design according to ACI 318.
- C. Perform Work according to NPCA Quality Control Manual for Precast and Prestressed Concrete Plants.
- D. Conform to following material and fabrication requirements:
 - 1. Single Cell Box Culverts: ASTM C1433.
 - 2. Three Sided Structures: ASTM C1504.
 - 3. Other Structures: ASTM C913.
- E. Perform welding according to following:
 - 1. Structural Steel: AWS D1.1.
 - 2. Reinforcing Steel: AWS D1.4.
- F. Perform Work according to state and local standard specifications.

1.6 QUALIFICATIONS

- A. Manufacturer: Company specializing in manufacturing products specified in this Section with minimum three years' documented experience.
- B. Installer: Company specializing in performing Work of this Section with minimum three years' documented experience and approved by manufacturer.
- C. Licensed Professional: Professional engineer experienced in design of specified Work and licensed.
- D. Welders and Welding Procedures: AWS qualified within previous 12 months for employed weld types.

1.7 DELIVERY, STORAGE, AND HANDLING

- A. Do not deliver products until concrete has cured 5 days or has attained minimum 75 percent of specified 28-day compressive strength.

- B. Inspection: Accept precast structures on Site in manufacturer's original packaging and inspect for damage.
- C. Comply with precast concrete manufacturer instructions for unloading, storing, and moving precast structures.
- D. Lift structures from designated lifting points.
- E. Storage:
 - 1. Store precast concrete manholes and drainage structures to prevent damage to Owner's property or other public or private property.
 - 2. Repair property damaged from materials storage.

PART 2 - PRODUCTS

2.1 DESIGN REQUIREMENTS

- A. Design structures for minimum loads conforming to ASTM C857 and ASTM C890.
- B. Roof Live Load: Comply with following loading conditions, including impact load:
 - 1. Heavy Traffic:
 - a. ASTM C857, A-16 AASHTO HB-17, HS20-44.
 - b. Maximum 16,000 lb. each wheel.

2.2 PRECAST CONCRETE UTILITY STRUCTURES

- A. Precast Concrete Utility Structures: Reinforced precast concrete.
- B. Foundation Slab: Only allowed when indicated on plans.
 - 1. 3,000 psi minimum concrete strength.
 - 2. Top Surface: Leveled.

2.3 FRAMES AND COVERS

- A. Description:
 - 1. Construction: ASTM A48, Class 30B, cast iron.
 - 2. Lid:
 - a. Surface: Machined flat bearing.
 - b. Removable w/ pick holes.
 - 3. Cover Design: Closed waterproof.
 - 4. Live Load Rating: HS20 minimum load rating
 - 5. Cover: Molded with identifying name and logo.
 - a. Name of City
 - b. Sanitary Sewer, Storm Sewer, or other utility identifier.
 - 6. Nominal Lid Size: 32" Lid for 30" Clear Opening

2.4 MATERIALS

- A. Concrete:
 - 1. Cement:
 - a. ASTM C150.
 - b. Type I - Normal.
 - c. Type: Portland.
 - 2. Fine and Coarse Aggregates: ASTM C33, except gradation requirements do not apply.
 - 3. Water: Clean and not detrimental to concrete.
- B. Admixtures:
 - 1. Furnish materials according to TxDOT and City Standards
 - 2. Air Entrainment: Comply with ASTM C260.
 - 3. Chemical Admixtures:
 - a. Comply with ASTM C494.
- C. Concrete Reinforcement:
 - 1. Reinforcing Steel:
 - a. Comply with ASTM A615.
 - b. Yield Grade: 60 ksi.
 - c. Billet Bars: Deformed.
 - d. Finish: Uncoated.

2.5 FABRICATION

- A. Fabricate precast concrete utility structures conforming to ACI 318 and NPCA Quality Control Manual for Precast and Prestressed Concrete Plants.
- B. Fabricate precast concrete utility structures, knock-out panels, and openings to size and configuration as indicated on Drawings.
- C. Construct forms to provide uniform precast concrete units with consistent dimensions.
- D. Clean forms after each use.
- E. Reinforcing:
 - 1. Install reinforcement by tying or welding to form rigid assemblies.
 - 2. Position reinforcement to maintain minimum 1/2 inch cover.
 - 3. Secure reinforcement to prevent displacement while placing concrete.
- F. Position and secure embedded items to prevent displacement while placing concrete.
- G. Deposit concrete in forms and consolidate concrete without segregating aggregate.
- H. Provide initial curing by retaining moisture using one of following methods:
 - 1. Cover with polyethylene sheets.
 - 2. Cover with burlap or other absorptive material and keep continually moist.
 - 3. Apply curing compound according to manufacturer instructions.
- I. Provide final curing according to manufacturer's standard.
- J. Remove forms without damaging concrete.

2.6 MIXES

A. Concrete:

1. Select proportions for normal weight concrete according to ACI 318 and ACI 211.1.
2. Concrete Criteria:
 - a. Compressive Strength: 4,000 psi at 28 days.
 - b. Water-Cement Ratio:
 - 1) Concrete Exposed to Freezing and Thawing: Maximum 0.45 percent by mass.
 - 2) Watertight Concrete Not Exposed to Freezing and Thawing: Maximum 0.48 percent by mass.
 - 3) Concrete Exposed to Corrosive Conditions: 0.40 percent by mass.
 - c. Air Content:

MAXIMUM AGGREGATE SIZE, INCHES	AIR CONTENT, PERCENT	
	SEVERE EXPOSURE	MODERATE EXPOSURE
3/8 inches	6.0 to 9.0	4.5 to 7.5
1/2 inches	5.5 to 8.5	4.7 to 7.0
3/4 inches	4.5 to 7.5	3.5 to 6.5
1 inches	4.5 to 7.5	3.0 to 6.0
1-1/2 inches	4.5 to 7.0	3.0 to 6.0

3. Admixtures:

- a. Include admixture types and quantities indicated in concrete mix designs approved through submittal process.
- b. Do not use calcium chloride.

2.7 FINISHES

A. Concrete:

1. Formed Surfaces Not Exposed to View: As formed.
2. Unformed Surfaces:
 - a. Finish with vibrating screed or hand float.
 - b. Permitted: Color variations, minor indentations, chips, and spalls.
 - c. Not Permitted: Major imperfections, honeycomb, or other defects.
3. Exposed to View Finishes: Light broom finish unless otherwise noted on plans.

