

City of Tomball

Pine St. EST Rehabilitation

Administrative Specifications

City of Tomball Job #2024-05

OEI Job #1030.23.05

October 2023



10/25/2023



Document 00010

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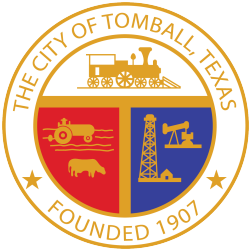
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City of Tomball

Lori Klein Quinn
Mayor

David Esquivel, PE
City Manager

OFFICIAL NOTICE

The City of Tomball, Harris County, Texas is soliciting sealed bids for the “**Pine Street Elevated Storage Tank Rehabilitation**”. The bid documents may be obtained for **no charge** by downloading them at www.civcastusa.com (account setup required) or at the office of Oller Engineering, Inc. (2901 Wilcrest Drive, Suite 550, Houston, Texas 77042) with a **\$150.00** non-refundable charge for each complete set of documents in electronic format obtained. Make checks payable to Oller Engineering, Inc.

Sealed bids shall be submitted via CivCast E-bidding, www.civcastusa.com, for “**E&P CIP No. 2023-10004; Project Bid Number 2024-05 – “Pine Street EST Rehabilitation”**”. Bids will be accepted until **2:00 p.m. CST on Thursday, November 16, 2023**.

An electronic pre-bid conference will be held on November 9, 2023, at 2:00 p.m., to familiarize the Bidders with the goals for this project. The information for the pre-bid conference will be posted on CivCast and sent out to all plan holders. The pre-bid conference is not mandatory.

Cashier’s Check, Certified Check, or Bid Bond in an amount equal to ten percent (10%) of the total amount bid must accompany the BID. The Owner reserves the right to reject any or all bids or to accept any bid deemed advantageous to it and waive informalities in bidding. All bids received after the closing time designated will be returned unopened.

During the period between the Request for Proposal, submission date, and the contract award, respondents including their agents and/or representatives/owners, shall not directly or indirectly promote their proposal or bid to any member of the Tomball City Council or City staff except in the course of City-sponsored inquires, briefings, interviews, and/or presentations requests. Violation of this provision may result in the rejection of the respondent’s Proposal submittal.

The City of Tomball reserves the right to accept or to reject any bids, to waive technicalities and to make any investigation deemed necessary concerning the bidder’s ability to provide the product(s) required, and to accept what in its judgment is the most advantageous bid. All bids received after the closing time designated will be returned unopened.

David Esquivel, PE
City Manager

CERTIFICATION

I certify that the above "Notice to Bidders" was posted on the bulletin board of City Hall, City of Tomball, Texas on the ___ day of October 2023.

Tracylynn Garcia
City Secretary

Section 00200

INSTRUCTIONS TO BIDDERS

1. DEFINITIONS

- A. Terms used in these Instructions to Bidders which are defined in the Standard General Conditions of the Construction Contract (General Conditions) have the meanings assigned to them in the General Conditions. Other terms used in the Bidding Documents and not defined elsewhere have the following meanings, which are applicable to both the singular and plural thereof:
1. Bidder: One who submits a bid directly to the Owner.
 2. Successful Bidder: The most qualified, responsible and responsive bidder to whom the Owner makes an award.
 3. Bidding Documents: The Notice to Bidders, Instructions to Bidders, Supplementary Conditions to General Conditions, Special Conditions (Underground Utilities), Special Conditions to the Agreement, Proposal and the Proposed Contract Documents (including Addenda issued prior to receipt of Bids).

2. PREPARATION OF BIDS

- A. Complete sets of bidding documents must be used in preparing bids. Neither the Owner nor Engineer assumes any responsibility for errors or misinterpretations resulting from the use of incomplete sets of bidding documents. Copies of bidding documents are made available only for the purpose of obtaining bids on the work and do not confer a license or grant for any other use.

3. QUALIFICATIONS OF BIDDERS

- A. Each bidder must submit with the bid a Financial and Experience Statement. The statement shall be filed with the proposal in a separate sealed envelope marked "Financial and Experience Statement".
- B. Financial statements from the three most qualified bidders will be retained by the Owner until award of the contract. **NO FINANCIAL STATEMENT WILL BE READ ALOUD AT THE BID OPENING.** Upon award of the contract, the statements of all unsuccessful bidders will be returned.

- C. Additional written evidence of qualifications, such as financial data, previous experience, present commitments, and other such data as may be called for by the OWNER.

4. 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, and (e) notify ENGINEER of all conflicts, errors, or discrepancies in the Contract Documents discovered by the Bidder.
- 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 furnished to OWNER and ENGINEER by owners of such Underground Facilities or others, and OWNER does not assume responsibility for the accuracy or completeness thereof unless it is expressly provided otherwise in the Supplementary Conditions.
- C. Provisions concerning responsibilities for the adequacy of data furnished to prospective Bidders on subsurface conditions, underground facilities, and other physical conditions, and possible changes in the Contract Documents due to differing conditions appear in Paragraphs 4.02, 4.03, and 4.04 of the General Conditions.
- D. Before submitting a Bid, each Bidder will, at Bidder's own expense, make or obtain any additional examinations, investigations, explorations, tests, and studies, and obtain any additional information and data which pertain to the 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.
- E. On request in advance, OWNER will provide each Bidder access to the site to conduct such explorations and tests as each Bidder deems necessary for submission of a Bid. Bidder shall clean up and restore the site to its former condition upon completion of such explorations.

- F. Failure to perform such investigations during the Bid period shall not relieve Bidder from responsibility for investigations, interpretations, and proper use of available information in preparation of Bidder's proposal.
- G. 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 are to be provided by CONTRACTOR. Easements for permanent structures or permanent changes in existing structures are to be obtained and paid for by OWNER unless otherwise provided in the Contract Documents.
- H. The submission of a Bid will constitute an incontrovertible representation by Bidder that Bidder has complied with every requirement of this Article 4, 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.

6. INTERPRETATION OF DOCUMENTS AND ADDENDA

- A. All questions about the meaning or intent of the Contract Documents must be submitted to the Engineer in writing at least ten (10) days prior to the opening of bids. Interpretations or clarifications considered necessary by ENGINEER in response to such questions will be issued by Addenda at least 48 hours prior to Bid Opening.
- B. Any interpretation of the Contract Documents will be made only by Addendum duly issued, and a copy of such addendum will be made available to each prospective bidder recorded by ENGINEER as having received a set of Contract Documents. Each Bidder is responsible for obtaining Addenda. Only questions answered by formal written Addenda will be binding. Oral and other interpretations or clarifications will be without legal effect.
- C. Addenda may also be issued to modify the Contract Documents as deemed advisable by OWNER and ENGINEER.

7. BID SECURITY

- A. Each Bid shall be accompanied by Bid security made payable to OWNER in an amount of five percent of the Bidder's maximum Bid price and in the form

of a bid bond, cashier's check, or certified check. Bid Bond shall have a "B+" rating from Best's Key Rating Guide and shall be duly authorized by the State of Texas to execute Bid Security.

- B. 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 with 15 calendar days after the Notice of Award, 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 the earlier of the seventh day after the Effective Date of the Agreement or the forty-sixth day after the Bid opening, whereupon Bid security furnished by such Bidders will be returned. Bid security with Bids which are not competitive will be returned within 7 days after the Bid opening.

8. CONTRACT TIME

- A. The number of days within which, or the dates by which, the Work is to be substantially completed and completed and ready for final payment (the Contract Time) are set forth in the Agreement.

9. LIQUIDATED DAMAGES

- A. Provisions for liquidated damages, if any, are set forth in the Agreement.

10. SUBSTITUTE OR "OR EQUAL" ITEMS

- A. The Contract, if awarded, will be on the basis of materials and equipment described in the DRAWINGS or specified in the Specifications without consideration of possible substitute or "or equal" items. Whenever it is indicated in the Drawings or specified in the Specifications that a substitute or "or equal" item of material or equipment may be furnished or used by CONTRACTOR if acceptable to ENGINEER, application for such acceptance will not be considered by ENGINEER until after the Effective Date of the Agreement. The procedure for submission of any such application by CONTRACTOR and consideration by ENGINEER is set forth in Paragraph 6.05 of the General Conditions and may be supplemented in the General Requirements (Division 1).

11. SUBCONTRACTORS, SUPPLIERS AND OTHERS

- A. If the Supplementary Conditions require the identity of certain Subcontractors, Suppliers, and other person and organizations (including those who are to

furnish the principal items of material and equipment) to be submitted to OWNER in advance of the specified date prior to the Effective Date of the Agreement, the apparent Successful Bidder, and any other Bidder so requested, shall within 7 days after the Bid opening, submit to OWNER a list of all such Subcontractors, Suppliers, and other persons and organizations proposed for those portions of the Work for which such identification is required. Such list shall be accompanied by an experience statement with pertinent information regarding similar projects and other evidence of qualification for each such Subcontractor, Supplier, person, or organization, either may, before the Notice of Award is given, request the apparent Successful Bidder to submit an acceptable substitute without an increase in Bid price.

- B. If apparent Successful Bidder declines to make any such substitution, OWNER may award the Contract to the next lowest Bidder that proposes to use acceptable Subcontractors, Suppliers, and other persons and organizations. The declining to make requested substitutions will not constitute grounds for sacrificing the Bid security of any Bidder. Any Subcontractor, Supplier, other person, or organization listed and to whom OWNER or ENGINEER does not make written objection prior to the giving of the Notice of Award will be deemed acceptable to OWNER and ENGINEER subject to revocation of such acceptance after the Effective Date of the Agreement as provided in Paragraph 6.06.B of the General Conditions.
- C. In Contracts where the Contract Price is on the basis of Cost of Work Plus a Fee, the apparent Successful Bidder, prior to the Notice of Award, shall identify in writing to OWNER those portions of the Work that such Bidder proposes to subcontract and after the Notice of Award may only subcontract other portions of the Work with OWNER'S written consent.
- D. No CONTRACTOR shall be required to employ any Subcontractor, Supplier, other person, or organization against whom CONTRACTOR has a reasonable objection.

12. **BID FORMS**

- A. All Bids shall be completely filled out on the specified bid forms without modification or provisions unless otherwise required.
- B. The Bids shall be completed in duplicate. The original shall be filed with the OWNER and the Bidder shall keep the duplicate.
- C. The Bids must be clearly and legibly filled out in ink or typed. In case of ambiguity or lack of clearness in stating the prices tendered or the condition of the Bid, the OWNER reserves the right to consider the most favorable

construction thereof or to reject the Bid from further consideration.

- D. All Bids must be officially executed. Bids by Corporations must be executed in the corporate name by the president or vice president (or other corporate officer, accompanied by evidence of authority to sign) and the corporate seal must be affixed and attested by the secretary or assistant secretary. 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 the official address of the partnership must be shown below the signature. All business entity names must be registered with the Secretary of State of Texas and appropriate office of registration.
- E. The Bid shall contain an acknowledgement of receipt of all Addenda (the numbers of which must be filled in on the Bid Form).

13. SUBMISSION OF BIDS

- A. Bids shall be submitted at the time and place indicated in the Notice to Bidders, and shall be enclosed in an opaque sealed envelope marked with the Project title, name and address of the Bidder and containing Bid security and other required documents. Bids will be securely kept unopened, until the specified time. The bids received after the specified time will not be considered. All incomplete Bids shall be considered non-responsive. 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.

14. MODIFICATION AND WITHDRAWAL OF BIDS

- A. Bids may be modified or withdrawn by an appropriate document duly executed (in the manner that a Bid must be executed) and delivered to the place where Bids are to be submitted at any time prior to opening of Bids.
- B. If, within 24 hours after Bids are opened, any Bidder files a duly signed, written notice with OWNER and promptly thereafter demonstrates to the reasonable satisfaction of OWNER that there was a material and substantial mistake in the preparation of its Bid, that Bidder may withdraw its 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.

15. OPENING OF BIDS

- A. Bids will be opened and read aloud publicly. An abstract of the amounts of

the base Bids and major alternates (if any) will be made available to Bidders within 7 calendar days after the date of Bid opening.

16. BIDS TO REMAIN SUBJECT TO ACCEPTANCE

- A. The apparent Successful Bid and the next two lowest Bids will remain subject to acceptance for 60 calendar days after the day of the Bid opening. All other Bids will be released, and the Bid security returned within 7 days. OWNER may, in its sole discretion, release any Bid and return the Bid security prior to that date.

17. AWARD OF CONTRACT

- A. Contract will be awarded on basis of low Base Bid. Selection of alternates or deductive Bid Items by the OWNER will not be used to displace the low Bidder.
- B. The Owner reserves the right to reject any and all bids, to waive any and all informalities not involving price, time or changes in the Work, to negotiate contract terms with the Successful Bidder, and to disregard all non-conforming, non-responsive, unbalanced or conditional Bids. Also, 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.
- C. In evaluating Bids, OWNER will consider the qualifications of the Bidders, whether or not the Bids comply with the prescribed requirements and such alternates, unit prices, and other data, as may be requested in the Bid Form or prior to the Notice of Award.
- D. 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 in the Supplementary Conditions. OWNER also may 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.

- E. 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.
- F. Alternate bid items are included in the Bid Form. The Successful Bidder will be determined based on either the low Base Bid (Part C of the Bid), or the low Base Bid Plus Alternate Bid (Part E of the Bid), at the discretion of the OWNER.
- G. If the Contract is to be awarded, OWNER will give the Successful Bidder a Notice of Award within 60 calendar days after the day of the Bid opening.

18. CONTRACT SECURITY

- A. Paragraph 5.1 of the General Conditions and the Supplementary Conditions set forth OWNER'S requirements as to performance and payment Bonds. When the Successful Bidder delivers the executed Agreement to OWNER, it must be accompanied by the required performance and payment Bonds.

19. INSURANCE CERTIFICATES

- A. The CONTRACTOR shall provide and maintain a minimum coverage as defined in the Contract Documents (Article 5 of the General Conditions). The companies providing the coverage shall be acceptable to the OWNER (Certificate of Insurance Section 00620).

20. SIGNING OF AGREEMENT

- A. When OWNER gives a Notice of Award to the Successful Bidder, it will be accompanied by the required number of unsigned counterparts of the Agreement with all other written Contract Documents attached. Within 15 calendar days thereafter, CONTRACTOR shall sign and deliver the required number of counterparts of the Agreement and attached documents to OWNER with the required Bonds. Within 10 calendar days thereafter, OWNER shall deliver one fully signed counterpart to CONTRACTOR. Each counterpart is to be accompanied by a complete set of the Drawings with appropriate identification.

21. PRE-BID CONFERENCE

- A. A pre-bid conference will be held at the time and place indicated in the Invitation to Bid (Section 00100). Representatives of OWNER and ENGINEER

will be present to discuss the Project. All prospective bidders are encouraged to attend and participate in the conference. ENGINEER will notify all prospective Bidders of record of any such Addenda as ENGINEER considers necessary in response to questions arising at the conference.

22. SALES TAX

- A. Owner is exempt from Texas sales and use taxes pursuant to Texas Tax Code §151.309 as a political subdivision of the State of Texas. OWNER shall provide CONTRACTOR with a completed Texas Sales and Use Tax Exemption Certification as evidence of the applicability of such exemption and, accordingly, CONTRACTOR shall not collect Texas sales and use taxes from OWNER with respect to this Contract. CONTRACTOR and all Subcontractors to CONTRACTOR shall issue a Texas Sales and Use Tax Exemption Certification with respect to, and shall not pay Texas sales and use taxes on, all purchases of the following items that are exempt from Texas sales and use taxes pursuant to Texas Tax Code §151.311: (i) tangible personal property that will be incorporated into OWNER'S realty; (ii) tangible personal property that is necessary and essential for the performance of this Contract and is consumed entirely on the job site; and (iii) taxable services for use in the performance of this Contract that are performed at the job site and are either integral to the performance of this Contract or expressly required to be provided by this Contract. In addition, CONTRACTOR and all Subcontractors to CONTRACTOR (i) shall not include any provision for Texas sales and use taxes with respect to such exempt items in any bid or contract amount, and (ii) shall pass on to OWNER cost savings due to the exempt status of such exempt items. CONTRACTOR'S contracts with all Subcontractors to CONTRACTOR shall include the foregoing provision regarding the exemption from Texas sales and use taxes.

**END OF
SECTION**

Document 00210

SUPPLEMENTARY INSTRUCTIONS TO BIDDERS

The following Paragraphs modify Document 00200 - Instructions to Bidders. Where a portion of the Instructions to Bidders is modified or deleted by these Supplementary Instructions, the unaltered portions of the Instructions to Bidders remains in effect.

4.0 - BID DOCUMENTS:

- A. The Bid Documents may be obtained for no charge by downloading them at www.civcastusa.com (account setup required).
- B. The following plan rooms, whose names, addresses, phone and fax numbers were last updated on September 1, 2004, have been authorized by the City to display Bid Documents for examination:

AMTEK Information Services, Inc., 4001 Sherwood Lane, Houston, TX 77092, 713-956-0100, Fax 713-956-5340, Email: planroom@amtekusa.com

Associated Builders & Contractors, Inc., (ABC), 3910 Kirby, Suite 131, Houston, TX 77098-4151, 713-523-6222, Fax 713-874-0747. Email: lori@abchouston.org

Associated General Contractors (AGC-BB) Building Branch, 3825 Dacoma, Houston, TX 77092-8717, 713-843-3700, Fax 713-843-3701. Email: karla.s@agchouston.org

Associated General Contractors, (AGC-HHUI), Highway, Heavy Utilities and Industrial Branch, 2400 Augusta St., Suite 180, Houston, TX 77057, 713-334-7100, Fax 713-334-7130. Email: houston@agctx.org

Construction Information Network, 1225 North Loop West, Suite 550, Houston, TX 77008, 713-868-2233 ext. 329, Fax 866-852-2713. Email: paul.tilford@cnsx.com

F. W. Dodge Corporation, 4101 Greenbriar, Suite 320, Houston, TX 77098, 713-529-4895, Fax 713-524-7639. Email: Terrie.Harris@mcgraw-hill.com

The Builders' Exchange of Texas, Inc., 3910 Kirby, Suite 131, Houston, TX 77098, 210-564-6900, Fax: 210-564-6921, Email: houston@bctx.com

5.0 - EXAMINATION OF DOCUMENTS, SITE, AND LOCAL CONDITIONS:

- A. Work will be performed in public right-of-way and in City of Tomball easements. The site may be examined at any time during daylight hours.

8.0-SUBSTITUTION OF PRODUCTS:

- A. Where Bid Documents specify a specific Product with provision for consideration of substitutions (or equal), requests for prebid approval of substitutions will be considered from Bidders only if received by Project Manager 10 days or more prior to Bid Date.
- B. Requests for substitutions must provide complete information in order to determine acceptability of the Products, in accordance with provisions of Document 00700 - General Conditions.
- C. The City will consider requests for substitutions and, if approved, will issue an Addendum. Bidder shall base its Bid only on substitutions approved in Addenda. Substitutions, not listed in an Addendum, are not allowed.
- D. Bidder shall include in its Bid, costs of substitutions approved by Addenda.

10.0 - BID SUBMISSION:

- A. Sealed bids shall be submitted via CivCast E-Bidding, www.civcast.com, for Pine St. EST Rehabilitation Project. Bids shall be submitted no later than 2:00 p.m., Local Time on Nov. 16, 2023.
- B. Submit one copy of the executed offer on the bid forms provided, properly signed, with required Security Deposit, and other Supplements to Bid Forms, in a sealed, opaque envelope. On the outside of the envelope, clearly identify the Certificate of Responsibility number, Bidders name, Project name, and the City's name. Bids submitted by mail shall be enclosed in a separate envelope addressed for mailing, and identifying the enclosure as a bid.

15.0 - PREBID MEETING:

- A. A pre-bid conference will be hosted electronically on Nov. 9 at 2:00 pm, to familiarize bidders with the goals for this project. The information for the pre-bid will be posted on CivCast and sent to all plan holders. **The pre-bid conference is not mandatory.**

END OF DOCUMENT

Document 00220

REQUEST FOR BID INFORMATION

PROJECT: Pine St. EST Rehabilitation

PROJECT No 2024-05

TO: Oller Engineering, Inc.
Attn: Adam Valenzuela

Phone No. 806.993.6226

Fax No. _____

Email Addr. adam.valenzuela@oei-eng.com

(Type or Print question legibly; use back if more space is needed)

This request relates to _____ and/or _____
Drawing / Detail No. Specification Section No.

Attachments to this request: _____

Signature

Date

(Type or Print Name)

(Type or Print Company Name)

END OF DOCUMENT

Document 00410A

BID FORM - PART A

To: **The Honorable Mayor and City Council of the City of Tomball
City Hall**

Tomball, Texas

Project: Pine St. EST Rehabilitation

Project No.: 2024-05

Bidder: _____

(Print or type full name of proprietorship, partnership, corporation, or joint venture.)

1.0 OFFER

- A. Total Bid Price:** Having examined the Project location and all matters referred to in Bid Documents for the Project, we, the undersigned, offer to enter into a Contract to perform the Work for the Total Bid Price shown on the signature page of this Document
- B. Security Deposit:** Included with the Bid is a Security Deposit in the amount of 10 percent of the Total Bid Price subject to terms described in Document 00200 - Instructions to Bidders.
- C. Period for Bid Acceptance:** This offer is open to acceptance and is irrevocable for 90 days from Bid Date. That period may be extended by mutual written agreement of the City and Bidder.
- D. Addenda:** All Addenda have been received. Modifications to Bid Documents have been considered and all related costs are included in the Total Bid Price.
- E. Bid Supplements:** The following documents are attached:
 - Security Deposit (*as defined in Document 00200 - Instructions to Bidders*)
 - Document 00453 - Bidder's Statement of Residency
 - Document 00455 - Affidavit of Ownership or Control
 - Page 00809-63, Request for Contractor Clearance
 - Others as listed: _____

2.0 CONTRACT TIME

- A.** If offer is accepted, Contractor shall achieve Date of Substantial Completion within 90 days after Date of Commencement of the Work, subject to adjustments of Contract Time as provided in the Contract.

Document 00410B

BID FORM - PART B

1.0 TOTAL BID PRICE HAS BEEN CALCULATED BY BIDDER, USING THE FOLLOWING COMPONENT PRICES AND PROCESS (PRINT OR TYPE NUMERICAL AMOUNTS):

A. STIPULATED PRICE:

\$N/A

(Total Bid Price; minus Base Unit Prices, Extra Unit Prices, Cash Allowances and All Alternates, if any)

B. BASE UNIT PRICE TABLE:

Item No.	Control No.	Item Description	Unit Measure	Unit Quantity	Unit Price	Total in figures
1		General Terms and Conditions, Mobilization. (Not to Exceed 5% of total base bid), complete in-full.	JOB	1		
2		Shroud, Surface Preparation by power washing of Exterior Tank and Above Ground Piping.	SF	19700		
3		Surface Preparation by Power Washing and/or Sand Blasting of Interior Portion of Tank.	SF	22400		
4		Exterior Surface Spray Painting/Coating and Roller/Brush Painting as Necessary to Meet Coating Application Thickness.	SF	19700		
5		Interior Surface Spray Painting/Coating and Roller/Brush Painting as Necessary to Meet Coating Application Thickness	SF	22400		
6		Draining Tank, Disinfection of Interior of Tank, Dichlorination of Tank, and Final Fill of Tank.	JOB	1		
<u>TOTAL BASE UNIT PRICES</u>						\$_____

C. EXTRA UNIT PRICE TABLE:

Item No.	Control No.	Item Description	Unit Measure	Unit Quantity	Unit Price	Total in figures
7		Repair and/or Replace Steel Structural Members	LF	1		
TOTAL EXTRA UNIT PRICES						\$ _____

REST OF PAGE INTENTIONALLY LEFT BLANK

D. CONTINGENCY CASH ALLOWANCE TABLE:

Cash Allowance No.	Cash Allowance Short Title	Cash Allowance in figures
1	Contingency Cash Allowance All Bidders	\$25,000
<u>TOTAL CASH ALLOWANCES</u>		

E. ALTERNATES TABLE:

Alternate No.	Alternate Short Title	Total Price for Alternate in figures
	N/A	
<u>TOTAL ALTERNATES</u>		\$ _____

REST OF PAGE INTENTIONALLY LEFT BLANK

F. TOTAL BID PRICE:

\$ _____

(Add Totals for Items A., B., C., D., and E. above)

2.0 SIGNATURES: By signing this Document, I agree that I have received and reviewed all Addenda and considered all costs associated with the Addenda in calculating the Total Bid Price.

Bidder:

(Print or type full name of your proprietorship, partnership, corporation, or joint venture.*)

** By:

Signature

Date

Name:

(Print or type name)

Title

Address:

(Mailing)

(Street, if different)

Telephone and Fax Number:

(Print or type numbers)

- * If Bid is a joint venture, add additional Bid Form signature sheets for each member of the joint venture.
- ** Bidder certifies that the only person or parties interested in this offer as principals are those named above. Bidder has not directly or indirectly entered into any agreement, participated in any collusion, or otherwise taken any action in restraint of free competitive bidding.

Footnotes for Basic Unit Price Table and Extra Unit Price Table:

- (1) Fixed Unit Price determined prior to Bid. Cannot be adjusted by the Bidder.
- (2) Minimum Bid Price determined prior to Bid. Can be increased by the Bidder by crossing out the Minimum and noting revised price on the line above.
- (3) Maximum Bid Price determined prior to Bid. Can be decreased by Bidder by crossing out the Maximum and noting revised price on the line above.
- (4) Fixed Range Unit Price determined prior to Bid. Unit Price can be adjusted by Bidder to any amount within the range defined by crossing out prices noted and noting revised price on the line above.

Note: This document constitutes a government record, as defined by § 37.01 of the Texas Penal Code. Submission of a false government record is punishable as provided in § 37.10 of the Texas Penal Code.

END OF DOCUMENT

Document 00430

BIDDER'S BOND

THAT WE, _____, as Principal,
(Bidder)
("Bidder"), and the other subscriber hereto, _____, as Surety, do hereby
acknowledge ourselves to be held and firmly bound to the City of Tomball, a municipal corporation, in the
sum of _____ Dollars (\$_____) (an amount
equal to 10 percent of the Total Bid Price, including Cash Allowances and Alternates, if any, for the payment
of which sum, well and truly to be made to the City of Tomball and its successors, the Bidder 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 Bidder has submitted on or about this day a proposal offering to perform the following:

(Project Name, Location and Number)

in accordance with the Drawings, Specifications, and terms and conditions related thereto to which
reference is hereby made.

NOW, THEREFORE, if the Bidder's offer as stated in the Document 00410 - Bid Form is accepted by the
City, and the Bidder executes and returns to the City Document 00520 - Agreement, required by the City,
on the forms prepared by the City, for the Work and also executes and returns the same number of the
Performance, Payment and Maintenance Bonds (such bonds to be executed by a Corporate Surety
authorized by the State Board of Insurance to conduct insurance business in the State of Texas, and having
an underwriting limitation in at least the amount of the bond) and other submittals as required by Document
00495 - Post-Bid Procedures, in connection with the Work, within the Contract Time, then this obligation
shall become null and void; otherwise it is to remain in full force and effect.

If Bidder is unable to or fails to perform the obligations undertaken herein, the undersigned Bidder and
Surety shall be liable to the City for the full amount of this obligation which is hereby acknowledged as the
amount of damages which will be suffered by the City on account of the failure of such Bidder to perform
such obligations, the actual amount of such damages being difficult to ascertain.

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 States 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 Bidder and Surety have signed and sealed this instrument on the
respective dates written below their signatures and have attached current Power of Attorney.

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

By: _____
Name:
Title:

ATTEST/SURETY WITNESS: (SEAL)

(Name of Bidder)

By: _____
Name:
Title:
Date:

(Full Name of Surety)

(Address of Surety for Notice)

(Telephone Number of Surety)

By: _____
Name:
Title:
Date:

By: _____
Name:
Title:
Date:

City of Tomball
Pine St. EST Rehabilitation
Project No. 2024-05

BIDDER'S BOND

END OF DOCUMENT

BIDDER'S STATEMENT OF RESIDENCY

The City may not award a contract for general construction, services, or purchases to a Nonresident Bidder unless Nonresident's Bid is lower than the lowest Bid submitted by a responsible Texas Resident Bidder by the same amount that a Texas Resident bidder would be required to underbid the Nonresident Bidder to obtain a comparable contract in the state in which Nonresident's principle place of business is located.

1. This certifies that the Bidder, _____, is a State of Texas Resident Bidder as defined in TEX. GOVT. CODE ANN. § 2252.001(4) (Vernon 1994).

Signature

Title

"Texas Resident Bidder" means a bidder whose principal place of business is in this State, and includes a Contractor whose ultimate parent company or majority owner has its principal place of business in this State. *When bidder cannot sign 1, above, proceed to 2.*

2. a. _____ is a resident of _____ and is a Nonresident Bidder as defined in TEX. GOVT. CODE ANN. § 2252.001(3) (Vernon 1994).

Signature

Title

"Nonresident Bidder" means a bidder whose principal place of business is not in this State, but excludes a contractor whose ultimate parent company or majority owner has its principal place of business in this State.

- b. The State of _____ Bidder's resident state _____ Does or Does Not have a state statute giving preference to resident bidders.

Signature

Title

If the answer to 2.b is that your state does have a statute giving preference to resident bidders, then you must provide a copy and proceed to 3.

3. A copy of the State of _____ statute is attached.

Signature

Title

Date

END OF DOCUMENT

Orig. Dept.: _____

File/I.D. No.: _____

INSTRUCTION: Entities using an assumed name should disclose such fact to avoid rejection of the affidavit. The following format is recommended: Corporate/Legal Name d.b.a. Assumed Name.

Document 00455

AFFIDAVIT OF OWNERSHIP OR CONTROL

BEFORE ME, the undersigned authority, on this day personally appeared

_____ (Full Name, hereafter "Affiant"),

_____ (state title/capacity with Contracting Entity) of

_____ (Contracting Entity's Corporate/Legal Name)

("Contracting Entity"), who being by me duly sworn on oath stated as follows:

1. Affiant is authorized to give this affidavit and has personal knowledge of the facts and matters herein stated.

2. Contracting Entity seeks to do business with the City in connection with

_____ (describe project or matter) which is expected to be in an amount that exceeds \$25,000.

3. The following information is submitted in connection with the proposal, submission or bid of Contracting Entity in connection with the above described project or matter.

4. Contracting Entity is organized as a business entity as noted below (check box as applicable):

FOR PROFIT ENTITY:

SOLE PROPRIETORSHIP

CORPORATION

PARTNERSHIP

LIMITED PARTNERSHIP

JOINT VENTURE

LIMITED LIABILITY COMPANY

OTHER (Specify type in space below)

NON-PROFIT ENTITY:

NON-PROFIT CORPORATION

UNINCORPORATED ASSOCIATION

Orig. Dept.: _____

File/I.D. No.: _____

5. The information shown below is true and correct for the Contracting Entity and all owners of 5% or more of the Contracting Entity and, where the Contracting Entity is a non-profit entity, the required information has been shown for each officer. (NOTE: In all cases, use full names, local business and and residence addresses and telephone numbers. Do not use post office boxes for any address. Inclusion of e-mail addresses is optional, but recommended. Attach additional sheets as needed.)

Contracting Entity

Name: _____

Business Address (No./Street) _____

(City/State/Zip Code) _____

Telephone Number (_____)_____

Email Address (optional) _____

Residence Address (No./Street) _____

(City/State/Zip Code) _____

Telephone Number (_____)_____

Email Address (optional) _____

5% Owner(s) (IF NONE, STATE "NONE.")

Name: _____

Business Address (No./Street) _____

(City/State/Zip Code) _____

Telephone Number (_____)_____

Email Address (optional) _____

Residence Address (No./Street) _____

(City/State/Zip Code) _____

Telephone Number (_____)_____

Email Address (optional) _____

6. Optional Information

Contracting Entity and/or _____ (Name of Owner or Non-Profit Officer) is actively protesting, challenging or appealing the accuracy and/or amount of taxes levied against _____ (Contracting Entity, Owner or Non-Profit Officer) as follows:

Orig. Dept.: _____

File/I.D. No.: _____

Name of Debtor: _____

Tax Account Nos. _____

Case or File Nos. _____

Attorney/Agent Name _____

Attorney/Agent Phone No. (_____) _____

Tax Years _____

Status of Appeal (Describe) _____

Affiant certifies that he or she is duly authorized to submit the above information on behalf of the Contracting Entity, that Affiant is associated with the Contracting Entity in the capacity noted above and has personal knowledge of the accuracy of the information provided herein, and that the information provided herein is true and correct to the best of Affiant's knowledge and belief.

Affiant

SWORN TO AND SUBSCRIBED before me this _____ day of _____, 20____.

(Seal)

Notary Public

NOTE:

This affidavit constitutes a **government record** as defined by Section 37.01 of the Texas Penal Code. Submission of a false government record is punishable as provided in Section 37.10 of the Texas Penal Code. Attach additional pages if needed to supply the required names and addresses.

END OF DOCUMENT

Document 00495

POST-BID PROCEDURES

1.0 DOCUMENT ADDRESSES

- A. Notice of Intent to Award.
- B. Monitoring Authority
- C. Failure of Bidder to comply with requirements.
- D. Notice to Proceed.

2.0 NOTICE OF INTENT TO AWARD

- A. The City will provide written Notice of Intent to Award to Low Bidder.

3.0 DEFINITIONS

- A. The "Monitoring Authority" for this Project is:
- B. The "Project Manager" for this Project is:

Rich Oller, P.E.
Oller Engineering, Inc.
2811 S. Loop 289, Ste. 17
Lubbock, TX 79423

(O): 806-993-6226
(E): rich.oller@oei-eng.com

4.0 REQUIREMENTS OF BIDDER

- A. Within 3 days of receipt of Notice of Intent to Award, Low Bidder shall execute and deliver to Project Manager and Monitoring Authority, for the City's approval, documents indicated by an "X" below:
 - [X] Document 00600 - List of Proposed Subcontractors and Suppliers
 - [X] Executed Subcontract(s), Letter(s) of Intent, or documentation of good faith efforts to meet the goals

- B. Within 10 days of receipt of Notice of Intent to Award, Low Bidder shall execute and deliver to Project Manager for the City's approval, documents indicated by an "X" below:

- [X] Document 00500 - Form of Business
- [X] Document 00501 - Resolution of Corporation
- [X] Document 00520 - Agreement
- [X] Document 00601 - Drug Policy Compliance Agreement
- [X] Document 00602 - Contractor's Drug-free Workplace Policy (**Contractor creates this document.**)
- [X] Document 00604 - History of OSHA Actions and List of On-the-job Injuries
- [X] Document 00607 - Certification Regarding Debarment, Suspension, and Other Responsibility Matters
- [X] Document 00610 - Performance Bond
- [X] Document 00611 - Statutory Payment Bond
- [X] Document 00612 - One-year Maintenance Bond
- [X] Document 00620 - Affidavit of Insurance (*with Certificate of Insurance attached*)
- [X] Document 00622 - Name and Qualifications of Proposed Superintendent (**Contractor creates this document.**)

- C. On Bidder's written request, Project Manager may grant an extension of time, not to exceed 5 days, to furnish documents specified in Paragraphs 4.0.A and 4.0.B. If Bidder is required to resubmit documents specified in Paragraph 4.0.A or 4.0.B, Bidder shall do so within time limits provided in the request for resubmission.

5.0 FAILURE OF BIDDER TO COMPLY WITH REQUIREMENTS

- A. Should Bidder, on receipt of Notice of Intent to Award, fail to comply with requirements of this Document 00495 within stated time, the City may declare award in default and require forfeiture of the Security Deposit.
- B. After the City's written notice of default to Low Bidder, the City may award the Contract to Bidder whose offer is the next lowest bid, and Security Deposit of Bidder in default shall be forfeited to the City in accordance with provisions of Document 00200 - Instructions to Bidders.

6.0 NOTICE TO PROCEED

- A. Upon the City's execution of the Agreement and delivery to Contractor, City Engineer will give Document 00551 - Notice to Proceed to Contractor, which establishes Date of Commencement of the Work.

END OF DOCUMENT

Document 00496

CONTROL FORM FOR CONTRACT DOCUMENTS

NOTE: This form is to remain with the Contract documents and SHOULD NOT BE REMOVED.

PROJECT NAME: Pine St. EST Rehabilitation

PROJECT No.: 2024-05

CONTRACTOR: _____

DEPARTMENT/DIVISION: _____

CONTACT PERSON(S): _____ **PHONE NUMBER(S):** _____

These documents are assembled according to the attached checklist. For verification of items within the Contract documents, refer to the checklist.

This Ordinance and/or Contract have been reviewed as to form by the undersigned legal assistant and have been found to meet established Legal Department criteria. The Legal Department has not reviewed the content of these documents.

By: _____ Date: _____
Legal Assistant

I have sent the Ordinance to the Controller's Office.

By: _____ Date: _____
Award Coordinator

TO THE CITY SECRETARY: I have examined and approved the Contract documents. Two copies of the Contract documents are sent to you herewith for signatures.

By: _____ Date: _____
Director,

TO THE CITY CONTROLLER: Two copies of the Contract documents are sent to you herewith for countersignature. They were authorized by Ordinance Number _____ passed by City Council on _____. The Contract documents were executed by the Mayor or Mayor Pro Tem on _____.

By: _____ Date: _____
City Secretary

TO THE DIRECTOR: One copy of the Contract documents is sent to you for final distribution.

By: _____ Date: _____
City Controller

END OF DOCUMENT



CITY OF TOMBALL

Mayor

Director
Engineering & Planning
501 James Street
Tomball, Texas 77375

[Date]

[Contractor]
ATTN: [Contractor Contact]
[Contractor's Address]
[City, ST Zip]

RE: REQUEST FOR BONDS AND PROOF OF INSURANCE

Project No.

Dear [Contractor Contact]:

You are hereby notified that in accordance with Document 00495 - Post-bid Procedures, you have 14 days to deliver the following documents for the City's approval:

- Document 00610 - Performance Bond
- Document 00611 - Statutory Payment Bond
- Document 00612 - One-year Maintenance Bond
- Document 00613 - One-year Surface Correction Bond
- Document 00615 - Affidavit of Insurance (*with Certificate of Insurance attached*)

Deliver the documents to the Project Manager, City of Tomball, [Contracting Department], [PM's Address].

FAILURE OF BIDDER TO MEET SUCH CONDITIONS ON OR BEFORE SUCH DATE MAY RESULT IN APPLICATION OF PROVISIONS OF DOCUMENT 00495 - POST-BID PROCEDURES, PARAGRAPH 5.0.