2.8 ACCESSORIES

- A. Membrane Curing Compound: ASTM C309, Type I.
- B. Steps: None unless specifically required by plans.
- C. Inserted and Embedded Items:
 1. Structural Steel Sections:
 - a. Comply with ASTM A36.
 - b. Finish: Galvanized.
- D. Joint Sealants and Joint Gaskets:

1. Gasket Joints for Circular Concrete Pipe:
 - a. ASTM C443.
 - b. Gaskets: Standard rubber.
 2. External Sealing Bands:
 - a. Comply with ASTM C877.
 - b. Material: Type I, rubber and mastic.
 3. Preformed Joint Sealants for Concrete Pipe and Box Sections: Comply with ASTM C990.
 4. Elastomeric Joint Sealants:
 - a. Comply with ASTM C920.
 - b. Material: Silicone.
 - c. Grade NS, Class 25.
- E. Pipe Entry Connectors: Comply with ASTM C923.
- F. Grout:
1. Cement Grout: Portland cement, sand, and water mixture with stiff consistency to suit intended purpose.
 2. Non-Shrink Grout:
 - a. Description: Premixed compound consisting of non-metallic aggregate, cement, and water-reducing and plasticizing agents.
 - b. Conform to ASTM C1107.
 - c. Minimum Compressive Strength: 2,400 psi in 48 hours, and 7,000 psi in 28 days.

2.9 SOURCE QUALITY CONTROL

- A. Testing:
1. Perform following tests for each 150 cu. yd. of concrete placed with minimum one set of tests each week:
 - a. Slump: Comply with ASTM C143.
 - b. Compressive Strength: ASTM C31 and ASTM C39.
 - c. Air Content: Comply with ASTM C231 ASTM C173.
 - d. Unit Weight: Comply with ASTM C138.
 2. Make test results available to Engineer or Owner upon request.
- B. Inspection:
1. Visually inspect completed precast structures for defects.
 2. Repair defects on surfaces exposed to view to achieve uniform appearance.
 3. Repair honeycomb by removing loose material and applying grout to produce smooth surface flush with adjacent surface.
 4. Repair major defects only if permitted by Engineer or Owner.
- C. Owner Witnessing:
1. Allow witnessing of factory inspections and test at manufacturer's test facility.
 2. Notify Owner at least three days before inspections and tests are scheduled.

PART 3 EXECUTION

3.1 EXAMINATION

- A. Verify that items provided by other Sections of Work are properly sized and located.
- B. Verify correct size and elevation of excavation.

- C. Verify that subgrade and bedding are properly prepared, compacted, and ready to receive Work of this Section.

3.2 PREPARATION

- A. Mark each precast structure by indentation or using waterproof paint showing date of manufacture, manufacturer, and identifying symbols and numbers shown on Drawings to indicate its intended use.
- B. Coordinate placement of inlet and outlet pipe or duct sleeves required by other Sections.
- C. Do not install structures if Site conditions induce loads exceeding weight capacity of structures.
- D. Inspect precast concrete structures immediately prior to placement in excavation to verify that they are internally clean and free from damage; remove and replace damaged units.

3.3 INSTALLATION

- A. Install underground precast utility structures according to ASTM C891.
- B. Lift precast concrete structures at lifting points designated by manufacturer.
- C. When lowering structures into excavations and joining pipe to units, take precautions to ensure that interior of pipeline and structure remains clean.
- D. Install precast concrete base to elevation and alignment as indicated on Drawings.
- E. Install cast-in-place concrete foundation slab when required and trowel top surface level.
- F. Install precast concrete utility structures to elevation and alignment as indicated on Drawings.
- G. Assembly of Multi-section Structures:
 - 1. Lower each section into excavation.
 - 2. Clean joint surfaces.
 - 3. Install watertight joint seals according to manufacturer instructions using gasket joints, or external sealing bands, or grout as required.
- H. Remove knockouts or cut structure to receive piping without creating openings larger than required to fit pipe; fill annular space with grout.
- I. Pipe Connections:
 - 1. Connect pipe to structure and seal watertight.
 - 2. Cut pipe flush with interior of structure.
- J. Foundation slab:
 - 1. Grout to achieve slope to exit piping.
 - 2. Trowel smooth.
 - 3. Contour to form continuous drainage channel.
- K. Paint interior with a coat of bituminous interior coating to achieve 3 mil min thickness.
- L. Cover and Access Hatch:
 - 1. Set level, without tipping, to elevations as indicated on Drawings.

2. Set cover and access hatch 2 inches above finished grade for structures located within unpaved areas to allow area to be graded away from cover beginning 1 inch below top surface of frame.
3. Connect drain from access hatch frame to storm drainage system.
4. All hatches must come equipped with a manufacturer provided safety net.

M. Touch up damaged galvanized coatings.

N. Backfill excavations for structures with compacted select fill or with clean sand if excavation impedes compactive effort.

3.4 FIELD QUALITY CONTROL

A. Perform CCTV as specified in Section CCTV Testing Specification.

END OF SECTION

SECTION 33 11 13 – PUBLIC UTILITY PIPING

PART 1 - GENERAL

1.1 SUMMARY

A. Section Includes:

1. Pipe and fittings for public utility lines including waterlines, sanitary sewer lines, and storm sewer lines.
2. Tapping sleeves and valves.
3. Underground pipe markers.

1.2 UNIT PRICE - MEASUREMENT AND PAYMENT

- #### A.
- All items including but not limited to materials, equipment, overhead, coordination, testing, labor, and supervision required for a complete and operable project shall be included in the bid for the project. All measurement and payment shall be based on the items of work that are specifically listed in the Bid Proposal. Any items not specifically listed in the Bid Proposal shall be considered subsidiary to unit cost items within the Bid Proposal and no additional payment shall be made for subsidiary items.

1.3 REFERENCE STANDARDS

A. American Society of Mechanical Engineers:

1. ASME B16.1 - Gray Iron Pipe Flanges and Flanged Fittings: Classes 25, 125, and 250.

B. ASTM International:

1. ASTM A36 - Standard Specification for Carbon Structural Steel.
2. ASTM A123 - Standard Specification for Zinc (Hot-Dip Galvanized) Coatings on Iron and Steel Products.
3. ASTM A307 - Standard Specification for Carbon Steel Bolts, Studs, and Threaded Rod 60 000 PSI Tensile Strength.
4. ASTM D698 - Standard Test Methods for Laboratory Compaction Characteristics of Soil Using Standard Effort (12 400 ft-lbf/ft³ (600 kN-m/m³)).
5. ASTM D1557 - Standard Test Methods for Laboratory Compaction Characteristics of Soil Using Modified Effort (56,000 ft-lbf/ft³ (2,700 kN-m/m³)).
6. ASTM D1785 - Standard Specification for Poly(Vinyl Chloride) (PVC) Plastic Pipe, Schedules 40, 80, and 120.
7. ASTM D2241 - Standard Specification for Poly(Vinyl Chloride) (PVC) Pressure-Rated Pipe (SDR Series).
8. ASTM D3035 - Standard Specification for Polyethylene (PE) Plastic Pipe (DR-PR) Based on Controlled Outside Diameter.
9. ASTM D3139 - Standard Specification for Joints for Plastic Pressure Pipes Using Flexible Elastomeric Seals.
10. ASTM D6938 - Standard Test Method for In-Place Density and Water Content of Soil and Soil-Aggregate by Nuclear Methods (Shallow Depth).
11. ASTM F477 - Standard Specification for Elastomeric Seals (Gaskets) for Joining Plastic Pipe.