Sincerely,

Director

[AD:typ]

c: [Contracting Department's Director]
File No. [File No.]



CITY OF TOMBALL

[Contracting Department]

Mayor

[Contracting Dept's Director]
Director
[Contracting Department]
[Dept's Address]
Tomball, Texas 77375

[Date]

[Contractor]
ATTN: [Contractor Contact]
[Contractor's Address]
[City, ST Zip]

RE: NOTICE OF INTENT TO AWARD
Pine St. EST Rehabilitation
Project No. 2024-05

Dear [Contractor Contact]:

Your Bid dated November 16, 2023 for the above Contract has been considered and you are the apparent Low Bidder. Subject to the approval of City Council and your satisfactory compliance with requirements listed in the attached Document 00495 - Post-Bid Procedures, the City intends to award a construction contract to you for:

[Project description of the Work plus alternates or phases of the Work, if any]

The Contract Price is [Original Contract Price].

Deliver to the City of Tomball, [Contracting Department], [Dept's Address], Tomball, Texas [Zip] two executed copies of the enclosed Agreement and each document listed in Document 00495 within the specified number of days. Also deliver listed documents to the Monitoring Authority specified in Document 00495 and in the number of days specified.

After complying with these conditions, and promptly after City Council has considered and approved this action, the City will return one fully executed Contract.

Should you, on receipt of this notice, fail to comply with the requirements of Document 00495, within the stated time, the City may declare the award in default and require forfeiture of the Security Deposit.

Direct questions regarding post-bid procedures or the contract award process to [City contact person] at [City contact person's phone number].

Sincerely,

[Contracting Division]
[Contracting Department]

c: [Distribution List]

Document 00500

FORM OF BUSINESS

Please mark the box describing your firm's form of business, fill in the requested information, and include the relevant attachments.

Corporation

Corporate Name: _____
State of Incorporation: _____
Mailing Address: _____
Type of Corporation: _____

Certificate of Assumed Name, if operating under a name different than that on the corporate charter (the Certificate must have been issued within the past 10 years to be valid)

*Certificate of Good Standing

*Certificate of Existence (if non-Texas corporation, Certificate of Authority)

Partnership/Joint Venture

Partnership/Joint Venture Name: _____
Mailing Address: _____
Type of Partnership/Joint Venture: _____

Copy of the Partnership or Joint Venture Agreement, **or**
Affidavit with the name of the partnership or joint venture, the names of the individual partners or participants in the joint venture, and a statement that the partnership or joint venture is in existence

Certificate of Assumed Name, (the Certificate must have been issued within the past 10 years to be valid)

If firm is a limited partnership, the Certificate of Limited Partnership

If any partner or joint venturer is a corporation, the above information relating to corporation must be included as to each sum partner or joint venturer.

Sole Proprietorship

Name: _____
Mailing Address: _____

Certificate of Assumed Name, if operating under a name different than that of the sole proprietor (the Certificate must have been issued within the past 10 years to be valid)

* Must be furnished upon request of the Director and must be less than 90 days old.

END OF DOCUMENT

Document 00501

RESOLUTION OF CORPORATION

I hereby certify that it was RESOLVED by a quorum of the directors of

(Name of Corporation / Contractor)

on the ____ day of _____, 20____, that _____,

(Corporate Representative)

be, and hereby is, authorized to act on behalf of the Corporation, as its
representative, in all business transactions conducted in the State of Texas, and

That the above resolution was unanimously ratified by the Board of Directors at
said meeting and that the resolution has not been rescinded or amended and is now
in full force and effect; and

In authentication of the adoption of this resolution, I subscribe my name on this
_____ day of _____, 20_____.

Secretary/Assistant Secretary

END OF DOCUMENT

Document 00520

AGREEMENT

Project: Pine St. EST Rehabilitation

Project Location: _____ (Key Map No. C003)

Project Bid No: 2024-05

E&P Project No: 2023-10004

The City: The City of Tomball, County of Harris, Texas (the "City")
and

Contractor: _____

(Address for Written Notice) _____

Fax Number: _____

City Engineer is: _____

(Address for Written Notice) _____

Fax Number: _____

THE CITY AND CONTRACTOR AGREE AS FOLLOWS:

ARTICLE 1

THE WORK OF THE CONTRACT

1.1 Contractor shall perform the Work in accordance with the Contract.

ARTICLE 2

CONTRACT TIME

2.1 Contractor shall achieve Date of Substantial Completion within 90 days after Date of Commencement of the Work, subject to adjustments of Contract Time as provided in the Contract.

2.2 The Parties recognize that time is of the essence for this Agreement and that the City will suffer financial loss if the Work is not completed within the Contract Time. Parties also recognize delays,

expense, and difficulties involved in proving in a legal or arbitration proceeding actual loss suffered by the City if the Work is not completed on time. Accordingly, instead of requiring any such proof, the Parties agree that as liquidated damages for delay (but not as a penalty), Contractor shall pay the City the amount stipulated in Document 00800 - Supplementary Conditions, for each day beyond Contract Time.

ARTICLE 3

CONTRACT PRICE

3.1 Subject to terms of the Contract, the City will pay Contractor in current funds for Contractor's performance of the Contract, Contract Price of \$ _____, which includes Alternates, if any, accepted below.

3.2 The City accepts Alternates as follows:

Alternate No. 1 _____
[Alternate No. 2 _____]
Alternate No. 3 _____

**ARTICLE 4
PAYMENTS**

4.1 The City will make progress payments to Contractor as provided below and in the General Conditions.

4.2 The Period covered by each progress payment is one calendar month ending on the [____] 10th, [____] 20th, or last day of the month.

4.3 The Schedule of Values established as provided in paragraph 2.07.A of the General Conditions will serve as the basis for progress payments and will be incorporated into a form of Application for Payment acceptable to Engineer. Progress payments on account of Unit Price Work will be based on the number of units completed. The City will make progress payments on account of the Contract Price on the basis of Contractor's Applications for Payment as provided below in paragraphs 4.3.1 and 4.3.2.

4.3.1 Prior to Substantial Completion, progress payments will be made in an amount equal to the percentage indicated below but, in each case, less the aggregate of payments previously made and less such amounts as Engineer may determine or City may withhold, in accordance with paragraph 14.02 of the General Conditions:

- a. For contracts under \$400,000.00, 90% of Work completed (with the balance being retainage).
For contracts over \$400,000.00, 95% of Work completed (with the balance being retainage.)

b. For contracts under \$400,000.00, 90% (with the balance being retainage) and for contracts over \$400,000.00, 95% (with the balance being retainage) of materials and equipment not incorporated in the Work (but delivered, suitably stored and accompanied by documentation satisfactory to the City as provided in paragraph 14.02 of the General Conditions).

4.3.2 Upon Substantial Completion, the City shall pay an amount sufficient to increase total payments to Contractor to 95% of the Work completed, less such amounts as Engineer shall determine in accordance with paragraph 14.02.B.5 of the General Conditions and less 100% of Engineer's estimate of the value of Work to be completed or corrected as shown on the tentative list of items to be completed or corrected attached to the Certificate of Substantial Completion.

4.4 Final payment, constituting entire unpaid balance of Contract Price, will be made by the City to Contractor as provided in the General Conditions.

ARTICLE 5

CONTRACTOR REPRESENTATIONS

5.1 Contractor represents:

5.1.1 Contractor has examined and carefully studied Contract documents and other related data identified in Bid Documents.

5.1.2 Contractor has visited the site and become familiar with and is satisfied as to general, local, and site conditions that may affect cost, progress, and performance of the Work.

5.1.3 Contractor is familiar with and is satisfied as to all federal, state, and local laws and regulations that may affect cost, progress, and performance of the Work.

5.1.4 Contractor has carefully studied all: (1) reports of explorations and tests of subsurface conditions at or contiguous to the site and all drawings of physical conditions in or relating to existing surface or subsurface structures at or contiguous to the site (except Underground Facilities) which have been identified in Contract documents and (2) reports and drawings of a hazardous environmental condition, if any, at the site which has been identified in Contract documents.

5.1.5 Contractor has obtained and carefully studied (or assumes responsibility for having done so) all additional or supplementary examinations, investigations, explorations, tests, studies, and data concerning conditions (surface, subsurface, and Underground Facilities) at or contiguous to the site which may affect cost, progress, or performance of the Work or which relate to any aspect of the means, methods, techniques, sequences, and procedures of construction to be employed by Contractor, including applying specific means, methods, techniques, sequences, and procedures of construction, if

any, expressly required by the Contract to be employed by Contractor, and safety precautions and programs incident thereto.

5.1.6 Contractor does not consider that any further examinations, investigations, explorations, tests, studies, or data are necessary for performance of the Work at Contract Price, within Contract Time, and in accordance with the Contract.

5.1.7 Contractor is aware of general nature of work to be performed by the City and others at the site that relates to the Work as indicated in Contract documents.

5.1.8 Contractor has correlated information known to Contractor, information and observations obtained from visits to the site, reports and drawings identified in the Contract, and all additional examinations, investigations, explorations, tests, studies, and data with the Contract.

5.1.9 Contractor has given City Engineer written notice of all conflicts, errors, ambiguities, or discrepancies that Contractor has discovered in the Contract, and written resolution thereof by City Engineer is acceptable to Contractor.

5.1.10 Contract documents are generally sufficient to indicate and convey understanding of all terms and conditions for performance and furnishing of the Work.

ARTICLE 6

MISCELLANEOUS PROVISIONS

6.1 The Contract may be terminated by either Party as provided in Conditions of the Contract.

6.2 The Work may be suspended by the City as provided in Conditions of the Contract.

6.3 Contractor further covenants and agrees that it does not and will not knowingly employ an undocumented worker. An "undocumented worker" shall mean an individual who, at the time of employment, is not (a) lawfully admitted for permanent residence to the United States, or (b) authorized by law to be employed in that manner in the United States.

6.4 In accordance with Chapter 2270, Texas Government Code, a government entity may not enter into a contract with a company for goods or services unless the company covenants and agrees that it: (1) does not boycott Israel; and (2) will not boycott Israel during the term of the contract. Furthermore, the contractor is prohibited from engaging in business with Iran, Sudan or Foreign Terrorist Organizations.

ARTICLE 7

ENUMERATION OF CONTRACT DOCUMENTS

- 7.1 The following documents are incorporated into this Agreement:
 - 7.1.1 Document 00700 - General Conditions
 - 7.1.2 Document 00800 - Supplementary Conditions
 - 7.1.3 General Requirements.
 - 7.1.4 Divisions 02 through 03 of Specifications attached hereto or incorporated by reference in Document 00010 - Table of Contents.
 - 7.1.6 Addenda which apply to the Contract, are as follows:
 - Addendum No. 1, dated [_____]
 - Addendum No. 2, dated [_____]
 - Addendum No. 3, dated [_____]

7.1.7 Other documents:

<u>Document No.</u>	<u>Title</u>
[X] 00410B	Bid Form - Part B
[X] 00500	Form of Business
[X] 00501	Resolution of Corporation (if a corporation)
[X] 00610	Performance Bond
[X] 00611	Statutory Payment Bond
[X] 00612	One-year Maintenance Bond
[X] 00620	Affidavit of Insurance (with the Certificate of Insurance attached)
[X] 00800	Exhibit A, Wage Rates
[] 00821	Wage Rate for Building Construction
[] 00830	Trench Safety Geotechnical Information

ARTICLE 8

SIGNATURES

8.1 This Agreement is executed in two originals and is effective on _____.

CONTRACTOR:

(If Joint Venture)

By: _____

By: _____

Name: _____

Name: _____

Title: _____

Title: _____

Date: _____

Date: _____

Tax Identification Number: _____

Tax Identification Number: _____

ATTEST/SEAL:

[SEAL]

Attest: _____

Date: _____

CITY OF TOMBALL, TEXAS:

By: _____
City Manager

Date: _____

ATTEST/SEAL:

[SEAL]

Attest: _____
City Secretary

Date: _____

END OF DOCUMENT

LIST OF PROPOSED SUBCONTRACTORS AND SUPPLIERS - PART A
SCHEDULE OF SUBCONTRACTORS AND SUPPLIERS

PROJECT NAME: _____ DATE OF REPORT: _____
PROJECT NO.: _____

SUBCONTRACTOR OR SUPPLIER	ADDRESS	SCOPE OF WORK ²

- NOTES:**
1. RETURN PART B FOR ALL PROJECTS WITHIN THE SPECIFIED NUMBER OF DAYS AFTER RECEIPT OF NOTICE OF INTENT TO AWARD.
 2. DESCRIBE THE WORK TO BE PERFORMED, SUCH AS PAVING, ELECTRICAL, ETC.

CONTRACTOR SHALL EXECUTE CONTRACTS WITH APPROVED SUBCONTRACTORS AND SUPPLIERS WITHIN 30 DAYS AFTER THE DATE OF THE NOTICE TO PROCEED.

SIGNATURE: _____ COMPANY NAME: _____

NAME: _____ TITLE: _____
(Type or Print)

END OF DOCUMENT

Document 00601

DRUG POLICY COMPLIANCE AGREEMENT

I, _____ / _____
Name Title

of _____
Contractor

have authority to bind Contractor with respect to its Bid, Proposal, or performance of any and all contracts it may enter into with the City of Tomball; and that by making this Agreement, I affirm that Contractor is aware of and by the time the Contract is awarded will be bound by and agree to designate appropriate safety impact positions for company employee positions, and to comply with the following requirements before the City issues a Notice to Proceed:

1. Develop and implement a written Drug Free Workplace Policy and related drug testing procedures for Contractor that meet the criteria and requirements established by the Mayor's Amended Policy on Drug Detection and Deterrence (Mayor's Drug Policy) and the Mayor's Drug Detection and Deterrence Procedures for Contractors (Executive Order No. _____).
2. Obtain a facility to collect urine samples consistent with Health and Human Services (HHS) guidelines and an HHS-certified drug-testing laboratory to perform drug tests.
3. Monitor and keep records of drug tests given and results; and upon request from the City of Tomball, provide confirmation of such testing and results.
4. Submit semi-annual Drug Policy Compliance Declarations.

I affirm on behalf of Contractor that full compliance with the Mayor's Drug Policy and Executive Order No. _____ is a material condition of the Contract with the City of Tomball,

I further acknowledge that falsification, failure to comply with or failure to timely submit declarations or documentation in compliance with the Mayor's Drug Policy or Executive Order No. _____ will be considered a breach of the Contract with the City and may result in non-award or termination of the Contract by the City.

Contractor Title

Signature Date

END OF DOCUMENT

Document 00603

CHECKLIST FOR DRUG POLICY SUBMITTAL

TO: **TOMBALL, TEXAS**
FROM: **DIRECTOR**
[CONTRACTING DIVISION]
[CONTRACTING DEPARTMENT]
DATE: _____

CONTRACTOR: _____

PROJECT NAME: Pine St. EST Rehabilitation

PROJECT No.: 2024-05

PROJECT MANAGER: Rich Oller **TELEPHONE:** 806-993-6226 **FAX:** 806-577-4722

DOCUMENTS CHECKED BELOW ARE BEING SUBMITTED: (Project Manager, check.)

- DOC. 00601 - DRUG POLICY COMPLIANCE AGREEMENT (Standard Form)**
- DOC. 00602 - CONTRACTOR'S DRUG-FREE WORKPLACE POLICY (Contractor creates this Document)**
- DOC. 00605 - LIST OF SAFETY IMPACT POSITIONS (Contractor creates this List) "OR"**
- DOC. 00606 - CONTRACTOR'S CERTIFICATION OF NO SAFETY IMPACT POSITIONS**

CCODT REVIEW: THE FOLLOWING CHECKED ITEM(S) ARE MISSING FROM SUBMISSION/POLICY AND NEED TO BE CORRECTED PRIOR TO AWARD:

- NAME OF DRUG TESTING LAB**
- REASON FOR TESTING:**
 - RANDOM TESTING - 25% ANNUALLY**
 - REASONABLE SUSPICION**
 - POST ACCIDENT**

REJECTED	_____

APPROVED	_____

- SAFETY IMPACT POSITIONS INCOMPLETE**
- EMPLOYEE ACKNOWLEDGMENT FORM**
- DRUG TESTING PROCEDURES**
- CONSEQUENCE OF POSITIVE TEST:** *PERMANENTLY REMOVED FROM ANY CONTRACT CITY WORKSITE.*
- CONSEQUENCE OF REFUSAL TO CONSENT:** *PERMANENTLY REMOVED FROM ANY CONTRACT CITY WORKSITE.*
- OTHER:** _____

COMMENTS: _____

DATE RECEIVED: _____ **RESUBMITTAL DATE:** _____

END OF DOCUMENT

HISTORY OF OSHA ACTIONS AND LIST OF ON-THE-JOB INJURIES

Prior to award of the Contract, Low Bidder will be required to file the following with the City:

1. A history of all OSHA actions, advisories, etc., Contractor has received on all jobs worked in any capacity, prime or subcontractor. The history shall be for the two-year period preceding the Bid Date of the Project.
2. A list of all on-the-job injuries, accidents, and fatalities suffered by any present or former employees of Contractor during the same two-year period.
3. If less than the two-year period, give the date Contractor started doing business.

This information must be submitted to the City within the time period stated in Document 00498 - Notice of Intent to Award. An officer of the company must certify in a notarized statement that the information submitted is true and correct.

END OF DOCUMENT

Document 00607

CERTIFICATION REGARDING DEBARMENT,
SUSPENSION, AND OTHER RESPONSIBILITY MATTERS

Contractor certifies to the best of its knowledge and belief that it and its principals:

1. Are not presently debarred, suspended, proposed for debarment, declared ineligible, or voluntarily excluded from covered transactions by any Federal, State, or local department or agency;
2. Have not within a three-year period preceding this proposal been convicted of or had a civil judgment rendered against them for commission of fraud or a criminal offense in connection with obtaining, attempting to obtain, or performing a public (Federal, State, or local) transaction or contract under a public transaction: violation of Federal or State antitrust statutes or commission of embezzlement, theft, forgery, bribery, falsification or destruction of records, making false statements, or receiving stolen property;
3. Are not presently indicted for or otherwise criminally or civilly charged by a government entity (Federal, State, or local) with commission of any of the offenses enumerated in paragraph 2 of this certification; and
4. Have not within a three-year period preceding this application/proposal had one or more public transactions (Federal, State, or local) terminated for cause or default.

I understand that a false statement on this certification may be grounds for rejection of this proposal or termination of the award. In addition, under 18 USC Section 1001, a false statement may result in a fine of up to \$10,000 or imprisonment for up to five years, or both.

Company:

Typed Name & Title of Authorized Representative

Signature of Authorized Representative

Date

I am unable to certify the above statements. My explanation is attached.

END OF DOCUMENT

00607-1
02-01-08

Document 00610

PERFORMANCE BOND

THAT WE, _____, as Principal, (the "Contractor"), and the other subscriber hereto, _____, as Surety, do hereby acknowledge ourselves to be held and firmly bound to the City of Tomball (the "City"), a municipal corporation, in the penal sum of \$_____ for the payment of which sum, well and truly to be made to the City, its successors and assigns, 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 for _____

_____ 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 the 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 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. Should the Contractor fail to faithfully and strictly perform the Contract in all its terms, including but not limited to the indemnifications thereunder, the Surety shall be liable for all damages, losses, expenses and liabilities that the City may suffer in consequence thereof, as more fully set forth herein.