C. American Water Works Association:

1. AWWA C104 - Cement-Mortar Lining for Ductile-Iron Pipe and Fittings.
2. AWWA C105 - Polyethylene Encasement for Ductile-Iron Pipe Systems.
3. AWWA C110 - Ductile-Iron and Gray-Iron Fittings.
4. AWWA C111 - Rubber-Gasket Joints for Ductile-Iron Pressure Pipe and Fittings.
5. AWWA C115 - Flanged Ductile-Iron Pipe with Ductile-Iron or Gray-Iron Threaded Flanges.
6. AWWA C151 - Ductile-Iron Pipe, Centrifugally Cast.
7. AWWA C153 - Ductile-Iron Compact Fittings.
8. AWWA C200 - Steel Water Pipe, 6 In. (150 mm) and Larger.
9. AWWA C203 - Coal-Tar Protective Coatings and Linings for Steel Water Pipelines - Enamel and Tape - Hot-Applied.
10. AWWA C205 - Cement-Mortar Protective Lining and Coating for Steel Water Pipe - 4 In. (100 mm) and Larger - Shop Applied.
11. AWWA C206 - Field Welding of Steel Water Pipe.
12. AWWA C207 - Steel Pipe Flanges for Waterworks Service - Sizes 4 In. Through 144 In. (100 mm Through 3,600 mm).
13. AWWA C208 - Dimensions for Fabricated Steel Water Pipe Fittings.
14. AWWA C213 - Fusion-Bonded Epoxy Coating for the Interior and Exterior of Steel Water Pipelines.
15. AWWA C300 - Reinforced Concrete Pressure Pipe, Steel-Cylinder Type.
16. AWWA C301 - Prestressed Concrete Pressure Pipe, Steel-Cylinder Type.
17. AWWA C500 - Metal-Seated Gate Valves for Water Supply Service.
18. AWWA C600 - Installation of Ductile-Iron Mains and Their Appurtenances.
19. AWWA C605 - Underground Installation of Polyvinyl Chloride (PVC) Pressure Pipe and Fittings for Water.
20. AWWA C606 - Grooved and Shouldered Joints.
21. AWWA C700 - Cold-Water Meters - Displacement Type, Bronze Main Case.
22. AWWA C701 - Cold-Water Meters - Turbine Type, for Customer Service.
23. AWWA C702 - Cold-Water Meters - Compound Type.
24. AWWA C706 - Direct-Reading, Remote-Registration Systems for Cold-Water Meters.
25. AWWA C900 - Polyvinyl Chloride (PVC) Pressure Pipe and Fabricated Fittings, 4 In. Through 12 In. (100 mm Through 300 mm), for Water Transmission and Distribution.
26. AWWA C901 - Polyethylene (PE) Pressure Pipe and Tubing, 1/2 In. (13 mm) Through 3 In. (76 mm), for Water Service.
27. AWWA C905 - Polyvinyl Chloride (PVC) Pressure Pipe and Fabricated Fittings, 14 In. Through 48 In. (350 mm Through 1,200 mm) for Water Transmission and Distribution.
28. AWWA M6 - Water Meters - Selection, Installation, Testing, and Maintenance.

D. Manufacturers Standardization Society of the Valve and Fittings Industry:

1. MSS SP-60 - Connecting Flange Joints between Tapping Sleeves and Tapping Valves.

1.4 SUBMITTALS

- A. Product Data: Submit data on pipe materials, pipe fittings, valves, and accessories.
- B. Shop Drawings: Indicate piping layout, including piping specialties.
- C. Manufacturer's Certificate: Certify that products meet or exceed specified requirements.
- D. Field Quality-Control Submittals: Indicate results of Contractor-furnished tests and inspections.

E. Preconstruction Photographs:

1. Submit digital files of colored photographs of Work areas and material storage areas.

1.5 CLOSEOUT SUBMITTALS

- A. Project Record Documents: Record actual locations of piping mains, valves, connections, thrust restraints, and invert elevations.
- B. Identify and describe unexpected variations to subsoil conditions or discovery of uncharted utilities.

1.6 QUALITY ASSURANCE

- A. Valves: Mark valve body with manufacturer's name and pressure rating.
- B. Perform Work according to city standards.

1.7 DELIVERY, STORAGE, AND HANDLING

- A. Deliver and store valves in shipping containers with manufacturer's labeling in place and inspect for damage.
- B. Block individual and stockpiled pipe lengths to prevent moving.
- C. Do not place pipe or pipe materials on private property or in areas obstructing pedestrian or vehicle traffic.
- D. Store polyethylene and PVC materials out of sunlight.
- E. Do not use chains to handle any PVC materials.

1.8 EXISTING CONDITIONS

- A. Field Measurements:
 1. Verify field measurements prior to fabrication.
 2. Indicate field measurements on Shop Drawings.

PART 2 - PRODUCTS2.1 WATER AND SANITARY SEWER PIPING

- A. PVC: Gravity Sewer and forcemain
 1. Forcemain comply with D2241 160 psi pressure rating minimum.
 2. Gravity Sewer comply with ASTM D2241 PR 160, SDR-26.
 3. Gravity services shall be minimum 4" diameter.
 4. Fittings: Ductile Iron AWWA C110.
 5. Color: Gravity Sewer (Green) Force Main (Green)

6. Joints: Gasketed
 - a. Comply with ASTM D3212 ASTM F1336 for D3034 pipe.
 - b. Seals: PVC flexible elastomeric.
 - c. Solvent-cement couplings are not permitted.

2.2 UNDERGROUND PIPE MARKERS

- A. Tracer Wire and Warning Tape: (1 foot above pipe).
 1. Tracer wire, required on all waterlines only, shall be blue THHN #14 AWG solid copper, high strength with minimum 20 mil insulation.
 2. Warning Tape: 0.5" wide layer of aluminum foil bonded between two pieces of polyethylene film. Required on all piping. Dimensions shall not be less than 5.5 mils thick or 2" wide.
 - a. Sanitary sewer shall be green and shall have the wording "Caution Sanitary Sewer Line Buried Below".
 - b. Waterlines shall be blue and shall have the wording "Caution Waterline Buried Below"

2.3 FINISHES

- A. Steel: Hot-dip galvanized after fabrication, according to ASTM A123.

2.4 ACCESSORIES

- A. Concrete for Thrust Restraints: As specified in Section 03 30 00 - Cast-in-Place Concrete.
- B. Bolt, Lugs, and Brackets: Stainless Steel

PART 3 - EXECUTION

3.1 EXAMINATION

- A. Verify that existing utility water main size, location, and invert are as indicated on Drawings.

3.2 PREPARATION

- A. Preconstruction Site Photos:
 1. Take photographs along centerline of proposed pipe trench; minimum one photograph for each 50 feet of pipe trench.
 2. Show mailboxes, curbing, lawns, driveways, signs, culverts, and other existing Site features.
 3. Include Project description, date taken, and sequential number on back of each photograph.
- B. Pipe Cutting:
 1. Cut pipe ends square, ream pipe and tube ends to full pipe diameter, and remove burrs.

2. Use only equipment specifically designed for pipe cutting; use of chisels or hand saws is not permitted.
 3. Grind edges smooth with beveled end for push-on connections.
- C. Remove scale and dirt on inside and outside before assembly.
- D. Prepare pipe connections to equipment with flanges or unions.

3.3 INSTALLATION

A. Existing Utilities & structures:

1. Utilities shown on plans were taken from field surveys following a utilities locate call by the engineer. The completeness of the accuracy of this data is not guaranteed. The contractor is responsible for verifying the location and depth of all underground utilities and structures and protecting them from damage during construction. Any damage to existing utilities that are caused by the contractor's operations shall be repaired by the contractor. Repairs will be made immediately and entirely at the contractor's expense. Texas 811 at least 48 hours before soil disturbing activities.
2. All structures damaged to facilitate construction including but not limited to roads, sidewalks, driveways, culverts, fences, retaining walls, pipes, street signs, traffic control devices, etc. will be repaired immediately. This work will be considered subsidiary to the unit prices in the bid form.
3. Contractor shall remove and reset mailboxes, yard lights, sprinkler systems, planters, etc. as required to facilitate line installation. This work will be considered subsidiary to the unit prices in the bid form.
4. Contractor shall protect/shore all existing structures from damage including retaining walls and foundations.
5. Existing waterlines shall remain in service during construction. Water shall be turned off for the tie-ins at a schedule which limits service loss to the greatest extent possible. All down time shall be scheduled with the engineer and approved by the city. Whenever possible, tie-ins shall be installed through use of tapping sleeves, in order to limit service loss. The contractor shall give 24 hr notice to all affected customers. Notice shall be in the form of a pre-approved door hanger listing the time of service loss, a 24 hour phone number, and an estimated time of restored service. The contractor shall not leave the jobsite until all services are restored. Specific areas requiring shutdown of large service areas or sensitive customers may require off peak work (night or weekend). A minimum 72 hour notice will be required to schedule this work.
6. Sewer lines shall remain in service during construction. Contractor shall be responsible for construction sequencing and/or bypass pumping as required to provide uninterrupted service.
7. City utility department will be responsible for operating all existing valves as necessary. Contractor shall not operate any valves without city approval.
8. Contractor may be required to locate existing utilities by excavation an "pot-holing." This work will be considered subsidiary to the unit prices in the bid form.

B. Bedding:

1. Excavation:
 - a. Excavate pipe trench per OSHA requirements.

- b. Hand trim excavation for accurate placement of pipe to elevations as indicated on Drawings.
2. Dewater excavations to maintain dry conditions and to preserve final grades at bottom of excavation.
3. Provide sheeting and shoring as needed.
4. Place bedding material at trench bottom, level fill materials in one continuous layer not exceeding 8 inches compacted depth, and compact to 90 percent standard proctor maximum density.

C. Service Connections

1. Water and sanitary sewer services shown are existing locations identified during a field survey. All water and sanitary sewer services, including but not limited to: new services to be reconnected, and existing services to be relocated, that do not conform with city standards, shall be installed in accordance with water service installation details.
2. In multiple locations, existing meters are cast in pavement structures. This may include concrete, HMAC, or brick. All necessary pavement cuts to make connections to these meters will be made with clean saw cut lines, and pavement structure shall be repaired after connection to new service line.
3. Contractor shall furnish and install new service lines from connection all the way to the meter including coppersetter and connect to existing water service line. If meter box is damaged or made of corrugated metal or concrete, it shall be replaced. Faulty or damaged meters shall be replaced. All required meters shall be provided by the city and installed by the contractor. Contractor shall purchase and install the meter boxes. Replaced water meters are to be tagged with location and turned in to the city

D. General Piping Installation:

1. Install pipe according to AWWA C600 or AWWA C605. All utility lines must be installed in accordance with the TCEQ standards.
2. Field verify exact locations and depth of all existing utilities and structures prior to beginning soil disturbing activities. All crossing waterlines are to be connected to the proposed waterlines. Any utilities found that are not shown in the plans shall be reported to the engineer immediately.
3. Handle and assemble pipe according to manufacturer instructions and as indicated on Drawings. Chains will not be allowed to move and place piping.
4. Where existing utilities are encountered, separation distances as stipulated by the TCEQ shall be maintained. The contractor shall immediately notify the engineer of any conflict between existing utility lines and proposed utility lines. There shall be a minimum of 9' horizontal separation between all water and wastewater lines. Where the nine foot separation distance cannot be achieved, the following criteria shall apply. (A) parallel lines where a potable waterline parallels a wastewater line and the wastewater line is not leaking, the potable waterline shall be located at least two feet above the wastewater line, measured vertically, and at least four feet away measured horizontally, from the wastewater line. Every effort shall be exerted not to disturb the bedding and backfill of the existing line, (B) Crossing line where a potable waterline crosses a non-pressure rated wastewater line, one segment of the waterline pipe shall be centered over the wastewater line such that the joints of the waterline pipe are equidistant and at least nine feet horizontally from the centerline of the wastewater line.
5. Contractor shall not be authorized to proceed until all necessary state and local permits are obtained.
6. Contractor shall keep all equipment, pipe, materials, etc. off private property and in city easements.