It is further understood and agreed that the Surety does hereby relieve the City 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, and the Surety agrees that it 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 will retain certain amounts due the Contractor until the expiration of 30 days from the acceptance of the Work is intended for the City's benefit, and the City will 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 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 save harmless the City from any liability, loss, cost, expense, or damage arising out of Contractor's performance of the Contract.

If the City gives Surety notice of Contractor's default, Surety shall, within 45 days, take one of the following actions:

1. Arrange for Contractor, with consent of the City, to perform and complete the Contract; or
2. Take over and assume completion of the Contract itself, through its agents or through independent contractors, and become entitled to the payment of the balance of the Contract Price.

If the Surety fails to take either of the actions set out above, it shall be deemed to have waived its right to perform and complete the Contract and receive payment of the balance of the Contract Price and the City shall be entitled to enforce any remedies available at law, including but not limited to completing the Contract itself and recovering any cost in excess of the Original Contract Price from the Surety.

This Bond and all obligations created hereunder shall be performable in Harris County, Texas. This Bond is given in compliance with the provisions of Chapter 2253, Texas Government Code, as amended, which is incorporated herein by this reference.

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 States 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, SEAL: (if a corporation)
WITNESS: (if not a corporation)

Name of Contractor

By: _____
Name:
Title:

By: _____
Name:
Title:
Date:

ATTEST/SURETY WITNESS:
(SEAL)

Full Name of Surety

Address of Surety for Notice

Telephone Number of Surety

By: _____
Name:
Title:
Date:

By: _____
Name:
Title: Attorney-in-Fact
Date:

END OF DOCUMENT

Document 00611

STATUTORY PAYMENT BOND

THAT WE, _____, as Principal,
hereinafter called Contractor and the other subscriber hereto, _____

_____,
as Surety, do hereby acknowledge ourselves to be held and firmly bound unto the City of Tomball, a municipal corporation, in the sum of \$_____ for the payment of which sum, well and truly to be made to the City of Tomball, and its successors, the said Contractor and Surety do bind themselves, their heirs, executors, administrators, successors, 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 Tomball for _____

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 pay all claimants supplying labor and materials to him or a Subcontractor in the prosecution of the Work provided for in the Contract, then, this obligation shall be void; otherwise the same is to remain in full force and effect;

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

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.

City of Tomball
Pine St. EST Rehabilitation
Project No. 2024-05

STATUTORY PAYMENT BOND

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

Name of Contractor

By: _____
Name:
Title:

By: _____
Name:
Title:
Date:

ATTEST/SURETY WITNESS:
(SEAL)

Full Name of Surety

Address of Surety for Notice

Telephone Number of Surety

By: _____
Name:
Title:
Date:

By: _____
Name:
Title: Attorney-in-Fact
Date:

END OF DOCUMENT

Document 00612

ONE-YEAR MAINTENANCE BOND

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 Tomball, a municipal corporation, in the sum of \$ _____, for the payment of which sum well and truly to be made to the City of Tomball and its successors, the said Contractor and Surety do bind themselves, their heirs, executors, administrators, successors, 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 Tomball for _____

_____ 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 full and completely as if set out in full herein.

NOW THEREFORE, if the said Contractor shall comply with the provisions of Paragraph 13.07 of the General Conditions, and correct work not in accordance with the Contract documents discovered within the established one-year period, then this obligation shall become null and void, and shall be of no further force and effect; otherwise, the same is to remain in full force and effect.

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 States 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, SEAL: (if a corporation)

WITNESS: (if not a corporation)

Name of Contractor

By: _____
Name:
Title:

By: _____
Name:
Title:
Date:

ATTEST/SURETY WITNESS:

(SEAL)

Full Name of Surety

Address of Surety for Notice

Telephone Number of Surety

By: _____
Name:
Title:
Date:

By: _____
Name:
Title: Attorney-in-Fact
Date:

END OF DOCUMENT

Document 00620

AFFIDAVIT OF INSURANCE

BEFORE ME, the undersigned authority, on this day personally appeared

_____, who
Affiant

being by me duly sworn on his oath stated that he is _____, of
Title

Contractor's Company Name

the Contractor named and referred to within the Contract documents; that he is fully competent and authorized to give this affidavit and that the attached original insurance certificate truly and accurately reflects the insurance coverage that is now available and will be available during the term of the Contract.

Affiant's Signature

SWORN AND SUBSCRIBED before me on _____.
Date

Notary Public in and for the State of TEXAS

Print or type Notary Public name

My Commission Expires: _____
Expiration Date

END OF DOCUMENT

City of Tomball
Pine St. EST Rehabilitation
Project No. 2024-05

**CONTRACTOR'S CERTIFICATION
OF FINAL COMPLETION**

Document 00641

CONTRACTOR'S CERTIFICATION OF FINAL COMPLETION

CERTIFICATE OF FINAL COMPLETION OF: Pine St. EST Rehabilitation

Project No.: 2024-05

Contract Dated: _____

BEFORE ME, the undersigned authority, a Notary Public in and for the State of Texas, on this day personally appeared _____ who, being by me duly sworn, on his oath says that he or she represents _____, the Contractor who has performed a contract with the City of Tomball for the construction of the Work described above, and is duly authorized to make this affidavit; that he or she has personally examined the Work described above as required by the Contract documents; that said Work and all items thereof have been completed and all known defects made good; that all surplus material, refuse, dirt and rubbish have been cleaned up and removed or disposed of as directed by the City Engineer; that all parts of Work are in a neat, tidy, finished condition and ready in all respects for acceptance by the City; that all gravel or shell roadway surfaces removed during the course of the Work have been replaced in accordance with the Specifications, that rates of pay for all labor employed on said Work have not been below the minimum set out in "Labor Classification and Minimum Wage Scale" in the Contract documents and that within the knowledge of affiant all just bills for labor and material and for the rental or use of any equipment or apparatus, used in, on, or in connection with the Work have been paid in full by the Contractor.

Affiant's Signature

SWORN AND SUBSCRIBED before me on _____

Date

Notary Public in and for the State of TEXAS

Print or type name

My Commission Expires: _____

Expiration Date

THIS IS TO CERTIFY that I have thoroughly inspected the Work performed by the above named Contractor on the above described Contract and find all things in accordance with the Contract documents governing this Work.

Inspector

[Project Manager or Construction Manager]

City of Tomball
Pine St. EST Rehabilitation
Project No. 2024-05

AFFIDAVIT OF INSURANCE

Approved:

[Title of Approval Authority], [Contracting Department]

END OF DOCUMENT

00641-2
02-01-08

Document 00642

CERTIFICATION OF PAYMENT
TO SUBCONTRACTORS AND SUPPLIERS

The undersigned, _____, states that he is the _____,
of _____,
Affiant Title
Contractor

and that he is duly authorized to execute this Certification of Payment to Subcontractors and Suppliers; that Contractor has made payments to Subcontractors and Suppliers for all labor, materials, equipment, and services furnished to date for Work on Project No. _____ in the amounts for which Contractor has been paid; that the labor, materials, equipment, and services covered by this Certificate of Payment have been furnished in accordance with and all in compliance with the Contract Documents; that no sums have been withheld by Contractor for Subcontractors and Suppliers as a result of any allegations of deficiencies in the Work; and that such payments were made in accordance with the Contract Documents and with the laws of the State of Texas.

Affiant's Signature

SWORN AND SUBSCRIBED before me on _____.
Date

Notary Public in and for the State of TEXAS

Print or type name

City of Tomball
Pine St. EST Rehabilitation
Project No. 2024-05

**CERTIFICATION OF
PAYMENT TO SUBCONTRACTORS**

My Commission Expires: _____
Expiration Date

END OF DOCUMENT

Document 00643

ESTIMATE AND CERTIFICATE FOR PAYMENT, UNIT PRICE WORK

Estimate No. _____
 Cut off Date: _____
 Estimate Date: _____

Project Name: Pine St. EST Rehabilitation
 Contractor: _____
 Address: _____

Contract No.: _____
 Project No.: 2024-05
 Ordinance No.: _____

Contract Date: _____
 Start Date: _____
 Current Contract Completion Date: _____
 Substantial Completion Date: _____
 Percentage: By Time _____% In Place _____%

CONTRACT TIME IN CALENDER DAYS

Original Contract Time: _____ Days
 Approved Extensions: _____ Days
 Total Contract Time: _____ Days
 Days Used to Date: _____ Days
 Days Remaining to Date: _____ Days

Date Insurance Exp. _____ Drug Policy Due _____ Current MWBE % _____ Schedule Update Received _____

CONTRACT AMOUNT TO DATE:

1. Original Contract Price:		\$ _____
2. Approved Change Orders: <u>No./Description</u>	<u>Amount</u>	
_____	\$ _____	
_____	\$ _____	
_____	\$ _____	
_____	\$ _____	
_____	\$ _____	
_____	\$ _____	
Total Change Orders to Date: _____ +/-	\$ _____	\$ _____
TOTAL CONTRACT AMOUNT:		\$ _____

A. EARNINGS TO DATE:

1. Work Completed to Date: _____ % Complete	\$ _____
2. Materials Stored on Site: \$ _____	
3. Materials Stored in Place: \$ _____	
4. Balance - Materials Accepted, Not in Work:	\$ _____
TOTAL EARNINGS TO DATE:	\$ _____

B. DEDUCTIONS:

1. Retainage: _____ % of \$ _____	\$ _____
2. Add: Retainage Deduction: \$ _____	
3. Total Retainage:	\$ _____
4. Liquidated Damages: _____ Days @ \$ _____	\$ _____
5. Quality Control Retest Cost:	\$ _____
6. Sunday/Holiday Overtime Cost:	\$ _____
TOTAL DEDUCTIONS:	\$ _____

C. AMOUNT DUE THIS PERIOD:

1. Total Earnings to Date:	\$ _____
2. Total Deductions:	\$ _____
3. Total Payments Due:	\$ _____
4. Less Previous Payments:	\$ _____
5. Restoration Adjustment:	\$ _____
TOTAL AMOUNT DUE THIS DATE:	\$ _____

Prepared By: _____ Date: _____ Checked By: _____ Date: _____

Submitted By: _____ Date: _____ Approved: _____ Date: _____

Approved: _____ Date: _____

Director,

END OF DOCUMENT

Document 00644

DRUG POLICY COMPLIANCE DECLARATION

BEFORE ME, the undersigned authority, on this day personally appeared

_____ who being by me duly sworn on his oath stated

Affiant

that he is _____ of _____

Title

Contractor's Company Name

the Contractor named and referred to within the Contract documents; that he is fully competent and authorized to give this affidavit and that he has personal knowledge and full authority to make the following declarations:

This reporting period covers the preceding six months from _____ to _____, 20____.

_____ A written Drug Free Workplace Policy has been implemented and employees notified.

Initials The policy meets the criteria established by the Mayor's Amended Policy on Drug Detection and Deterrence (Mayor's Policy).

_____ Written drug testing procedures have been implemented in conformity with the Mayor's

Initials Drug Detection and Deterrence Procedures for Contractors, Executive Order No. . Employees have been notified of such procedures.

_____ Collection/testing has been conducted in compliance with federal Health and Human

Initials Services (HHS) guidelines.

_____ Appropriate safety impact positions have been designated for employee positions performing on the City of Tomball contract. The number of employees in safety impact positions during this reporting period is _____.

_____ From _____ to _____ the following testing has occurred:

Initials

Start date

End date

	<u>Random</u>	<u>Reasonable Suspicion</u>	<u>Post Accident</u>	<u>Total</u>	
Number Employees Tested	_____	_____	_____	_____	
Number Employees Positive	_____	_____	_____	_____	
Percent Employees Positive	_____	_____	_____	_____	_____

_____ Any employee who tested positive was immediately removed from the City
worksite
Initials consistent with the Mayor's Policy and Executive Order No. _____.

_____ I affirm that falsification or failure to submit this declaration timely in accordance
Initials with established guidelines will be considered a breach of contract.

I declare under penalty of perjury that the affirmations made herein and all information contained in this declaration are within my personal knowledge and are true and correct.

Affiant's Signature

SWORN AND SUBSCRIBED before me on

Date

Notary Public in and for the State of TEXAS

Print or type name

My Commission Expires: _____
Expiration Date

END OF DOCUMENT

Document 00645

CERTIFICATE OF SUBSTANTIAL COMPLETION

PROJECT: Pine St. EST Rehabilitation Project

CONTRACT No.: _____

PROJECT No.: 2024-05

TO: _____

Contractor and _____

Address for Written Notice _____

1.01 DATE OF SUBSTANTIAL COMPLETION

The Work performed under the Contract was inspected on _____ and found to be substantially complete. The Date of Substantial Completion of the Work is hereby established as _____.

1.02 PUNCH LIST

A list of items to be completed or corrected, prepared by Contractor and verified by Project Manager, (the "Punch List") is attached hereto. Failure to include any items on such list does not alter the responsibility of Contractor to complete the Work in accordance with the Contract. Contractor shall complete or correct the Work on the Punch List attached hereto within 30 days from the above Date of Substantial Completion.

1.03 OCCUPANCY BY THE CITY

_____ will assume full possession at _____ on _____.

1.04 CONSENT OF SURETY

Contractor shall obtain consent of Surety for approval of reduction in retainage.

1.05 WARRANTY PERIOD

Warranties required by the Contract will commence on the above Date of Substantial Completion.

1.06 TRANSITION OF RESPONSIBILITIES

The City and Contractor agree that security, maintenance, heating, ventilating, air conditioning, utilities, damage to the Work, and insurance, during the period prior to Final Completion, transfer to the City unless otherwise stated in the attached Transition of Responsibilities document.

1.07 CONTRACTOR'S ACKNOWLEDGEMENT

Signature of Contractor, or its agent, acknowledges attached Punch List, referenced in Paragraph 1.02, and Transition of Responsibilities, referenced in Paragraph 1.06.

Contractor

Signature

Date

Inspector

Signature

Date

City of Tomball
Pine St. EST Rehabilitation
Project No. 2024-05

**CERTIFICATE OF
SUBSTANTIAL COMPLETION**

Project Manager or Construction Manager

Signature

Date

[Intermediate Authority]

Signature

Date

City Engineer

Signature

Date

cc: [Design Consultant], [Owning Dept. Director], [Other Copy Addrees], [File]

END OF DOCUMENT

Document 00650

CERTIFICATE OF FINAL COMPLETION

PROJECT: Pine St. EST Rehabilitation Project

CONTRACT No.: _____

PROJECT No.: 2024-05

TO: _____

Contractor and
Address for Written Notice _____

1.01 DATE OF FINAL COMPLETION

The Work performed under the Contract was inspected on _____, and found to be complete. The date of final completion of the Work is hereby established as _____.

1.02 PUNCH LIST

Contractor certified in Document 00641 - Contractor's Certification of Final Completion that all Punch List items were completed or corrected. Failure to identify incomplete work items or requirements of the Contract prior to issuance of this Certificate does not alter the responsibility of Contractor to comply with all provisions of the Contract.

1.03 ACCEPTANCE OF THE WORK

Based on inspection and to the best of our knowledge, information and belief, the Work has been completed in accordance with the terms and conditions of the Contract and we recommend acceptance of the Work by City Council or their delegated authority.

Inspector Signature Date

Project Manager or Construction Manager Signature Date

[Intermediate Authority] Signature Date

City Engineer Signature Date

1.04 TRANSITION OF RESPONSIBILITIES

Except as provided in the Contract documents attached hereto, _____ accepts the Work as complete and accepts responsibility for security, maintenance, heating, ventilating, air conditioning, utilities, damage to the Work, and insurance, that has not been previously transferred from Contractor.

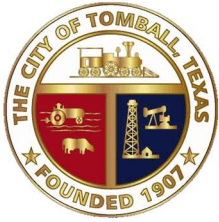
[Owning Department or User Group] Signature Date

City of Tomball
Pine St. EST Rehabilitation
Project No. 2024-05

**CERTIFICATE OF
FINAL COMPLETION**

END OF DOCUMENT

cc: [Design Consultant], [Owning Dept. Director], [Other Copy Addrees], [File]



CITY OF TOMBALL

Engineering & Planning
Department

Mayor

Director
Engineering & Planning
Department

Tomball, Texas

T. 281

F. 281

[Date]

[Contractor]
[Contractor's Address]
[City, ST Zip]

ATTN: [Contractor Contact]

RE: ACCEPTANCE OF
Pine St. EST REHABILITATION PROJECT

Dear _____,

Please be advised that the wastewater lines in ***Elevated Storage Tank Rehabilitation Project*** have been accepted by the City of Tomball as shown below:

1. [Start Point] [Direction] to [End Point], [X]' of [Y]" Pipe, \$[Dollar Value]
2. [Start Point] [Direction] to [End Point], [X]' of [Y]" Pipe, \$[Dollar Value]
3. [Start Point] [Direction] to [End Point], [X]' of [Y]" Pipe, \$[Dollar Value]

Date of Acceptance: [Date of Final Completion]

One year warranty period begins on **[Date of Substantial Completion]** and ends on **[Calculated End Date]** for the infrastructure listed above. [One year surface correction warranty period begins on that end date and extends the warranty for surface restoration of waterline work one additional year.]

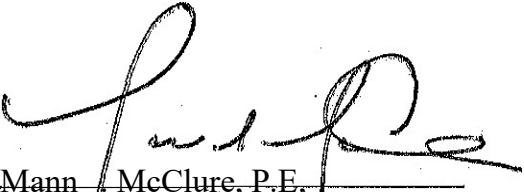
Sincerely,

City Engineer

JJS:xxx

c: [Additional Distribution]

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Mann McClure, P.E.,
Director of Engineering & Planning

This document has important legal consequences; consultation with an attorney is encouraged with respect to its use or modification. This document should be adapted to the particular circumstances of the contemplated Project and the controlling Laws and Regulations.