7. Contractor shall not close any streets without prior approval from engineer and city. Streets shall remain passable to residents at all time. Contractor shall notify emergency services and school district 48 prior to closing any streets. If street is closed during a normal trash pickup day, contractor shall collect trash from residences and deliver to a spot that local sanitation can pick up. In instances where construction is taking places in streets, streets shall be backfilled and made passable at end of each day. Contractor to provide traffic control and maintain traffic control signage in accordance with TMUTCD.
8. Access to driveways and mailboxes shall be preserved throughout the construction process. Disturbed mailboxes shall be set in 5 gal. buckets of gravel for temporary use and ease of relocation. No driveway shall be obstructed without the prior approval of the engineer. (24 hr. notice will be required for consideration.)
9. Material testing shall be performed by and independent testing laboratory and paid for by the city. The contractor shall be responsible for all fees for re-testing and re-inspecting due to failed test of workmanship or materials.

E. Sanitary Sewer Piping Installation

1. Separation distances as described above must be maintained according to TCEQ standards.
2. Proposed sewer lines replacing existing sewer lines shall be installed to match existing sanitary sewer grades as called out on plans. Contractor shall field verify all existing grades prior to construction.
3. The contractor shall install and maintain water tight plugs in all connections to the city's sanitary sewer system until the project is accepted by the city.
4. All sanitary sewer piping shall be tested and tv inspected per the technical specifications.
5. Minimum cover for all sanitary sewer piping shall be 5 feet beneath street and 3.5 feet for all other locations (unless otherwise noted on plans).
6. Existing manholes and sewer lines to be abandoned shall be plugged with Class B concrete and abandoned in place.
7. Service taps shall be adjusted as necessary with new cleanouts and connected to new sewer line in accordance with the plans and specifications.
8. Sanitary sewer service lines shall be:
 - a. Installed on a constant downhill slope of a ¼" per foot (2%), or greater, from the cleanout to the city's sewer main.
 - b. Installed with a minimum cover of 36"
 - c. Tested for leakage with air or water prior to backfilling and prior to connection to the city sewer main.
 - d. Installed with strict accordance with the pipe manufacturer's recommendations. Cleanouts shall be installed at all bends, and at the property line.
 - e. Contractor shall reconnect all existing service connections to new sanitary sewer in accordance with details and specs.
9. Unless specifically detailed on plans, all piping interconnections and connections to structures shall match flowline to flowline.

F. Polyethylene Encasement:

1. Encase all ductile iron, cast iron, steel fittings or piping in polyethylene to prevent contact with surrounding backfill material.
2. Comply with AWWA C105.
3. Terminate encasement 3 to 6 inches above ground where pipe is exposed.

G. Backfilling:

1. Backfill around sides and to top of pipe with cover fill in minimum lifts of 8 inches, tamp in place, and compact to 90 percent standard proctor maximum density.
2. Place and compact material immediately adjacent to pipes to avoid damage to pipe and prevent pipe misalignment.
3. Maintain optimum moisture content of bedding material to attain required compaction density.

3.4 TOLERANCES

- A. Install pipe to indicated elevation within tolerance of 5/8 inch.

3.5 FIELD QUALITY CONTROL

- A. Test piping in accordance with “33 01 30.13 – Pipe and Manhole Testing” and “33 01 30.16 – TV Inspection of Sanitary and Storm Sewer”.
- B. Compaction Testing per “Section 31 23 17 – Trenching”
- C. All utility installations, connections, and structures shall not be backfilled prior to inspection by the owner or engineer.
- D. If tests indicate Work does not meet specified requirements, remove Work, replace, and retest.

END OF SECTION

Raguet Street Sanitary Sewer Improvements Project Bid Award Item 6A

Case Opperman, PE
Director of Public Works & City Engineer

...
May 19, 2026

Raguet Street Sanitary Sewer Improvements

- Replacement of approx. 2,220 LF of existing 8” sewer line with 12” sewer line on Raguet Street by open cut between Burrows Street and Lakewood Street

Bid Opening – May 11, 2026

<i>RAD Civil Services</i>	<i>\$ 658,553.20</i>
W.M. Miller Construction	\$ 679,682.81
McKinney & Moore of Texas	\$ 695,044.77
Duplichain Contractors	\$ 773,440.00
Experts Underground Solutions	\$ 797,999.20
Horton Excavating	\$ 844,916.00

RAD Civil Services – Tyler, TX

- No prior projects for the City of Nacogdoches
- SPI has reviewed qualifications and recommends award

Consider award of low bid - \$ 658,553.20

Budget is available for this contract in FY25-26 CIP

Questions?

PRESENTER: Case Opperman, Director of Public Works

ITEM/SUBJECT: Consider approval of a contract by and between the City of Nacogdoches and Hydrex Environmental Consulting, LLC for Environmental Services for the Lanana and Banita Sewer Replacement Projects (CIP Projects WW-25-203 and WW-25-202) in the amount of \$468,350.00. (Director of Public Works/City Engineer)

SUMMARY/BACKGROUND:

City Council recently approved Hydrex Environmental Consulting, LLC for environmental services for the Lanana and Banita Sewer Replacement projects (WW-25-203 and WW-25-202). This will likely be a year or greater effort in environmental reviews, documentation, clearances and/or permitting required, including archaeological, cultural and endangered species studies and surveys along the corridors of Lanana and Banita creeks, generally from the Wastewater Treatment Plant on Rayburn Drive northward to NE Stallings Drive (Loop 224). Staff has coordinated the project scope with Hydrex and has received their proposal for services based on needs identified for the project in the total amount of \$468,350.00. The extent of services required are estimated and based on historical knowledge and experience on similar types and scopes of projects by the consultant. As such, the fees will be on a time-and-materials (hourly) basis.

Staff recommends approval of this environmental services contract in the amount of \$468,350.00. Utility Fund resources are available for this contract from the FY 2026 Capital Improvement Program budget (CIP Projects WW-25-203 and WW-25-202).

FINANCIAL:

Item is budgeted:

Account No.: 30.39 680.97

Account Name: *Wastewater Treatment – CIP*

Amount: \$ 468,350.00

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. Hydrex 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 **Hydrex Environmental** (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: **Lanana Creek and Banita Creek Sewer Replacement Projects Environmental Services** (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 Four Hundred Sixty-Eight Thousand Three Hundred Fifty and 00/100 Dollars (\$ 468,350.00).

**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 include normal civil, structural, mechanical and electrical engineering services, plumbing, food service, acoustical and landscape services, and any other design services that are normally or customarily furnished and reasonably necessary for the Project. 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.

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 determine the Project needs, including, but not limited to, tests, analyses, reports, site evaluations, surveys, comparisons with other municipal projects, review of budgetary constraints and other preliminary investigations necessary for the Project. Consultant shall verify the observable existing conditions of the Project and verify any existing as-built drawings. 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 that shall include preliminary schematic layouts, alternative ideas, surveys, sketches and exhibits demonstrating the considerations involved in the Project. The Conceptual Design shall contemplate compliance with all applicable laws, statutes, ordinances, codes and regulations. Upon the City's request, the Consultant shall meet with City staff and/or City Council to make a presentation of its report.~~

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. 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. For such contracts, when a change order exceeds \$50,000, 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 _____ () 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 Warranty, 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 Consultant warrants that 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 defective designs or specifications furnished by the Consultant 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 solely 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, invitees, licensees, and other persons.
- 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 obligations under this Contract, or if the Consultant violates any of the 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:
Hydrex Environmental
Attn: Clayton Collier, REM, PWS
312 Old Tyler Road
Nacogdoches, Texas 75961
- 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.**

HYDREX ENVIRONMENTAL

312 Old Tyler Road
Nacogdoches, Texas 75961

By: _____
Printed Name: _____
Title: _____
Date: _____
Firm Registration No.: _____

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 project involves environmental and archaeological assessments, Antiquities Code of Texas permitting, and Clean Water Act Section 404 permitting which will be completed separately for the Lanana Creek Sewer Main Project (7.4 miles, 188 acres) and the Banita Creek Sewer Main Project (6.5 miles, 170 acres). The area of interest (AOI) for each project is defined by an approximate 200-foot buffer (wider in some areas) along a proposed sewer main route derived from preliminary engineering reports and provided by the City of Nacogdoches. Based on a preliminary review of the project, the scope of work covered by this proposal includes the following seven (7) tasks for each AOI.

Task 1) Desktop Review of Regulated Facilities

Hydrex will complete a desktop review of environmental databases to identify regulated facilities that may be encountered during construction of the new sewer main. Regulated facilities include properties that are listed on environmental databases for environmental history, permits, notifications, violations, compliance status, etc. Hydrex will order an environmental database search for an area that includes the survey AOI plus an additional 200-foot buffer (100 feet on either side). Qualified professionals including senior level hydrogeologists and environmental scientists will review and summarize the information. Hydrex will be available to discuss the results with the City and provide a recommended plan(s) of action. Hydrex can assist with sampling media, assessment, remediation, and disposal as necessary to further evaluate potential risks. The costs associated with additional services will be addressed in a separate proposal as needed.

Task 2) Delineation of Waters of the U.S.

Hydrex will delineate the boundaries of potential waters of the U.S. (streams, open-waters, and wetlands) within the AOI. The delineation will be performed in accordance with the methods and procedures established in the 1987 *Corps of Engineers Wetlands Delineation Manual*, the 2010 *Regional Supplement to the Corps of Engineers Wetland Delineation Manual: Atlantic and Gulf Coastal Plains Region (Version 2.0)*, and *Regulatory Guidance Letter No. 05-05: Ordinary High Water Mark Identification*. Hydrex will compile the data collected in the field into a Delineation of Waters of the U.S. (WOTUS) Report. The report will provide the size and location of all potential WOTUS within the AOI. Digital files of the delineated WOTUS will be provided by Hydrex for project planning and avoidance and minimization efforts.

Task 3) Functional Assessment and Compensatory Mitigation Plan

Compensatory mitigation may be required for each single and complete crossing that results in the loss of >0.1 acres of wetland or >0.03 acres of stream. For any such single and complete crossings, Hydrex will perform a functional assessment of the wetland and/or stream to determine the baseline (pre-construction) and anticipated post-construction values of each aquatic resource. Wetlands Assessment Areas (WAAs) and Stream Assessment Reaches (SARs) will be determined primarily by hydrologic and stress characteristics. Data collected during the functional assessment will be combined with data from the delineation and additional GIS analyses to complete calculations to determine the Functional Capacity Units required to satisfy compensatory mitigation. The results of the functional assessment will be used to obtain quotes for mitigation

credits from approved mitigation banks that service the project area. The results of the functional assessment will be documented in a Compensatory Mitigation Plan as part of Task 6 (NWP 58 PCN).

Task 4) Biological Assessment

Hydrex will perform a threatened and endangered species habitat evaluation for federal listed species within Nacogdoches County, Texas. Federal listed species will be based on the *Official Species List* generated through the U.S. Fish and Wildlife Service (USFWS) Information for Planning and Consultation (IPaC) online system. The Texas Natural Diversity Database (TXNDD) for the area will also be reviewed for known preexisting rare, threatened, and endangered plants, animals, natural communities, and animal aggregations within the project area. Hydrex will provide its professional opinion as to the potential for any listed species or their critical habitat to occur on the project site. The results of the habitat evaluation will be compiled into a Biological Assessment for review by the U.S. Army Corps of Engineers (USACE) and the U.S. Fish and Wildlife Service (USFWS) as part of Task 6 (NWP 58 PCN). The initial cost of formal or informal consultation is included. This cost estimate does not include extensive consultation efforts or presence/absence surveys. Should an agency require more extensive documentation, then those costs will be addressed at that time.

Task 5) Cultural Resources Survey

Hydrex will contract Engineering ESE Partners to complete the cultural resources survey and obtain the Antiquities Code of Texas permit for each AOI. ESE Partners will act as the Principal Investigator and conduct a Phase I Archaeological Survey where required. Hydrex staff senior archaeologist will serve as the geoarchaeologist and local archaeologist for each project and will provide support to ESE Partners where needed. It is estimated that ESE Partners will complete 90 percent of Task 4 while Hydrex staff will complete 10 percent. ESE Partners will coordinate with the Texas Historical Commission (THC) and will serve as the agent regarding cultural resources when dealing with THC. As part of Task 6 (NWP 58 PCN), Hydrex will serve as the agent regarding cultural resources when dealing with USACE. Please note, the antiquities permit will be valid for 5 years. If construction is not completed within 5 years, then the antiquities permit will need to be reverified at that time.

Task 6) Nationwide Permit 58 Pre-Construction Notification

Nationwide Permit (NWP) 58 (Utility Line Activities for Water and Other Substances) should be applicable to this project. Hydrex will prepare the documentation for submittal to the USACE Fort Worth District as outlined in General Condition 32. The pre-construction notification (PCN) will include the following: PCN submittal letter, NWP Application Form 6082, Delineation of WOTUS Report, Biological Assessment, Cultural Resources Survey, Compensatory Mitigation Plan, and required design drawings and cross-sections. It is understood design detailed drawings and cross-sections will be provided by the selected engineering firm for each project. Separate NWP 58 requests will be made for each of the two projects (i.e. Lanana Creek Sewer Main and Banita Creek Sewer Main). Please note, each NWP 58 will be valid until March 2031, at which time all NWPs are proposed to be reissued by USACE. If construction is not completed by March 2031, then the applicant has 12 months to complete construction (March 2032), or the NWP 58 will need to be reverified.