STANDARD GENERAL CONDITIONS OF THE CONSTRUCTION CONTRACT

Prepared By



Endorsed By



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STANDARD GENERAL CONDITIONS OF THE CONSTRUCTION CONTRACT

ARTICLE 1—DEFINITIONS AND TERMINOLOGY

1.01 *Defined Terms*

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

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

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

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

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

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

1.02 Terminology

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

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

ARTICLE 2—PRELIMINARY MATTERS

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

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

2.02 *Copies of Documents*

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

2.03 *Before Starting Construction*

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

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

2.04 *Preconstruction Conference; Designation of Authorized Representatives*

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

2.05 *Acceptance of Schedules*

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

2.06 *Electronic Transmittals*

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

ARTICLE 3—CONTRACT DOCUMENTS: INTENT, REQUIREMENTS, REUSE

3.01 *Intent*

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

3.02 *Reference Standards*

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

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

3.03 *Reporting and Resolving Discrepancies*

A. *Reporting Discrepancies*

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

B. *Resolving Discrepancies*

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

3.04 *Requirements of the Contract Documents*

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

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

3.05 *Reuse of Documents*

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

ARTICLE 4—COMMENCEMENT AND PROGRESS OF THE WORK

4.01 *Commencement of Contract Times; Notice to Proceed*

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

4.02 *Starting the Work*

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

4.03 *Reference Points*

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

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

4.04 *Progress Schedule*

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

4.05 *Delays in Contractor's Progress*

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

- D. Contractor's entitlement to an adjustment of Contract Times or Contract Price is limited as follows:
1. Contractor's entitlement to an adjustment of the Contract Times is conditioned on the delay, disruption, or interference adversely affecting an activity on the critical path to completion of the Work, as of the time of the delay, disruption, or interference.
 2. Contractor shall not be entitled to an adjustment in Contract Price for any delay, disruption, or interference if such delay is concurrent with a delay, disruption, or interference caused by or within the control of Contractor. Such a concurrent delay by Contractor shall not preclude an adjustment of Contract Times to which Contractor is otherwise entitled.
 3. Adjustments of Contract Times or Contract Price are subject to the provisions of Article 11.
- E. Each Contractor request or Change Proposal seeking an increase in Contract Times or Contract Price must be supplemented by supporting data that sets forth in detail the following:
1. The circumstances that form the basis for the requested adjustment;
 2. The date upon which each cause of delay, disruption, or interference began to affect the progress of the Work;
 3. The date upon which each cause of delay, disruption, or interference ceased to affect the progress of the Work;
 4. The number of days' increase in Contract Times claimed as a consequence of each such cause of delay, disruption, or interference; and
 5. The impact on Contract Price, in accordance with the provisions of Paragraph 11.07.
- Contractor shall also furnish such additional supporting documentation as Owner or Engineer may require including, where appropriate, a revised progress schedule indicating all the activities affected by the delay, disruption, or interference, and an explanation of the effect of the delay, disruption, or interference on the critical path to completion of the Work.
- F. Delays, disruption, and interference to the performance or progress of the Work resulting from the existence of a differing subsurface or physical condition, an Underground Facility that was not shown or indicated by the Contract Documents, or not shown or indicated with reasonable accuracy, and those resulting from Hazardous Environmental Conditions, are governed by Article 5, together with the provisions of Paragraphs 4.05.D and 4.05.E.
- G. Paragraph 8.03 addresses delays, disruption, and interference to the performance or progress of the Work resulting from the performance of certain other work at or adjacent to the Site.

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

5.01 *Availability of Lands*

- A. Owner shall furnish the Site. Owner shall notify Contractor in writing of any encumbrances or restrictions not of general application but specifically related to use of the Site with which Contractor must comply in performing the Work.

- B. Upon reasonable written request, Owner shall furnish Contractor with a current statement of record legal title and legal description of the lands upon which permanent improvements are to be made and Owner's interest therein as necessary for giving notice of or filing a mechanic's or construction lien against such lands in accordance with applicable Laws and Regulations.
- C. Contractor shall provide for all additional lands and access thereto that may be required for temporary construction facilities or storage of materials and equipment.

5.02 *Use of Site and Other Areas*

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

1. Contractor shall confine construction equipment, temporary construction facilities, the storage of materials and equipment, and the operations of workers to the Site, adjacent areas that Contractor has arranged to use through construction easements or otherwise, and other adjacent areas permitted by Laws and Regulations, and shall not unreasonably encumber the Site and such other adjacent areas with construction equipment or other materials or equipment. Contractor shall assume full responsibility for (a) damage to the Site; (b) damage to any such other adjacent areas used for Contractor's operations; (c) damage to any other adjacent land or areas, or to improvements, structures, utilities, or similar facilities located at such adjacent lands or areas; and (d) for injuries and losses sustained by the owners or occupants of any such land or areas; provided that such damage or injuries result from the performance of the Work or from other actions or conduct of the Contractor or those for which Contractor is responsible.
 2. If a damage or injury claim is made by the owner or occupant of any such land or area because of the performance of the Work, or because of other actions or conduct of the Contractor or those for which Contractor is responsible, Contractor shall (a) take immediate corrective or remedial action as required by Paragraph 7.13, or otherwise; (b) promptly attempt to settle the claim as to all parties through negotiations with such owner or occupant, or otherwise resolve the claim by arbitration or other dispute resolution proceeding, or in a court of competent jurisdiction; and (c) to the fullest extent permitted by Laws and Regulations, indemnify and hold harmless Owner and Engineer, and the officers, directors, members, partners, employees, agents, consultants and subcontractors of each and any of them, from and against any such claim, and against all costs, losses, and damages (including but not limited to all fees and charges of engineers, architects, attorneys, and other professionals and all court or arbitration or other dispute resolution costs) arising out of or relating to any claim or action, legal or equitable, brought by any such owner or occupant against Owner, Engineer, or any other party indemnified hereunder to the extent caused directly or indirectly, in whole or in part by, or based upon, Contractor's performance of the Work, or because of other actions or conduct of the Contractor or those for which Contractor is responsible.
- B. *Removal of Debris During Performance of the Work:* During the progress of the Work the Contractor shall keep the Site and other adjacent areas free from accumulations of waste materials, rubbish, and other debris. Removal and disposal of such waste materials, rubbish, and other debris will conform to applicable Laws and Regulations.
 - C. *Cleaning:* Prior to Substantial Completion of the Work Contractor shall clean the Site and the Work and make it ready for utilization by Owner. At the completion of the Work Contractor shall remove from the Site and adjacent areas all tools, appliances, construction equipment

and machinery, and surplus materials and shall restore to original condition all property not designated for alteration by the Contract Documents.

- D. *Loading of Structures:* Contractor shall not load nor permit any part of any structure to be loaded in any manner that will endanger the structure, nor shall Contractor subject any part of the Work or adjacent structures or land to stresses or pressures that will endanger them.

5.03 *Subsurface and Physical Conditions*

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

1. Those reports of explorations and tests of subsurface conditions at or adjacent to the Site that contain Technical Data;
2. Those drawings of existing physical conditions at or adjacent to the Site, including those drawings depicting existing surface or subsurface structures at or adjacent to the Site (except Underground Facilities), that contain Technical Data; and
3. Technical Data contained in such reports and drawings.

- B. *Underground Facilities:* Underground Facilities are shown or indicated on the Drawings, pursuant to Paragraph 5.05, and not in the drawings referred to in Paragraph 5.03.A. Information and data regarding the presence or location of Underground Facilities are not intended to be categorized, identified, or defined as Technical Data.

- C. *Reliance by Contractor on Technical Data:* Contractor may rely upon the accuracy of the Technical Data expressly identified in the Supplementary Conditions with respect to such reports and drawings, but such reports and drawings are not Contract Documents. If no such express identification has been made, then Contractor may rely upon the accuracy of the Technical Data as defined in Paragraph 1.01.A.46.b.

- D. *Limitations of Other Data and Documents:* Except for such reliance on Technical Data, Contractor may not rely upon or make any claim against Owner or Engineer, or any of their officers, directors, members, partners, employees, agents, consultants, or subcontractors, with respect to:

1. the completeness of such reports and drawings for Contractor's purposes, including, but not limited to, any aspects of the means, methods, techniques, sequences, and procedures of construction to be employed by Contractor, and safety precautions and programs incident thereto;
2. other data, interpretations, opinions, and information contained in such reports or shown or indicated in such drawings;
3. the contents of other Site-related documents made available to Contractor, such as record drawings from other projects at or adjacent to the Site, or Owner's archival documents concerning the Site; or
4. any Contractor interpretation of or conclusion drawn from any Technical Data or any such other data, interpretations, opinions, or information.

5.04 *Differing Subsurface or Physical Conditions*

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

then Contractor shall, promptly after becoming aware thereof and before further disturbing the subsurface or physical conditions or performing any Work in connection therewith (except in an emergency as required by Paragraph 7.15), notify Owner and Engineer in writing about such condition. Contractor shall not further disturb such condition or perform any Work in connection therewith (except with respect to an emergency) until receipt of a written statement permitting Contractor to do so.

- B. *Engineer's Review:* After receipt of written notice as required by the preceding paragraph, Engineer will promptly review the subsurface or physical condition in question; determine whether it is necessary for Owner to obtain additional exploration or tests with respect to the condition; conclude whether the condition falls within any one or more of the differing site condition categories in Paragraph 5.04.A; obtain any pertinent cost or schedule information from Contractor; prepare recommendations to Owner regarding the Contractor's resumption of Work in connection with the subsurface or physical condition in question and the need for any change in the Drawings or Specifications; and advise Owner in writing of Engineer's findings, conclusions, and recommendations.
- C. *Owner's Statement to Contractor Regarding Site Condition:* After receipt of Engineer's written findings, conclusions, and recommendations, Owner shall issue a written statement to Contractor (with a copy to Engineer) regarding the subsurface or physical condition in question, addressing the resumption of Work in connection with such condition, indicating whether any change in the Drawings or Specifications will be made, and adopting or rejecting Engineer's written findings, conclusions, and recommendations, in whole or in part.
- D. *Early Resumption of Work:* If at any time Engineer determines that Work in connection with the subsurface or physical condition in question may resume prior to completion of Engineer's review or Owner's issuance of its statement to Contractor, because the condition in question has been adequately documented, and analyzed on a preliminary basis, then the Engineer may at its discretion instruct Contractor to resume such Work.
- E. *Possible Price and Times Adjustments*
1. Contractor shall be entitled to an equitable adjustment in Contract Price or Contract Times, to the extent that the existence of a differing subsurface or physical condition, or any related delay, disruption, or interference, causes an increase or decrease in

Contractor's cost of, or time required for, performance of the Work; subject, however, to the following:

- a. Such condition must fall within any one or more of the categories described in Paragraph 5.04.A;
 - b. With respect to Work that is paid for on a unit price basis, any adjustment in Contract Price will be subject to the provisions of Paragraph 13.03; and,
 - c. Contractor's entitlement to an adjustment of the Contract Times is subject to the provisions of Paragraphs 4.05.D and 4.05.E.
2. Contractor shall not be entitled to any adjustment in the Contract Price or Contract Times with respect to a subsurface or physical condition if:
- a. Contractor knew of the existence of such condition at the time Contractor made a commitment to Owner with respect to Contract Price and Contract Times by the submission of a Bid or becoming bound under a negotiated contract, or otherwise;
 - b. The existence of such condition reasonably could have been discovered or revealed as a result of any examination, investigation, exploration, test, or study of the Site and contiguous areas expressly required by the Bidding Requirements or Contract Documents to be conducted by or for Contractor prior to Contractor's making such commitment; or
 - c. Contractor failed to give the written notice required by Paragraph 5.04.A.
3. If Owner and Contractor agree regarding Contractor's entitlement to and the amount or extent of any adjustment in the Contract Price or Contract Times, then any such adjustment will be set forth in a Change Order.
4. Contractor may submit a Change Proposal regarding its entitlement to or the amount or extent of any adjustment in the Contract Price or Contract Times, no later than 30 days after Owner's issuance of the Owner's written statement to Contractor regarding the subsurface or physical condition in question.
- F. *Underground Facilities; Hazardous Environmental Conditions*: Paragraph 5.05 governs rights and responsibilities regarding the presence or location of Underground Facilities. Paragraph 5.06 governs rights and responsibilities regarding Hazardous Environmental Conditions. The provisions of Paragraphs 5.03 and 5.04 are not applicable to the presence or location of Underground Facilities, or to Hazardous Environmental Conditions.

5.05 *Underground Facilities*

- A. *Contractor's Responsibilities*: Unless it is otherwise expressly provided in the Supplementary Conditions, the cost of all of the following are included in the Contract Price, and Contractor shall have full responsibility for:
1. reviewing and checking all information and data regarding existing Underground Facilities at the Site;
 2. complying with applicable state and local utility damage prevention Laws and Regulations;

3. verifying the actual location of those Underground Facilities shown or indicated in the Contract Documents as being within the area affected by the Work, by exposing such Underground Facilities during the course of construction;
 4. coordination of the Work with the owners (including Owner) of such Underground Facilities, during construction; and
 5. the safety and protection of all existing Underground Facilities at the Site, and repairing any damage thereto resulting from the Work.
- B. *Notice by Contractor:* If Contractor believes that an Underground Facility that is uncovered or revealed at the Site was not shown or indicated on the Drawings, or was not shown or indicated on the Drawings with reasonable accuracy, then Contractor shall, promptly after becoming aware thereof and before further disturbing conditions affected thereby or performing any Work in connection therewith (except in an emergency as required by Paragraph 7.15), notify Owner and Engineer in writing regarding such Underground Facility.
- C. *Engineer's Review:* Engineer will:
1. promptly review the Underground Facility and conclude whether such Underground Facility was not shown or indicated on the Drawings, or was not shown or indicated with reasonable accuracy;
 2. identify and communicate with the owner of the Underground Facility; prepare recommendations to Owner (and if necessary issue any preliminary instructions to Contractor) regarding the Contractor's resumption of Work in connection with the Underground Facility in question;
 3. obtain any pertinent cost or schedule information from Contractor; determine the extent, if any, to which a change is required in the Drawings or Specifications to reflect and document the consequences of the existence or location of the Underground Facility; and
 4. advise Owner in writing of Engineer's findings, conclusions, and recommendations.

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

- D. *Owner's Statement to Contractor Regarding Underground Facility:* After receipt of Engineer's written findings, conclusions, and recommendations, Owner shall issue a written statement to Contractor (with a copy to Engineer) regarding the Underground Facility in question addressing the resumption of Work in connection with such Underground Facility, indicating whether any change in the Drawings or Specifications will be made, and adopting or rejecting Engineer's written findings, conclusions, and recommendations in whole or in part.
- E. *Early Resumption of Work:* If at any time Engineer determines that Work in connection with the Underground Facility may resume prior to completion of Engineer's review or Owner's issuance of its statement to Contractor, because the Underground Facility in question and conditions affected by its presence have been adequately documented, and analyzed on a preliminary basis, then the Engineer may at its discretion instruct Contractor to resume such Work.
- F. *Possible Price and Times Adjustments*
1. Contractor shall be entitled to an equitable adjustment in the Contract Price or Contract Times, to the extent that any existing Underground Facility at the Site that was not shown

or indicated on the Drawings, or was not shown or indicated with reasonable accuracy, or any related delay, disruption, or interference, causes an increase or decrease in Contractor's cost of, or time required for, performance of the Work; subject, however, to the following:

- a. With respect to Work that is paid for on a unit price basis, any adjustment in Contract Price will be subject to the provisions of Paragraph 13.03;
 - b. Contractor's entitlement to an adjustment of the Contract Times is subject to the provisions of Paragraphs 4.05.D and 4.05.E; and
 - c. Contractor gave the notice required in Paragraph 5.05.B.
2. If Owner and Contractor agree regarding Contractor's entitlement to and the amount or extent of any adjustment in the Contract Price or Contract Times, then any such adjustment will be set forth in a Change Order.
 3. Contractor may submit a Change Proposal regarding its entitlement to or the amount or extent of any adjustment in the Contract Price or Contract Times, no later than 30 days after Owner's issuance of the Owner's written statement to Contractor regarding the Underground Facility in question.
 4. The information and data shown or indicated on the Drawings with respect to existing Underground Facilities at the Site is based on information and data (a) furnished by the owners of such Underground Facilities, or by others, (b) obtained from available records, or (c) gathered in an investigation conducted in accordance with the current edition of ASCE 38, Standard Guideline for the Collection and Depiction of Existing Subsurface Utility Data, by the American Society of Civil Engineers. If such information or data is incorrect or incomplete, Contractor's remedies are limited to those set forth in this Paragraph 5.05.F.

5.06 *Hazardous Environmental Conditions at Site*

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

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

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

1. the completeness of such reports and drawings for Contractor's purposes, including, but not limited to, any aspects of the means, methods, techniques, sequences and procedures

- of construction to be employed by Contractor, and safety precautions and programs incident thereto;
2. other data, interpretations, opinions, and information contained in such reports or shown or indicated in such drawings; or
 3. any Contractor interpretation of or conclusion drawn from any Technical Data or any such other data, interpretations, opinions or information.
- C. Contractor shall not be responsible for removing or remediating any Hazardous Environmental Condition encountered, uncovered, or revealed at the Site unless such removal or remediation is expressly identified in the Contract Documents to be within the scope of the Work.
- D. Contractor shall be responsible for controlling, containing, and duly removing all Constituents of Concern brought to the Site by Contractor, Subcontractors, Suppliers, or anyone else for whom Contractor is responsible, and for any associated costs; and for the costs of removing and remediating any Hazardous Environmental Condition created by the presence of any such Constituents of Concern.
- E. If Contractor encounters, uncovers, or reveals a Hazardous Environmental Condition whose removal or remediation is not expressly identified in the Contract Documents as being within the scope of the Work, or if Contractor or anyone for whom Contractor is responsible creates a Hazardous Environmental Condition, then Contractor shall immediately: (1) secure or otherwise isolate such condition; (2) stop all Work in connection with such condition and in any area affected thereby (except in an emergency as required by Paragraph 7.15); and (3) notify Owner and Engineer (and promptly thereafter confirm such notice in writing). Owner shall promptly consult with Engineer concerning the necessity for Owner to retain a qualified expert to evaluate such condition or take corrective action, if any. Promptly after consulting with Engineer, Owner shall take such actions as are necessary to permit Owner to timely obtain required permits and provide Contractor the written notice required by Paragraph 5.06.F. If Contractor or anyone for whom Contractor is responsible created the Hazardous Environmental Condition in question, then Owner may remove and remediate the Hazardous Environmental Condition, and impose a set-off against payments to account for the associated costs.
- F. Contractor shall not resume Work in connection with such Hazardous Environmental Condition or in any affected area until after Owner has obtained any required permits related thereto, and delivered written notice to Contractor either (1) specifying that such condition and any affected area is or has been rendered safe for the resumption of Work, or (2) specifying any special conditions under which such Work may be resumed safely.
- G. If Owner and Contractor cannot agree as to entitlement to or on the amount or extent, if any, of any adjustment in Contract Price or Contract Times, as a result of such Work stoppage, such special conditions under which Work is agreed to be resumed by Contractor, or any costs or expenses incurred in response to the Hazardous Environmental Condition, then within 30 days of Owner's written notice regarding the resumption of Work, Contractor may submit a Change Proposal, or Owner may impose a set-off. Entitlement to any such adjustment is subject to the provisions of Paragraphs 4.05.D, 4.05.E, 11.07, and 11.08.
- H. If, after receipt of such written notice, Contractor does not agree to resume such Work based on a reasonable belief it is unsafe, or does not agree to resume such Work under such special

conditions, then Owner may order the portion of the Work that is in the area affected by such condition to be deleted from the Work, following the contractual change procedures in Article 11. Owner may have such deleted portion of the Work performed by Owner's own forces or others in accordance with Article 8.

- I. To the fullest extent permitted by Laws and Regulations, Owner shall indemnify and hold harmless Contractor, Subcontractors, and Engineer, and the officers, directors, members, partners, employees, agents, consultants, and subcontractors of each and any of them, from and against all claims, costs, losses, and damages (including but not limited to all fees and charges of engineers, architects, attorneys, and other professionals, and all court, arbitration, or other dispute resolution costs) arising out of or relating to a Hazardous Environmental Condition, provided that such Hazardous Environmental Condition (1) was not shown or indicated in the Drawings, Specifications, or other Contract Documents, identified as Technical Data entitled to limited reliance pursuant to Paragraph 5.06.B, or identified in the Contract Documents to be included within the scope of the Work, and (2) was not created by Contractor or by anyone for whom Contractor is responsible. Nothing in this Paragraph 5.06.I obligates Owner to indemnify any individual or entity from and against the consequences of that individual's or entity's own negligence.
- J. To the fullest extent permitted by Laws and Regulations, Contractor shall indemnify and hold harmless Owner and Engineer, and the officers, directors, members, partners, employees, agents, consultants, and subcontractors of each and any of them, from and against all claims, costs, losses, and damages (including but not limited to all fees and charges of engineers, architects, attorneys, and other professionals and all court or arbitration or other dispute resolution costs) arising out of or relating to the failure to control, contain, or remove a Constituent of Concern brought to the Site by Contractor or by anyone for whom Contractor is responsible, or to a Hazardous Environmental Condition created by Contractor or by anyone for whom Contractor is responsible. Nothing in this Paragraph 5.06.J obligates Contractor to indemnify any individual or entity from and against the consequences of that individual's or entity's own negligence.
- K. The provisions of Paragraphs 5.03, 5.04, and 5.05 do not apply to the presence of Constituents of Concern or to a Hazardous Environmental Condition uncovered or revealed at the Site.