Task 7) Project Management

As needed, Hydrex will participate in project meetings to update the team (City, surveyor, engineer of record, etc.) on progress and keep the project moving forward. Hydrex will be available to discuss the project with the selected engineering firm for each project and discuss avoidance and minimization efforts as needed.

**Exhibit B
Payment Terms and Schedule**

Compensation for services shall be as outlined below:

Anticipated Scope and Costs (Time and Materials):

Lanana Creek Sewer Main

Desktop Review of Regulated Facilities	\$ 7,300
Delineation of WOTUS	\$ 74,000
Functional Assessment and Mitigation Plan	\$ 20,500
Biological Assessment	\$ 11,500
Cultural Resources Survey	\$ 131,000
Nationwide Permit 58 PCN	\$ 12,500
Project Management	\$ 6,000
Subtotal	\$ 262,800

Banita Creek Sewer Main

Desktop Review of Regulated Facilities	\$ 7,300
Delineation of WOTUS	\$ 63,000
Functional Assessment and Mitigation Plan	\$ 14,750
Biological Assessment	\$ 11,500
Cultural Resources Survey	\$ 90,500
Nationwide Permit 58 PCN	\$ 12,500
Project Management	\$ 6,000
Subtotal	\$ 205,550

Total \$ 468,350 (Not to Exceed)

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 (\$468,350).

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

PRESENTER: Case Opperman, Director of Public Works

ITEM/SUBJECT: Consider approval of a contract by and between the City of Nacogdoches and Two Fifteen Consulting for Professional Surveying Services for the Lanana and Banita Sewer Replacement Projects (CIP Projects WW-25-203 and WW-25-202) in the amount of \$1,003,972.00. (Director of Public Works/City Engineer)

SUMMARY/BACKGROUND:

City Council recently approved Two Fifteen Consulting for professional surveying services for the Lanana and Banita Sewer Replacement Projects. This will be a multi-year effort in LiDAR drone topographic and boundary surveying along the corridors of Lanana and Banita Creeks generally from the Wastewater Treatment Plant on Rayburn Drive northward to NE Stallings Drive (Loop 224), as well as control surveys and easement preparation.

As a reminder, subconsultants to Two Fifteen will be Nacogdoches-based surveying companies N.T. Samson & Associates and Glenn Hoffpaur Surveying as part of the surveying team for this work. Staff has coordinated the project scope with Two Fifteen and has received their proposal for services based on needs identified for the project in the total amount of \$1,003,972.00. While some aspects of this work are set in scope, the extent of services related to rights-of-entry and easements required are estimated and based on preliminary alignments which are subject to change with design. As such, the fees will be partially lump sum and partially on a time-and-materials (hourly) basis.

Staff recommends approval of this professional surveying services contract in the amount of \$1,003,972.00. Utility Fund resources are available for this contract from the FY 2026 Capital Improvement Program budget (CIP Projects WW-25-203 and WW-25-202).

FINANCIAL:

Item is budgeted:

Account No.: 30.39 680.97

Account Name: *Wastewater Treatment – CIP*

Amount: \$ 1,003,972.00

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. 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 **Two Fifteen Consulting** (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: **Lanana Creek and Banita Creek Sewer Replacement Projects Professional Surveying Services** (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 Million Three Thousand Nine Hundred Seventy-Two and 00/100 Dollars (\$ 1,003,972.00).

**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 include normal civil, structural, mechanical and electrical engineering services, plumbing, food service, acoustical and landscape services, and any other design services that are normally or customarily furnished and reasonably necessary for the Project. 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.

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 determine the Project needs, including, but not limited to, tests, analyses, reports, site evaluations, surveys, comparisons with other municipal projects, review of budgetary constraints and other preliminary investigations necessary for the Project. Consultant shall verify the observable existing conditions of the Project and verify any existing as-built drawings. 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 that shall include preliminary schematic layouts, alternative ideas, surveys, sketches and exhibits demonstrating the considerations involved in the Project. The Conceptual Design shall contemplate compliance with all applicable laws, statutes, ordinances, codes and regulations. Upon the City's request, the Consultant shall meet with City staff and/or City Council to make a presentation of its report.~~

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. 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. For such contracts, when a change order exceeds \$50,000, 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 _____ () 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 Warranty, 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 Consultant warrants that 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 defective designs or specifications furnished by the Consultant 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 solely 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, invitees, licensees, and other persons.
- 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 obligations under this Contract, or if the Consultant violates any of the 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:
Two Fifteen Consulting
Attn: Michael Delaney, PE
412 North Street
Nacogdoches, Texas 75961
- 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.**

TWO FIFTEEN CONSULTING
412 North Street
Nacogdoches, Texas 75961

By: _____
Printed Name: _____
Title: _____
Date: _____
Firm Registration No.: _____

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

Project Location with Projected Overview Scope and Schedule

The project involves detailed surveying along the Lanana Creek and Banita Creek corridors for sanitary sewer trunk main replacements. Survey efforts will generally extend along a corridor of 100 feet on each side of the Preliminary Engineering Report (PER) alignments or the existing sanitary sewer mains outside of the PER limits. A phased completion will be utilized in order to expedite the design schedule with the corridor segments and general order of completion, as follows:

1. **Control Survey:** Primary horizontal and vertical control monuments, as well as secondary benchmarks (vertical control) that cover the project limits. This control would be used in the subsequent surveying corridor segments, as well as during construction. Anticipated completion of this corridor segment within 50 calendar days of authorization to proceed.
2. **Right-of-Entry:** The ROE scope covers all tracts identified in this proposal. Work generally from south to north.
3. **Lanana South:** A corridor approximately 2.5 miles long following the existing sanitary sewer mains from the current City Wastewater Treatment Plant north to the location of the old Wastewater Treatment Plant located south of Martin Luther King Boulevard. Work will begin on this corridor segment upon completion of the Control Survey. Anticipated completion of this corridor segment within 110 calendar days of authorization to proceed. Consultant has identified 14 tracts in this corridor segment.
4. **Banita, Section 1:** A corridor approximately 1.5 miles long following the PER alignment from the old Wastewater Treatment Plant north to the intersection of the PER alignment with Powers Street. Anticipated completion of this corridor segment within 190 calendar days of authorization to proceed. Consultant has identified 25 tracts in this corridor segment.
5. **Lanana North, Section 1:** A corridor approximately 1.5 miles long following the PER alignment from the old Wastewater Treatment Plant north to Martinsville Street. Anticipated completion of this corridor segment approximately 80 calendar days following completion of the Banita, Section 1, corridor segment. Consultant has identified 29 tracts in this corridor segment.
6. **Banita, Section 2:** A corridor approximately 1.6 miles long following the PER alignment from Powers Street north to West Austin Street. Anticipated completion of this corridor segment approximately 60 calendar days following completion of the Lanana North, Section 1, corridor segment. Consultant has identified 28 tracts in this corridor segment.
7. **Lanana North, Section 2:** A corridor approximately 1.5 miles long following the PER alignment from Martinsville Street north to East Austin Street. Anticipated completion of this corridor segment approximately 65 calendar days following completion of the Banita, Section 2, corridor segment. Consultant has identified 9 tracts in this corridor segment.
8. **Banita, Section 3:** A corridor approximately 1.5 miles long following the PER alignment from West Austin Street north to North Stallings Drive. Anticipated completion of this corridor segment approximately 45 calendar days following completion of the Lanana North, Section 2, corridor segment. Consultant has identified 10 tracts in this corridor segment.