ARTICLE 6—BONDS AND INSURANCE

6.01 *Performance, Payment, and Other Bonds*

- A. Contractor shall furnish a performance bond and a payment bond, each in an amount at least equal to the Contract Price, as security for the faithful performance and payment of Contractor's obligations under the Contract. These bonds must remain in effect until one year after the date when final payment becomes due or until completion of the correction period specified in Paragraph 15.08, whichever is later, except as provided otherwise by Laws or Regulations, the terms of a prescribed bond form, the Supplementary Conditions, or other provisions of the Contract.
- B. Contractor shall also furnish such other bonds (if any) as are required by the Supplementary Conditions or other provisions of the Contract.
- C. All bonds must be in the form included in the Bidding Documents or otherwise specified by Owner prior to execution of the Contract, except as provided otherwise by Laws or

Regulations, and must be issued and signed by a surety named in “Companies Holding Certificates of Authority as Acceptable Sureties on Federal Bonds and as Acceptable Reinsuring Companies” as published in Department Circular 570 (as amended and supplemented) by the Bureau of the Fiscal Service, U.S. Department of the Treasury. A bond signed by an agent or attorney-in-fact must be accompanied by a certified copy of that individual’s authority to bind the surety. The evidence of authority must show that it is effective on the date the agent or attorney-in-fact signed the accompanying bond.

- D. Contractor shall obtain the required bonds from surety companies that are duly licensed or authorized, in the state or jurisdiction in which the Project is located, to issue bonds in the required amounts.
- E. If the surety on a bond furnished by Contractor is declared bankrupt or becomes insolvent, or the surety ceases to meet the requirements above, then Contractor shall promptly notify Owner and Engineer in writing and shall, within 20 days after the event giving rise to such notification, provide another bond and surety, both of which must comply with the bond and surety requirements above.
- F. If Contractor has failed to obtain a required bond, Owner may exclude the Contractor from the Site and exercise Owner’s termination rights under Article 16.
- G. Upon request to Owner from any Subcontractor, Supplier, or other person or entity claiming to have furnished labor, services, materials, or equipment used in the performance of the Work, Owner shall provide a copy of the payment bond to such person or entity.
- H. Upon request to Contractor from any Subcontractor, Supplier, or other person or entity claiming to have furnished labor, services, materials, or equipment used in the performance of the Work, Contractor shall provide a copy of the payment bond to such person or entity.

6.02 *Insurance—General Provisions*

- A. Owner and Contractor shall obtain and maintain insurance as required in this article and in the Supplementary Conditions.
- B. All insurance required by the Contract to be purchased and maintained by Owner or Contractor shall be obtained from insurance companies that are duly licensed or authorized in the state or jurisdiction in which the Project is located to issue insurance policies for the required limits and coverages. Unless a different standard is indicated in the Supplementary Conditions, all companies that provide insurance policies required under this Contract shall have an A.M. Best rating of A-VII or better.
- C. Alternative forms of insurance coverage, including but not limited to self-insurance and “Occupational Accident and Excess Employer’s Indemnity Policies,” are not sufficient to meet the insurance requirements of this Contract, unless expressly allowed in the Supplementary Conditions.
- D. Contractor shall deliver to Owner, with copies to each additional insured identified in the Contract, certificates of insurance and endorsements establishing that Contractor has obtained and is maintaining the policies and coverages required by the Contract. Upon request by Owner or any other insured, Contractor shall also furnish other evidence of such required insurance, including but not limited to copies of policies, documentation of applicable self-insured retentions (if allowed) and deductibles, full disclosure of all relevant exclusions, and evidence of insurance required to be purchased and maintained by

- Subcontractors or Suppliers. In any documentation furnished under this provision, Contractor, Subcontractors, and Suppliers may block out (redact) (1) any confidential premium or pricing information and (2) any wording specific to a project or jurisdiction other than those applicable to this Contract.
- E. Owner shall deliver to Contractor, with copies to each additional insured identified in the Contract, certificates of insurance and endorsements establishing that Owner has obtained and is maintaining the policies and coverages required of Owner by the Contract (if any). Upon request by Contractor or any other insured, Owner shall also provide other evidence of such required insurance (if any), including but not limited to copies of policies, documentation of applicable self-insured retentions (if allowed) and deductibles, and full disclosure of all relevant exclusions. In any documentation furnished under this provision, Owner may block out (redact) (1) any confidential premium or pricing information and (2) any wording specific to a project or jurisdiction other than those relevant to this Contract.
 - F. Failure of Owner or Contractor to demand such certificates or other evidence of the other party's full compliance with these insurance requirements, or failure of Owner or Contractor to identify a deficiency in compliance from the evidence provided, will not be construed as a waiver of the other party's obligation to obtain and maintain such insurance.
 - G. In addition to the liability insurance required to be provided by Contractor, the Owner, at Owner's option, may purchase and maintain Owner's own liability insurance. Owner's liability policies, if any, operate separately and independently from policies required to be provided by Contractor, and Contractor cannot rely upon Owner's liability policies for any of Contractor's obligations to the Owner, Engineer, or third parties.
 - H. Contractor shall require:
 - 1. Subcontractors to purchase and maintain worker's compensation, commercial general liability, and other insurance that is appropriate for their participation in the Project, and to name as additional insureds Owner and Engineer (and any other individuals or entities identified in the Supplementary Conditions as additional insureds on Contractor's liability policies) on each Subcontractor's commercial general liability insurance policy; and
 - 2. Suppliers to purchase and maintain insurance that is appropriate for their participation in the Project.
 - I. If either party does not purchase or maintain the insurance required of such party by the Contract, such party shall notify the other party in writing of such failure to purchase prior to the start of the Work, or of such failure to maintain prior to any change in the required coverage.
 - J. If Contractor has failed to obtain and maintain required insurance, Contractor's entitlement to enter or remain at the Site will end immediately, and Owner may impose an appropriate set-off against payment for any associated costs (including but not limited to the cost of purchasing necessary insurance coverage), and exercise Owner's termination rights under Article 16.
 - K. Without prejudice to any other right or remedy, if a party has failed to obtain required insurance, the other party may elect (but is in no way obligated) to obtain equivalent insurance to protect such other party's interests at the expense of the party who was required to provide such coverage, and the Contract Price will be adjusted accordingly.

- L. Owner does not represent that insurance coverage and limits established in this Contract necessarily will be adequate to protect Contractor or Contractor's interests. Contractor is responsible for determining whether such coverage and limits are adequate to protect its interests, and for obtaining and maintaining any additional insurance that Contractor deems necessary.
- M. The insurance and insurance limits required herein will not be deemed as a limitation on Contractor's liability, or that of its Subcontractors or Suppliers, under the indemnities granted to Owner and other individuals and entities in the Contract or otherwise.
- N. All the policies of insurance required to be purchased and maintained under this Contract will contain a provision or endorsement that the coverage afforded will not be canceled, or renewal refused, until at least 10 days prior written notice has been given to the purchasing policyholder. Within three days of receipt of any such written notice, the purchasing policyholder shall provide a copy of the notice to each other insured and Engineer.

6.03 *Contractor's Insurance*

- A. *Required Insurance:* Contractor shall purchase and maintain Worker's Compensation, Commercial General Liability, and other insurance pursuant to the specific requirements of the Supplementary Conditions.
- B. *General Provisions:* The policies of insurance required by this Paragraph 6.03 as supplemented must:
 1. include at least the specific coverages required;
 2. be written for not less than the limits provided, or those required by Laws or Regulations, whichever is greater;
 3. remain in effect at least until the Work is complete (as set forth in Paragraph 15.06.D), and longer if expressly required elsewhere in this Contract, and at all times thereafter when Contractor may be correcting, removing, or replacing defective Work as a warranty or correction obligation, or otherwise, or returning to the Site to conduct other tasks arising from the Contract;
 4. apply with respect to the performance of the Work, whether such performance is by Contractor, any Subcontractor or Supplier, or by anyone directly or indirectly employed by any of them to perform any of the Work, or by anyone for whose acts any of them may be liable; and
 5. include all necessary endorsements to support the stated requirements.
- C. *Additional Insureds:* The Contractor's commercial general liability, automobile liability, employer's liability, umbrella or excess, pollution liability, and unmanned aerial vehicle liability policies, if required by this Contract, must:
 1. include and list as additional insureds Owner and Engineer, and any individuals or entities identified as additional insureds in the Supplementary Conditions;
 2. include coverage for the respective officers, directors, members, partners, employees, and consultants of all such additional insureds;
 3. afford primary coverage to these additional insureds for all claims covered thereby (including as applicable those arising from both ongoing and completed operations);

4. not seek contribution from insurance maintained by the additional insured; and
5. as to commercial general liability insurance, apply to additional insureds with respect to liability caused in whole or in part by Contractor's acts or omissions, or the acts and omissions of those working on Contractor's behalf, in the performance of Contractor's operations.

6.04 *Builder's Risk and Other Property Insurance*

- A. ~~*Builder's Risk:* Unless otherwise provided in the Supplementary Conditions, Contractor shall purchase and maintain builder's risk insurance upon the Work on a completed value basis, in the amount of the Work's full insurable replacement cost (subject to such deductible amounts as may be provided in the Supplementary Conditions or required by Laws and Regulations). The specific requirements applicable to the builder's risk insurance are set forth in the Supplementary Conditions. See SC 6.04 A~~
- B. *Property Insurance for Facilities of Owner Where Work Will Occur:* Owner is responsible for obtaining and maintaining property insurance covering each existing structure, building, or facility in which any part of the Work will occur, or to which any part of the Work will attach or be adjoined. Such property insurance will be written on a special perils (all-risk) form, on a replacement cost basis, providing coverage consistent with that required for the builder's risk insurance, and will be maintained until the Work is complete, as set forth in Paragraph 15.06.D.
- C. *Property Insurance for Substantially Complete Facilities:* Promptly after Substantial Completion, and before actual occupancy or use of the substantially completed Work, Owner will obtain property insurance for such substantially completed Work, and maintain such property insurance at least until the Work is complete, as set forth in Paragraph 15.06.D. Such property insurance will be written on a special perils (all-risk) form, on a replacement cost basis, and provide coverage consistent with that required for the builder's risk insurance. The builder's risk insurance may terminate upon written confirmation of Owner's procurement of such property insurance.
- D. *Partial Occupancy or Use by Owner:* If Owner will occupy or use a portion or portions of the Work prior to Substantial Completion of all the Work, as provided in Paragraph 15.04, then Owner (directly, if it is the purchaser of the builder's risk policy, or through Contractor) will provide advance notice of such occupancy or use to the builder's risk insurer, and obtain an endorsement consenting to the continuation of coverage prior to commencing such partial occupancy or use.
- E. *Insurance of Other Property; Additional Insurance:* If the express insurance provisions of the Contract do not require or address the insurance of a property item or interest, then the entity or individual owning such property item will be responsible for insuring it. If Contractor elects to obtain other special insurance to be included in or supplement the builder's risk or property insurance policies provided under this Paragraph 6.04, it may do so at Contractor's expense.

6.05 *Property Losses; Subrogation*

- A. The builder's risk insurance policy purchased and maintained in accordance with Paragraph 6.04 (or an installation floater policy if authorized by the Supplementary Conditions), will contain provisions to the effect that in the event of payment of any loss or damage the insurer will have no rights of recovery against any insureds thereunder, or against

Engineer or its consultants, or their officers, directors, members, partners, employees, agents, consultants, or subcontractors.

1. Owner and Contractor waive all rights against each other and the respective officers, directors, members, partners, employees, agents, consultants, and subcontractors of each and any of them, for all losses and damages caused by, arising out of, or resulting from any of the perils, risks, or causes of loss covered by such policies and any other property insurance applicable to the Work; and, in addition, waive all such rights against Engineer, its consultants, all individuals or entities identified in the Supplementary Conditions as builder's risk or installation floater insureds, and the officers, directors, members, partners, employees, agents, consultants, and subcontractors of each and any of them, under such policies for losses and damages so caused.
 2. None of the above waivers extends to the rights that any party making such waiver may have to the proceeds of insurance held by Owner or Contractor as trustee or fiduciary, or otherwise payable under any policy so issued.
- B. Any property insurance policy maintained by Owner covering any loss, damage, or consequential loss to Owner's existing structures, buildings, or facilities in which any part of the Work will occur, or to which any part of the Work will attach or adjoin; to adjacent structures, buildings, or facilities of Owner; or to part or all of the completed or substantially completed Work, during partial occupancy or use pursuant to Paragraph 15.04, after Substantial Completion pursuant to Paragraph 15.03, or after final payment pursuant to Paragraph 15.06, will contain provisions to the effect that in the event of payment of any loss or damage the insurer will have no rights of recovery against any insureds thereunder, or against Contractor, Subcontractors, or Engineer, or the officers, directors, members, partners, employees, agents, consultants, or subcontractors of each and any of them, and that the insured is allowed to waive the insurer's rights of subrogation in a written contract executed prior to the loss, damage, or consequential loss.
1. Owner waives all rights against Contractor, Subcontractors, and Engineer, and the officers, directors, members, partners, employees, agents, consultants and subcontractors of each and any of them, for all losses and damages caused by, arising out of, or resulting from fire or any of the perils, risks, or causes of loss covered by such policies.
- C. The waivers in this Paragraph 6.05 include the waiver of rights due to business interruption, loss of use, or other consequential loss extending beyond direct physical loss or damage to Owner's property or the Work caused by, arising out of, or resulting from fire or other insured peril, risk, or cause of loss.
- D. Contractor shall be responsible for assuring that each Subcontract contains provisions whereby the Subcontractor waives all rights against Owner, Contractor, all individuals or entities identified in the Supplementary Conditions as insureds, the Engineer and its consultants, and the officers, directors, members, partners, employees, agents, consultants, and subcontractors of each and any of them, for all losses and damages caused by, arising out of, relating to, or resulting from fire or other peril, risk, or cause of loss covered by builder's risk insurance, installation floater, and any other property insurance applicable to the Work.

6.06 *Receipt and Application of Property Insurance Proceeds*

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

ARTICLE 7—CONTRACTOR'S RESPONSIBILITIES

7.01 *Contractor's Means and Methods of Construction*

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

7.02 *Supervision and Superintendence*

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

7.03 *Labor; Working Hours*

- A. Contractor shall provide competent, suitably qualified personnel to survey and lay out the Work and perform construction as required by the Contract Documents. Contractor shall maintain good discipline and order at the Site.

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

7.04 *Services, Materials, and Equipment*

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

7.05 *"Or Equals"*

- A. *Contractor's Request; Governing Criteria:* Whenever an item of equipment or material is specified or described in the Contract Documents by using the names of one or more proprietary items or specific Suppliers, the Contract Price has been based upon Contractor furnishing such item as specified. The specification or description of such an item is intended to establish the type, function, appearance, and quality required. Unless the specification or description contains or is followed by words reading that no like, equivalent, or "or equal" item is permitted, Contractor may request that Engineer authorize the use of other items of equipment or material, or items from other proposed Suppliers, under the circumstances described below.
 - 1. If Engineer in its sole discretion determines that an item of equipment or material proposed by Contractor is functionally equal to that named and sufficiently similar so that no change in related Work will be required, Engineer will deem it an "or equal" item. For the purposes of this paragraph, a proposed item of equipment or material will be considered functionally equal to an item so named if:
 - a. in the exercise of reasonable judgment Engineer determines that the proposed item:
 - 1) is at least equal in materials of construction, quality, durability, appearance, strength, and design characteristics;

- 2) will reliably perform at least equally well the function and achieve the results imposed by the design concept of the completed Project as a functioning whole;
 - 3) has a proven record of performance and availability of responsive service; and
 - 4) is not objectionable to Owner.
- b. Contractor certifies that, if the proposed item is approved and incorporated into the Work:
- 1) there will be no increase in cost to the Owner or increase in Contract Times; and
 - 2) the item will conform substantially to the detailed requirements of the item named in the Contract Documents.
- B. *Contractor's Expense:* Contractor shall provide all data in support of any proposed "or equal" item at Contractor's expense.
- C. *Engineer's Evaluation and Determination:* Engineer will be allowed a reasonable time to evaluate each "or-equal" request. Engineer may require Contractor to furnish additional data about the proposed "or-equal" item. Engineer will be the sole judge of acceptability. No "or-equal" item will be ordered, furnished, installed, or utilized until Engineer's review is complete and Engineer determines that the proposed item is an "or-equal," which will be evidenced by an approved Shop Drawing or other written communication. Engineer will advise Contractor in writing of any negative determination.
- D. *Effect of Engineer's Determination:* Neither approval nor denial of an "or-equal" request will result in any change in Contract Price. The Engineer's denial of an "or-equal" request will be final and binding, and may not be reversed through an appeal under any provision of the Contract.
- E. *Treatment as a Substitution Request:* If Engineer determines that an item of equipment or material proposed by Contractor does not qualify as an "or-equal" item, Contractor may request that Engineer consider the item a proposed substitute pursuant to Paragraph 7.06.

7.06 *Substitutes*

- A. *Contractor's Request; Governing Criteria:* Unless the specification or description of an item of equipment or material required to be furnished under the Contract Documents contains or is followed by words reading that no substitution is permitted, Contractor may request that Engineer authorize the use of other items of equipment or material under the circumstances described below. To the extent possible such requests must be made before commencement of related construction at the Site.
1. Contractor shall submit sufficient information as provided below to allow Engineer to determine if the item of material or equipment proposed is functionally equivalent to that named and an acceptable substitute therefor. Engineer will not accept requests for review of proposed substitute items of equipment or material from anyone other than Contractor.
 2. The requirements for review by Engineer will be as set forth in Paragraph 7.06.B, as supplemented by the Specifications, and as Engineer may decide is appropriate under the circumstances.

3. Contractor shall make written application to Engineer for review of a proposed substitute item of equipment or material that Contractor seeks to furnish or use. The application:
 - a. will certify that the proposed substitute item will:
 - 1) perform adequately the functions and achieve the results called for by the general design;
 - 2) be similar in substance to the item specified; and
 - 3) be suited to the same use as the item specified.
 - b. will state:
 - 1) the extent, if any, to which the use of the proposed substitute item will necessitate a change in Contract Times;
 - 2) whether use of the proposed substitute item in the Work will require a change in any of the Contract Documents (or in the provisions of any other direct contract with Owner for other work on the Project) to adapt the design to the proposed substitute item; and
 - 3) whether incorporation or use of the proposed substitute item in connection with the Work is subject to payment of any license fee or royalty.
 - c. will identify:
 - 1) all variations of the proposed substitute item from the item specified; and
 - 2) available engineering, sales, maintenance, repair, and replacement services.
 - d. will contain an itemized estimate of all costs or credits that will result directly or indirectly from use of such substitute item, including but not limited to changes in Contract Price, shared savings, costs of redesign, and claims of other contractors affected by any resulting change.
- B. *Engineer's Evaluation and Determination*: Engineer will be allowed a reasonable time to evaluate each substitute request, and to obtain comments and direction from Owner. Engineer may require Contractor to furnish additional data about the proposed substitute item. Engineer will be the sole judge of acceptability. No substitute will be ordered, furnished, installed, or utilized until Engineer's review is complete and Engineer determines that the proposed item is an acceptable substitute. Engineer's determination will be evidenced by a Field Order or a proposed Change Order accounting for the substitution itself and all related impacts, including changes in Contract Price or Contract Times. Engineer will advise Contractor in writing of any negative determination.
- C. *Special Guarantee*: Owner may require Contractor to furnish at Contractor's expense a special performance guarantee or other surety with respect to any substitute.
- D. *Reimbursement of Engineer's Cost*: Engineer will record Engineer's costs in evaluating a substitute proposed or submitted by Contractor. Whether or not Engineer approves a substitute so proposed or submitted by Contractor, Contractor shall reimburse Owner for the reasonable charges of Engineer for evaluating each such proposed substitute. Contractor shall also reimburse Owner for the reasonable charges of Engineer for making changes in the Contract Documents (or in the provisions of any other direct contract with Owner) resulting from the acceptance of each proposed substitute.

- E. *Contractor's Expense*: Contractor shall provide all data in support of any proposed substitute at Contractor's expense.
- F. *Effect of Engineer's Determination*: If Engineer approves the substitution request, Contractor shall execute the proposed Change Order and proceed with the substitution. The Engineer's denial of a substitution request will be final and binding, and may not be reversed through an appeal under any provision of the Contract. Contractor may challenge the scope of reimbursement costs imposed under Paragraph 7.06.D, by timely submittal of a Change Proposal.

7.07 *Concerning Subcontractors and Suppliers*

- A. Contractor may retain Subcontractors and Suppliers for the performance of parts of the Work. Such Subcontractors and Suppliers must be acceptable to Owner. The Contractor's retention of a Subcontractor or Supplier for the performance of parts of the Work will not relieve Contractor's obligation to Owner to perform and complete the Work in accordance with the Contract Documents.
- B. Contractor shall retain specific Subcontractors and Suppliers for the performance of designated parts of the Work if required by the Contract to do so.
- C. Subsequent to the submittal of Contractor's Bid or final negotiation of the terms of the Contract, Owner may not require Contractor to retain any Subcontractor or Supplier to furnish or perform any of the Work against which Contractor has reasonable objection.
- D. Prior to entry into any binding subcontract or purchase order, Contractor shall submit to Owner the identity of the proposed Subcontractor or Supplier (unless Owner has already deemed such proposed Subcontractor or Supplier acceptable during the bidding process or otherwise). Such proposed Subcontractor or Supplier shall be deemed acceptable to Owner unless Owner raises a substantive, reasonable objection within 5 days.
- E. Owner may require the replacement of any Subcontractor or Supplier. Owner also may require Contractor to retain specific replacements; provided, however, that Owner may not require a replacement to which Contractor has a reasonable objection. If Contractor has submitted the identity of certain Subcontractors or Suppliers for acceptance by Owner, and Owner has accepted it (either in writing or by failing to make written objection thereto), then Owner may subsequently revoke the acceptance of any such Subcontractor or Supplier so identified solely on the basis of substantive, reasonable objection after due investigation. Contractor shall submit an acceptable replacement for the rejected Subcontractor or Supplier.
- F. If Owner requires the replacement of any Subcontractor or Supplier retained by Contractor to perform any part of the Work, then Contractor shall be entitled to an adjustment in Contract Price or Contract Times, with respect to the replacement; and Contractor shall initiate a Change Proposal for such adjustment within 30 days of Owner's requirement of replacement.
- G. No acceptance by Owner of any such Subcontractor or Supplier, whether initially or as a replacement, will constitute a waiver of the right of Owner to the completion of the Work in accordance with the Contract Documents.

- H. On a monthly basis, Contractor shall submit to Engineer a complete list of all Subcontractors and Suppliers having a direct contract with Contractor, and of all other Subcontractors and Suppliers known to Contractor at the time of submittal.
- I. Contractor shall be solely responsible for scheduling and coordinating the work of Subcontractors and Suppliers.
- J. The divisions and sections of the Specifications and the identifications of any Drawings do not control Contractor in dividing the Work among Subcontractors or Suppliers, or in delineating the Work to be performed by any specific trade.
- K. All Work performed for Contractor by a Subcontractor or Supplier must be pursuant to an appropriate contractual agreement that specifically binds the Subcontractor or Supplier to the applicable terms and conditions of the Contract for the benefit of Owner and Engineer.
- L. Owner may furnish to any Subcontractor or Supplier, to the extent practicable, information about amounts paid to Contractor for Work performed for Contractor by the Subcontractor or Supplier.
- M. Contractor shall restrict all Subcontractors and Suppliers from communicating with Engineer or Owner, except through Contractor or in case of an emergency, or as otherwise expressly allowed in this Contract.

7.08 *Patent Fees and Royalties*

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

7.09 *Permits*

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

7.10 *Taxes*

- A. Contractor shall pay all sales, consumer, use, and other similar taxes required to be paid by Contractor in accordance with the Laws and Regulations of the place of the Project which are applicable during the performance of the Work.

7.11 *Laws and Regulations*

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

7.12 *Record Documents*

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

7.13 *Safety and Protection*

- A. Contractor shall be solely responsible for initiating, maintaining, and supervising all safety precautions and programs in connection with the Work. Such responsibility does not relieve Subcontractors of their responsibility for the safety of persons or property in the performance of their work, nor for compliance with applicable safety Laws and Regulations.
- B. Contractor shall designate a qualified and experienced safety representative whose duties and responsibilities are the prevention of Work-related accidents and the maintenance and supervision of safety precautions and programs.
- C. Contractor shall take all necessary precautions for the safety of, and shall provide the necessary protection to prevent damage, injury, or loss to:
 - 1. all persons on the Site or who may be affected by the Work;
 - 2. all the Work and materials and equipment to be incorporated therein, whether in storage on or off the Site; and
 - 3. other property at the Site or adjacent thereto, including trees, shrubs, lawns, walks, pavements, roadways, structures, other work in progress, utilities, and Underground Facilities not designated for removal, relocation, or replacement in the course of construction.
- D. All damage, injury, or loss to any property referred to in Paragraph 7.13.C.2 or 7.13.C.3 caused, directly or indirectly, in whole or in part, by Contractor, any Subcontractor, Supplier, or any other individual or entity directly or indirectly employed by any of them to perform any of the Work, or anyone for whose acts any of them may be liable, shall be remedied by Contractor at its expense (except damage or loss attributable to the fault of Drawings or Specifications or to the acts or omissions of Owner or Engineer or anyone employed by any of them, or anyone for whose acts any of them may be liable, and not attributable, directly or indirectly, in whole or in part, to the fault or negligence of Contractor or any Subcontractor, Supplier, or other individual or entity directly or indirectly employed by any of them).
- E. Contractor shall comply with all applicable Laws and Regulations relating to the safety of persons or property, or to the protection of persons or property from damage, injury, or loss; and shall erect and maintain all necessary safeguards for such safety and protection.
- F. Contractor shall notify Owner; the owners of adjacent property; the owners of Underground Facilities and other utilities (if the identity of such owners is known to Contractor); and other contractors and utility owners performing work at or adjacent to the Site, in writing, when Contractor knows that prosecution of the Work may affect them, and shall cooperate with them in the protection, removal, relocation, and replacement of their property or work in progress.
- G. Contractor shall comply with the applicable requirements of Owner's safety programs, if any. Any Owner's safety programs that are applicable to the Work are identified or included in the Supplementary Conditions or Specifications.
- H. Contractor shall inform Owner and Engineer of the specific requirements of Contractor's safety program with which Owner's and Engineer's employees and representatives must comply while at the Site.

- I. Contractor's duties and responsibilities for safety and protection will continue until all the Work is completed, Engineer has issued a written notice to Owner and Contractor in accordance with Paragraph 15.06.C that the Work is acceptable, and Contractor has left the Site (except as otherwise expressly provided in connection with Substantial Completion).
- J. Contractor's duties and responsibilities for safety and protection will resume whenever Contractor or any Subcontractor or Supplier returns to the Site to fulfill warranty or correction obligations, or to conduct other tasks arising from the Contract Documents.

7.14 *Hazard Communication Programs*

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

7.15 *Emergencies*

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

7.16 *Submittals*

A. *Shop Drawing and Sample Requirements*

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

3. With each Shop Drawing or Sample, Contractor shall give Engineer specific written notice of any variations that the Submittal may have from the requirements of the Contract Documents. This notice must be set forth in a written communication separate from the Submittal; and, in addition, in the case of a Shop Drawing by a specific notation made on the Shop Drawing itself.
- B. *Submittal Procedures for Shop Drawings and Samples:* Contractor shall label and submit Shop Drawings and Samples to Engineer for review and approval in accordance with the accepted Schedule of Submittals.
1. *Shop Drawings*
 - a. Contractor shall submit the number of copies required in the Specifications.
 - b. Data shown on the Shop Drawings must be complete with respect to quantities, dimensions, specified performance and design criteria, materials, and similar data to show Engineer the services, materials, and equipment Contractor proposes to provide, and to enable Engineer to review the information for the limited purposes required by Paragraph 7.16.C.
 2. *Samples*
 - a. Contractor shall submit the number of Samples required in the Specifications.
 - b. Contractor shall clearly identify each Sample as to material, Supplier, pertinent data such as catalog numbers, the use for which intended and other data as Engineer may require to enable Engineer to review the Submittal for the limited purposes required by Paragraph 7.16.C.
 3. Where a Shop Drawing or Sample is required by the Contract Documents or the Schedule of Submittals, any related Work performed prior to Engineer's review and approval of the pertinent submittal will be at the sole expense and responsibility of Contractor.
- C. *Engineer's Review of Shop Drawings and Samples*
1. Engineer will provide timely review of Shop Drawings and Samples in accordance with the accepted Schedule of Submittals. Engineer's review and approval will be only to determine if the items covered by the Submittals will, after installation or incorporation in the Work, comply with the requirements of the Contract Documents, and be compatible with the design concept of the completed Project as a functioning whole as indicated by the Contract Documents.
 2. Engineer's review and approval will not extend to means, methods, techniques, sequences, or procedures of construction, or to safety precautions or programs incident thereto.
 3. Engineer's review and approval of a separate item as such will not indicate approval of the assembly in which the item functions.
 4. Engineer's review and approval of a Shop Drawing or Sample will not relieve Contractor from responsibility for any variation from the requirements of the Contract Documents unless Contractor has complied with the requirements of Paragraph 7.16.A.3 and Engineer has given written approval of each such variation by specific written notation thereof incorporated in or accompanying the Shop Drawing or Sample. Engineer will

document any such approved variation from the requirements of the Contract Documents in a Field Order or other appropriate Contract modification.

5. Engineer's review and approval of a Shop Drawing or Sample will not relieve Contractor from responsibility for complying with the requirements of Paragraphs 7.16.A and B.
6. Engineer's review and approval of a Shop Drawing or Sample, or of a variation from the requirements of the Contract Documents, will not, under any circumstances, change the Contract Times or Contract Price, unless such changes are included in a Change Order.
7. Neither Engineer's receipt, review, acceptance, or approval of a Shop Drawing or Sample will result in such item becoming a Contract Document.
8. Contractor shall perform the Work in compliance with the requirements and commitments set forth in approved Shop Drawings and Samples, subject to the provisions of Paragraph 7.16.C.4.

D. Resubmittal Procedures for Shop Drawings and Samples

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

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

1. The following provisions apply to all Submittals other than Shop Drawings, Samples, and Owner-delegated designs:
 - a. Contractor shall submit all such Submittals to the Engineer in accordance with the Schedule of Submittals and pursuant to the applicable terms of the Contract Documents.
 - b. Engineer will provide timely review of all such Submittals in accordance with the Schedule of Submittals and return such Submittals with a notation of either Accepted or Not Accepted. Any such Submittal that is not returned within the time established in the Schedule of Submittals will be deemed accepted.
 - c. Engineer's review will be only to determine if the Submittal is acceptable under the requirements of the Contract Documents as to general form and content of the Submittal.

- d. If any such Submittal is not accepted, Contractor shall confer with Engineer regarding the reason for the non-acceptance, and resubmit an acceptable document.
 2. Procedures for the submittal and acceptance of the Progress Schedule, the Schedule of Submittals, and the Schedule of Values are set forth in Paragraphs 2.03, 2.04, and 2.05.
- F. Owner-delegated Designs: Submittals pursuant to Owner-delegated designs are governed by the provisions of Paragraph 7.19.

7.17 Contractor's General Warranty and Guarantee

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

9. Any correction of defective Work by Owner.
- E. If the Contract requires the Contractor to accept the assignment of a contract entered into by Owner, then the specific warranties, guarantees, and correction obligations contained in the assigned contract will govern with respect to Contractor's performance obligations to Owner for the Work described in the assigned contract.

7.18 *Indemnification*

- A. To the fullest extent permitted by Laws and Regulations, and in addition to any other obligations of Contractor under the Contract or otherwise, Contractor shall indemnify and hold harmless Owner and Engineer, and the officers, directors, members, partners, employees, agents, consultants and subcontractors of each and any of them, from losses, damages, costs, and judgments (including but not limited to all fees and charges of engineers, architects, attorneys, and other professionals, and all court or arbitration or other dispute resolution costs) arising from third-party claims or actions relating to or resulting from the performance or furnishing of the Work, provided that any such claim, action, loss, cost, judgment or damage is attributable to bodily injury, sickness, disease, or death, or to damage to or destruction of tangible property (other than the Work itself), including the loss of use resulting therefrom, but only to the extent caused by any negligent act or omission of Contractor, any Subcontractor, any Supplier, or any individual or entity directly or indirectly employed by any of them to perform any of the Work, or anyone for whose acts any of them may be liable.
- B. In any and all claims against Owner or Engineer, or any of their officers, directors, members, partners, employees, agents, consultants, or subcontractors, by any employee (or the survivor or personal representative of such employee) of Contractor, any Subcontractor, any Supplier, or any individual or entity directly or indirectly employed by any of them to perform any of the Work, or anyone for whose acts any of them may be liable, the indemnification obligation under Paragraph 7.18.A will not be limited in any way by any limitation on the amount or type of damages, compensation, or benefits payable by or for Contractor or any such Subcontractor, Supplier, or other individual or entity under workers' compensation acts, disability benefit acts, or other employee benefit acts.

7.19 *Delegation of Professional Design Services*

- A. Owner may require Contractor to provide professional design services for a portion of the Work by express delegation in the Contract Documents. Such delegation will specify the performance and design criteria that such services must satisfy, and the Submittals that Contractor must furnish to Engineer with respect to the Owner-delegated design.
- B. Contractor shall cause such Owner-delegated professional design services to be provided pursuant to the professional standard of care by a properly licensed design professional, whose signature and seal must appear on all drawings, calculations, specifications, certifications, and Submittals prepared by such design professional. Such design professional must issue all certifications of design required by Laws and Regulations.
- C. If a Shop Drawing or other Submittal related to the Owner-delegated design is prepared by Contractor, a Subcontractor, or others for submittal to Engineer, then such Shop Drawing or other Submittal must bear the written approval of Contractor's design professional when submitted by Contractor to Engineer.

- D. Owner and Engineer shall be entitled to rely upon the adequacy, accuracy, and completeness of the services, certifications, and approvals performed or provided by the design professionals retained or employed by Contractor under an Owner-delegated design, subject to the professional standard of care and the performance and design criteria stated in the Contract Documents.
- E. Pursuant to this Paragraph 7.19, Engineer's review, approval, and other determinations regarding design drawings, calculations, specifications, certifications, and other Submittals furnished by Contractor pursuant to an Owner-delegated design will be only for the following limited purposes:
 - 1. Checking for conformance with the requirements of this Paragraph 7.19;
 - 2. Confirming that Contractor (through its design professionals) has used the performance and design criteria specified in the Contract Documents; and
 - 3. Establishing that the design furnished by Contractor is consistent with the design concept expressed in the Contract Documents.
- F. Contractor shall not be responsible for the adequacy of performance or design criteria specified by Owner or Engineer.
- G. Contractor is not required to provide professional services in violation of applicable Laws and Regulations.

ARTICLE 8—OTHER WORK AT THE SITE

8.01 *Other Work*

- A. In addition to and apart from the Work under the Contract Documents, the Owner may perform other work at or adjacent to the Site. Such other work may be performed by Owner's employees, or through contracts between the Owner and third parties. Owner may also arrange to have third-party utility owners perform work on their utilities and facilities at or adjacent to the Site.
- B. If Owner performs other work at or adjacent to the Site with Owner's employees, or through contracts for such other work, then Owner shall give Contractor written notice thereof prior to starting any such other work. If Owner has advance information regarding the start of any third-party utility work that Owner has arranged to take place at or adjacent to the Site, Owner shall provide such information to Contractor.
- C. Contractor shall afford proper and safe access to the Site to each contractor that performs such other work, each utility owner performing other work, and Owner, if Owner is performing other work with Owner's employees, and provide a reasonable opportunity for the introduction and storage of materials and equipment and the execution of such other work.
- D. Contractor shall do all cutting, fitting, and patching of the Work that may be required to properly connect or otherwise make its several parts come together and properly integrate with such other work. Contractor shall not endanger any work of others by cutting, excavating, or otherwise altering such work; provided, however, that Contractor may cut or alter others' work with the written consent of Engineer and the others whose work will be affected.

- E. If the proper execution or results of any part of Contractor's Work depends upon work performed by others, Contractor shall inspect such other work and promptly report to Engineer in writing any delays, defects, or deficiencies in such other work that render it unavailable or unsuitable for the proper execution and results of Contractor's Work. Contractor's failure to so report will constitute an acceptance of such other work as fit and proper for integration with Contractor's Work except for latent defects and deficiencies in such other work.
- F. The provisions of this article are not applicable to work that is performed by third-party utilities or other third-party entities without a contract with Owner, or that is performed without having been arranged by Owner. If such work occurs, then any related delay, disruption, or interference incurred by Contractor is governed by the provisions of Paragraph 4.05.C.3.

8.02 *Coordination*

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

8.03 *Legal Relationships*

- A. If, in the course of performing other work for Owner at or adjacent to the Site, the Owner's employees, any other contractor working for Owner, or any utility owner that Owner has arranged to perform work, causes damage to the Work or to the property of Contractor or its Subcontractors, or delays, disrupts, interferes with, or increases the scope or cost of the performance of the Work, through actions or inaction, then Contractor shall be entitled to an equitable adjustment in the Contract Price or the Contract Times. Contractor must submit any Change Proposal seeking an equitable adjustment in the Contract Price or the Contract Times under this paragraph within 30 days of the damaging, delaying, disrupting, or interfering event. The entitlement to, and extent of, any such equitable adjustment will take into account information (if any) regarding such other work that was provided to Contractor in the Contract Documents prior to the submittal of the Bid or the final negotiation of the terms of the Contract, and any remedies available to Contractor under Laws or Regulations concerning utility action or inaction. When applicable, any such equitable adjustment in Contract Price will be conditioned on Contractor assigning to Owner all Contractor's rights against such other contractor or utility owner with respect to the damage, delay, disruption, or interference that is the subject of the adjustment. Contractor's entitlement to an adjustment of the Contract Times or Contract Price is subject to the provisions of Paragraphs 4.05.D and 4.05.E.