9. **Lanana North, Section 3:** A corridor approximately 2.0 miles long following the PER alignment from East Austin Street north to Northeast Stallings Drive. Anticipated completion of this corridor segment approximately 50 calendar days following completion of the Banita, Section 3, corridor segment. Consultant has identified 7 tracts in this corridor segment.
10. **Banita, Section 4:** A corridor approximately 1.3 miles long following the PER alignment from North Stallings Drive north to Industrial Drive. Anticipated completion of this corridor segment approximately 40 calendar days following completion of the Lanana North, Section 3, corridor segment. Consultant has identified 9 tracts in this corridor segment.

Consultant will provide and update the proposed schedule to the City Engineer on periodic basis. Consultant will provide a GIS map to the City showing progress of each Item by corridor segment, where applicable.

BASIC SERVICES

1. Research and contact land owners with properties that intersect the survey corridor and attempt to obtain a signed Right-of-Entry (ROE) form (City provided). Contact will be attempted via telephone, mail, electronic means, and in person. If Consultant is unable to contact the owner of record, they will send a letter via Certified Mail with Return Receipt. Consultant plans to work south to north in the same order as the proposed corridor segments. A list of owners who refuse to sign the ROE form or whom we are unable to contact will be turned over to the City for legal proceedings. Due to potential delays to the project, Consultant will promptly notify the City of any issues that arise obtaining ROE's.
2. Set primary control pairs at the beginning and ending of each corridor segment listed above, secondary benchmarks at appropriate locations where the PER alignments intersect streets. Where possible, control monuments will be placed outside of the proposed corridor in order to preserve them for construction. Consultant will set monuments at sufficient depth to remain stable, if undisturbed, for at least ten (10) years. Due to the critical elevation component in this project, Consultant will use static GPS surveying techniques and differential leveling to constrain the primary control (XYZ). All secondary benchmarks will be leveled through using standard double run methodology. All primary and secondary control will be adjusted using network least squares. Consultant will provide an overview map showing the location of all primary and secondary control points, as well as detail sheets showing the location and coordinates of each point.
3. Perform a design survey of the project location listed above. Consultant will produce a topographic background CAD drawing with one (1) foot interval contours along the proposed route, existing utilities (where known), and visible features pertinent to the design of the proposed facilities within the boundary of the project area. Consultant will also identify existing Right-of Way (ROW) and existing easements where necessary and identifiable. High resolution orthophotos of route, and the areas immediately adjacent to it, will be provided. Manholes within the survey corridor will be located and inverted. Consultant will provide temporary benchmarks along the existing sanitary sewer mains at approximately 500 foot intervals for use in construction of the replacement mains. Consultant will use a combination of conventional surveying methods, GPS, and

Unmanned Aerial Vehicle (UAV) based LiDAR. Consultant does not anticipate requiring physical access to the railroad properties, except at road crossings.

4. Perform a Subsurface Utility Engineering (SUE) study up to Quality Level 'C' for the existing sanitary sewer and storm mains within the project scope. Consultant will perform a SUE study up to Quality Level 'B' where the survey corridor crosses streets or evidence of additional underground utilities are observed. Consultant will work with City staff to identify and locate underground utilities as part of Subsurface Utility Engineering work. The data will be collected and documented in the background CAD files utilized in the design of the improvements. Consultant will provide subsurface utility engineering services to attempt to identify underground utilities up to Utility Quality Level 'B' (QLB) where Geophysical Methods are obtainable within our professional judgement in accordance ASCE/UESI/CI 38-22. Consultant will produce a SUE CAD drawing on completion of each corridor segment. At this time, Consultant has not included QLA efforts for exposing utilities. However, if locations are identified through the design process that require a higher level of quality than the proposed 'B', this service can be provided under a separate proposal. Consultant will need locations at which this effort is requested in order to determine a scope and fee estimate.
5. Perform a preliminary boundary survey of the property lines that intersect the survey corridor. Consultant will identify and locate property corners, property lines, and record deeds. Where possible, Consultant will plot the lines that do not intersect the survey corridor from record instruments or other information available. Consultant will, where possible, identify the existing City easements within the survey corridor. Consultant will produce a CAD background drawing with the above information. Performing this survey effort prior to a final engineered alignment will assist the engineering team in producing the final alignment, as well as expedite the easement surveys. Consultant does not anticipate requiring physical access to the railroad properties, except at road crossings.
6. Produce final signed and sealed field notes and plats suitable for recording for the easements that the engineering team identifies are needed that cross these identified tracts.
7. Perform additional topographic and SUE tasks as directed by the City upon recommendations of the design team.

Items excluded from the work scope and fees listed in this **Basic Services** portion of the proposal include:

1. Traffic studies or traffic control warrants
2. Boundary surveys, easement legal documents, and easement acquisition.
3. Construction phase surveying and staking.
4. Civil design services.
5. Railroad permitting, railroad flagging services, TxDOT permitting.
6. Title and curative work, except as required to meet the minimum standards for land surveying.
7. Geotechnical investigations and recommendations.

Exhibit B
Payment Terms and Schedule

Compensation for services shall be as outlined below:

Schedule of Payment for each phase:

Control Setting	\$ 56,400
Topographic Design Survey	\$ 348,397
Subsurface Utility Engineering (SUE) Study	\$ 48,035
Preliminary Boundary Surveys	\$ 284,085
Right-of-Entry Acquisition	\$ 110,520 (Hourly)
Easement Docs	\$ 121,535 (Hourly)
Additional Topo and SUE as needed	\$ 35,000 (Hourly)
Total	\$ 1,003,972 (Not to Exceed)

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 (\$1,003,972).

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