- B. Contractor shall take reasonable and customary measures to avoid damaging, delaying, disrupting, or interfering with the work of Owner, any other contractor, or any utility owner performing other work at or adjacent to the Site.
 - 1. If Contractor fails to take such measures and as a result damages, delays, disrupts, or interferes with the work of any such other contractor or utility owner, then Owner may impose a set-off against payments due Contractor, and assign to such other contractor or utility owner the Owner's contractual rights against Contractor with respect to the breach of the obligations set forth in this Paragraph 8.03.B.
 - 2. When Owner is performing other work at or adjacent to the Site with Owner's employees, Contractor shall be liable to Owner for damage to such other work, and for the reasonable direct delay, disruption, and interference costs incurred by Owner as a result of Contractor's failure to take reasonable and customary measures with respect to Owner's other work. In response to such damage, delay, disruption, or interference, Owner may impose a set-off against payments due Contractor.
- C. If Contractor damages, delays, disrupts, or interferes with the work of any other contractor, or any utility owner performing other work at or adjacent to the Site, through Contractor's failure to take reasonable and customary measures to avoid such impacts, or if any claim arising out of Contractor's actions, inactions, or negligence in performance of the Work at or adjacent to the Site is made by any such other contractor or utility owner against Contractor, Owner, or Engineer, then Contractor shall (1) promptly attempt to settle the claim as to all parties through negotiations with such other contractor or utility owner, or otherwise resolve the claim by arbitration or other dispute resolution proceeding or at law, and (2) indemnify and hold harmless Owner and Engineer, and the officers, directors, members, partners, employees, agents, consultants and subcontractors of each and any of them from and against any such claims, and against all costs, losses, and damages (including but not limited to all fees and charges of engineers, architects, attorneys, and other professionals and all court or arbitration or other dispute resolution costs) arising out of or relating to such damage, delay, disruption, or interference.

ARTICLE 9—OWNER'S RESPONSIBILITIES

9.01 *Communications to Contractor*

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

9.02 *Replacement of Engineer*

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

9.03 *Furnish Data*

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

9.04 *Pay When Due*

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

- 9.05 *Lands and Easements; Reports, Tests, and Drawings*
- A. Owner's duties with respect to providing lands and easements are set forth in Paragraph 5.01.
 - B. Owner's duties with respect to providing engineering surveys to establish reference points are set forth in Paragraph 4.03.
 - C. Article 5 refers to Owner's identifying and making available to Contractor copies of reports of explorations and tests of conditions at the Site, and drawings of physical conditions relating to existing surface or subsurface structures at the Site.
- 9.06 *Insurance*
- A. Owner's responsibilities, if any, with respect to purchasing and maintaining liability and property insurance are set forth in Article 6.
- 9.07 *Change Orders*
- A. Owner's responsibilities with respect to Change Orders are set forth in Article 11.
- 9.08 *Inspections, Tests, and Approvals*
- A. Owner's responsibility with respect to certain inspections, tests, and approvals is set forth in Paragraph 14.02.B.
- 9.09 *Limitations on Owner's Responsibilities*
- A. The Owner shall not supervise, direct, or have control or authority over, nor be responsible for, Contractor's means, methods, techniques, sequences, or procedures of construction, or the safety precautions and programs incident thereto, or for any failure of Contractor to comply with Laws and Regulations applicable to the performance of the Work. Owner will not be responsible for Contractor's failure to perform the Work in accordance with the Contract Documents.
- 9.10 *Undisclosed Hazardous Environmental Condition*
- A. Owner's responsibility in respect to an undisclosed Hazardous Environmental Condition is set forth in Paragraph 5.06.
- 9.11 *Evidence of Financial Arrangements*
- A. Upon request of Contractor, Owner shall furnish Contractor reasonable evidence that financial arrangements have been made to satisfy Owner's obligations under the Contract (including obligations under proposed changes in the Work).
- 9.12 *Safety Programs*
- A. While at the Site, Owner's employees and representatives shall comply with the specific applicable requirements of Contractor's safety programs of which Owner has been informed.
 - B. Owner shall furnish copies of any applicable Owner safety programs to Contractor.

ARTICLE 10—ENGINEER'S STATUS DURING CONSTRUCTION

10.01 *Owner's Representative*

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

10.02 *Visits to Site*

- A. Engineer will make visits to the Site at intervals appropriate to the various stages of construction as Engineer deems necessary in order to observe, as an experienced and qualified design professional, the progress that has been made and the quality of the various aspects of Contractor's executed Work. Based on information obtained during such visits and observations, Engineer, for the benefit of Owner, will determine, in general, if the Work is proceeding in accordance with the Contract Documents. Engineer will not be required to make exhaustive or continuous inspections on the Site to check the quality or quantity of the Work. Engineer's efforts will be directed toward providing for Owner a greater degree of confidence that the completed Work will conform generally to the Contract Documents. On the basis of such visits and observations, Engineer will keep Owner informed of the progress of the Work and will endeavor to guard Owner against defective Work.
- B. Engineer's visits and observations are subject to all the limitations on Engineer's authority and responsibility set forth in Paragraph 10.07. Particularly, but without limitation, during or as a result of Engineer's visits or observations of Contractor's Work, Engineer will not supervise, direct, control, or have authority over or be responsible for Contractor's means, methods, techniques, sequences, or procedures of construction, or the safety precautions and programs incident thereto, or for any failure of Contractor to comply with Laws and Regulations applicable to the performance of the Work.

10.03 *Resident Project Representative*

- A. If Owner and Engineer have agreed that Engineer will furnish a Resident Project Representative to represent Engineer at the Site and assist Engineer in observing the progress and quality of the Work, then the authority and responsibilities of any such Resident Project Representative will be as provided in the Supplementary Conditions, and limitations on the responsibilities thereof will be as provided in the Supplementary Conditions and in Paragraph 10.07.
- B. If Owner designates an individual or entity who is not Engineer's consultant, agent, or employee to represent Owner at the Site, then the responsibilities and authority of such individual or entity will be as provided in the Supplementary Conditions.

10.04 *Engineer's Authority*

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

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

10.05 *Determinations for Unit Price Work*

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

10.06 *Decisions on Requirements of Contract Documents and Acceptability of Work*

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

10.07 *Limitations on Engineer's Authority and Responsibilities*

A. Neither Engineer's authority or responsibility under this Article 10 or under any other provision of the Contract, nor any decision made by Engineer in good faith either to exercise or not exercise such authority or responsibility or the undertaking, exercise, or performance of any authority or responsibility by Engineer, will create, impose, or give rise to any duty in contract, tort, or otherwise owed by Engineer to Contractor, any Subcontractor, any Supplier, any other individual or entity, or to any surety for or employee or agent of any of them.

B. Engineer will not supervise, direct, control, or have authority over or be responsible for Contractor's means, methods, techniques, sequences, or procedures of construction, or the safety precautions and programs incident thereto, or for any failure of Contractor to comply with Laws and Regulations applicable to the performance of the Work. Engineer will not be responsible for Contractor's failure to perform the Work in accordance with the Contract Documents.

C. Engineer will not be responsible for the acts or omissions of Contractor or of any Subcontractor, any Supplier, or of any other individual or entity performing any of the Work.

D. Engineer's review of the final Application for Payment and accompanying documentation, and all maintenance and operating instructions, schedules, guarantees, bonds, certificates of inspection, tests and approvals, and other documentation required to be delivered by Contractor under Paragraph 15.06.A, will only be to determine generally that their content complies with the requirements of, and in the case of certificates of inspections, tests, and approvals, that the results certified indicate compliance with the Contract Documents.

E. The limitations upon authority and responsibility set forth in this Paragraph 10.07 also apply to the Resident Project Representative, if any.

10.08 *Compliance with Safety Program*

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

ARTICLE 11—CHANGES TO THE CONTRACT

11.01 *Amending and Supplementing the Contract*

- A. The Contract may be amended or supplemented by a Change Order, a Work Change Directive, or a Field Order.
- B. If an amendment or supplement to the Contract includes a change in the Contract Price or the Contract Times, such amendment or supplement must be set forth in a Change Order.
- C. All changes to the Contract that involve (1) the performance or acceptability of the Work, (2) the design (as set forth in the Drawings, Specifications, or otherwise), or (3) other engineering or technical matters, must be supported by Engineer's recommendation. Owner and Contractor may amend other terms and conditions of the Contract without the recommendation of the Engineer.

11.02 *Change Orders*

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

11.03 *Work Change Directives*

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

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

11.04 *Field Orders*

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

11.05 *Owner-Authorized Changes in the Work*

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

11.06 *Unauthorized Changes in the Work*

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

11.07 *Change of Contract Price*

- A. The Contract Price may only be changed by a Change Order. Any Change Proposal for an adjustment in the Contract Price must comply with the provisions of Paragraph 11.09. Any Claim for an adjustment of Contract Price must comply with the provisions of Article 12.
- B. An adjustment in the Contract Price will be determined as follows:

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

11.08 *Change of Contract Times*

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

11.09 *Change Proposals*

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

B. *Change Proposal Procedures*

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

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

3. *Engineer's Initial Review:* Engineer will advise Owner regarding the Change Proposal, and consider any comments or response from Owner regarding the Change Proposal. If in its discretion Engineer concludes that additional supporting data is needed before conducting a full review and making a decision regarding the Change Proposal, then Engineer may request that Contractor submit such additional supporting data by a date specified by Engineer, prior to Engineer beginning its full review of the Change Proposal.
4. *Engineer's Full Review and Action on the Change Proposal:* Upon receipt of Contractor's supporting data (including any additional data requested by Engineer), Engineer will conduct a full review of each Change Proposal and, within 30 days after such receipt of the Contractor's supporting data, either approve the Change Proposal in whole, deny it in whole, or approve it in part and deny it in part. Such actions must be in writing, with a copy provided to Owner and Contractor. If Engineer does not take action on the Change

Proposal within 30 days, then either Owner or Contractor may at any time thereafter submit a letter to the other party indicating that as a result of Engineer's inaction the Change Proposal is deemed denied, thereby commencing the time for appeal of the denial under Article 12.

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

11.10 *Notification to Surety*

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

ARTICLE 12—CLAIMS

12.01 *Claims*

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

and belief the amount of time or money requested accurately reflects the full amount to which Contractor is entitled.

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

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

13.01 *Cost of the Work*

- A. *Purposes for Determination of Cost of the Work*: The term Cost of the Work means the sum of all costs necessary for the proper performance of the Work at issue, as further defined below. The provisions of this Paragraph 13.01 are used for two distinct purposes:
 - 1. To determine Cost of the Work when Cost of the Work is a component of the Contract Price, under cost-plus-fee, time-and-materials, or other cost-based terms; or

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

consumed in the performance of the Work, and cost, less market value, of such items used but not consumed which remain the property of Contractor.

- 1) In establishing included costs for materials such as scaffolding, plating, or sheeting, consideration will be given to the actual or the estimated life of the material for use on other projects; or rental rates may be established on the basis of purchase or salvage value of such items, whichever is less. Contractor will not be eligible for compensation for such items in an amount that exceeds the purchase cost of such item.

~~c. Construction Equipment Rental~~

- ~~1) Rentals of all construction equipment and machinery, and the parts thereof, in accordance with rental agreements approved by Owner as to price (including any surcharge or special rates applicable to overtime use of the construction equipment or machinery), and the costs of transportation, loading, unloading, assembly, dismantling, and removal thereof. All such costs will be in accordance with the terms of said rental agreements. The rental of any such equipment, machinery, or parts must cease when the use thereof is no longer necessary for the Work.~~
- ~~2) Costs for equipment and machinery owned by Contractor or a Contractor-related entity will be paid at a rate shown for such equipment in the equipment rental rate book specified in the Supplementary Conditions. An hourly rate will be computed by dividing the monthly rates by 176. These computed rates will include all operating costs.~~
- ~~3) With respect to Work that is the result of a Change Order, Change Proposal, Claim, set off, or other adjustment in Contract Price ("changed Work"), included costs will be based on the time the equipment or machinery is in use on the changed Work and the costs of transportation, loading, unloading, assembly, dismantling, and removal when directly attributable to the changed Work. The cost of any such equipment or machinery, or parts thereof, must cease to accrue when the use thereof is no longer necessary for the changed Work.~~

~~d. Sales, consumer, use, and other similar taxes related to the Work, and for which Contractor is liable, as imposed by Laws and Regulations.~~

~~e. Deposits lost for causes other than negligence of Contractor, any Subcontractor, or anyone directly or indirectly employed by any of them or for whose acts any of them may be liable, and royalty payments and fees for permits and licenses.~~

~~f. Losses and damages (and related expenses) caused by damage to the Work, not compensated by insurance or otherwise, sustained by Contractor in connection with the performance of the Work (except losses and damages within the deductible amounts of builder's risk or other property insurance established in accordance with Paragraph 6.04), provided such losses and damages have resulted from causes other than the negligence of Contractor, any Subcontractor, or anyone directly or indirectly employed by any of them or for whose acts any of them may be liable. Such losses include settlements made with the written consent and approval of Owner. No such losses, damages, and expenses will be included in the Cost of the Work for the purpose of determining Contractor's fee.~~

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

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

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

D. *Contractor's Fee*

1. When the Work as a whole is performed on the basis of cost-plus-a-fee, then:
 - a. Contractor's fee for the Work set forth in the Contract Documents as of the Effective Date of the Contract will be determined as set forth in the Agreement.
 - b. for any Work covered by a Change Order, Change Proposal, Claim, set-off, or other adjustment in Contract Price on the basis of Cost of the Work, Contractor's fee will be determined as follows:
 - 1) When the fee for the Work as a whole is a percentage of the Cost of the Work, the fee will automatically adjust as the Cost of the Work changes.
 - 2) When the fee for the Work as a whole is a fixed fee, the fee for any additions or deletions will be determined in accordance with Paragraph 11.07.C.2.
2. When the Work as a whole is performed on the basis of a stipulated sum, or any other basis other than cost-plus-a-fee, then Contractor's fee for any Work covered by a Change

Order, Change Proposal, Claim, set-off, or other adjustment in Contract Price on the basis of Cost of the Work will be determined in accordance with Paragraph 11.07.C.2.

- E. *Documentation and Audit*: Whenever the Cost of the Work for any purpose is to be determined pursuant to this Article 13, Contractor and pertinent Subcontractors will establish and maintain records of the costs in accordance with generally accepted accounting practices. Subject to prior written notice, Owner will be afforded reasonable access, during normal business hours, to all Contractor's accounts, records, books, correspondence, instructions, drawings, receipts, vouchers, memoranda, and similar data relating to the Cost of the Work and Contractor's fee. Contractor shall preserve all such documents for a period of three years after the final payment by Owner. Pertinent Subcontractors will afford such access to Owner, and preserve such documents, to the same extent required of Contractor.

13.02 Allowances

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

13.03 Unit Price Work

- A. Where the Contract Documents provide that all or part of the Work is to be Unit Price Work, initially the Contract Price will be deemed to include for all Unit Price Work an amount equal to the sum of the unit price for each separately identified item of Unit Price Work times the estimated quantity of each item as indicated in the Agreement.
- B. The estimated quantities of items of Unit Price Work are not guaranteed and are solely for the purpose of comparison of Bids and determining an initial Contract Price. Payments to Contractor for Unit Price Work will be based on actual quantities.
- C. Each unit price will be deemed to include an amount considered by Contractor to be adequate to cover Contractor's overhead and profit for each separately identified item.
- D. Engineer will determine the actual quantities and classifications of Unit Price Work performed by Contractor. Engineer will review with Contractor the Engineer's preliminary determinations on such matters before rendering a written decision thereon (by recommendation of an Application for Payment or otherwise). Engineer's written decision

thereon will be final and binding (except as modified by Engineer to reflect changed factual conditions or more accurate data) upon Owner and Contractor, and the final adjustment of Contract Price will be set forth in a Change Order, subject to the provisions of the following paragraph.

E. *Adjustments in Unit Price*

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

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

14.01 *Access to Work*

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

14.02 *Tests, Inspections, and Approvals*

- A. Contractor shall give Engineer timely notice of readiness of the Work (or specific parts thereof) for all required inspections and tests, and shall cooperate with inspection and testing personnel to facilitate required inspections and tests.
- B. Owner shall retain and pay for the services of an independent inspector, testing laboratory, or other qualified individual or entity to perform all inspections and tests expressly required by the Contract Documents to be furnished and paid for by Owner, except that costs incurred in connection with tests or inspections of covered Work will be governed by the provisions of Paragraph 14.05.
- C. If Laws or Regulations of any public body having jurisdiction require any Work (or part thereof) specifically to be inspected, tested, or approved by an employee or other representative of such public body, Contractor shall assume full responsibility for arranging and obtaining such inspections, tests, or approvals, pay all costs in connection therewith, and furnish Engineer the required certificates of inspection or approval.

- D. Contractor shall be responsible for arranging, obtaining, and paying for all inspections and tests required:
1. by the Contract Documents, unless the Contract Documents expressly allocate responsibility for a specific inspection or test to Owner;
 2. to attain Owner's and Engineer's acceptance of materials or equipment to be incorporated in the Work;
 3. by manufacturers of equipment furnished under the Contract Documents;
 4. for testing, adjusting, and balancing of mechanical, electrical, and other equipment to be incorporated into the Work; and
 5. for acceptance of materials, mix designs, or equipment submitted for approval prior to Contractor's purchase thereof for incorporation in the Work.

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

- E. If the Contract Documents require the Work (or part thereof) to be approved by Owner, Engineer, or another designated individual or entity, then Contractor shall assume full responsibility for arranging and obtaining such approvals.
- F. If any Work (or the work of others) that is to be inspected, tested, or approved is covered by Contractor without written concurrence of Engineer, Contractor shall, if requested by Engineer, uncover such Work for observation. Such uncovering will be at Contractor's expense unless Contractor had given Engineer timely notice of Contractor's intention to cover the same and Engineer had not acted with reasonable promptness in response to such notice.

14.03 *Defective Work*

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

losses, and damages resulting from defective Work, then Owner may impose a reasonable set-off against payments due under Article 15.

14.04 *Acceptance of Defective Work*

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

14.05 *Uncovering Work*

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

14.06 *Owner May Stop the Work*

- A. If the Work is defective, or Contractor fails to supply sufficient skilled workers or suitable materials or equipment, or fails to perform the Work in such a way that the completed Work will conform to the Contract Documents, then Owner may order Contractor to stop the Work,

or any portion thereof, until the cause for such order has been eliminated; however, this right of Owner to stop the Work will not give rise to any duty on the part of Owner to exercise this right for the benefit of Contractor, any Subcontractor, any Supplier, any other individual or entity, or any surety for, or employee or agent of any of them.

14.07 *Owner May Correct Defective Work*

- A. If Contractor fails within a reasonable time after written notice from Engineer to correct defective Work, or to remove and replace defective Work as required by Engineer, then Owner may, after 7 days' written notice to Contractor, correct or remedy any such deficiency.
- B. In exercising the rights and remedies under this Paragraph 14.07, Owner shall proceed expeditiously. In connection with such corrective or remedial action, Owner may exclude Contractor from all or part of the Site, take possession of all or part of the Work and suspend Contractor's services related thereto, and incorporate in the Work all materials and equipment stored at the Site or for which Owner has paid Contractor but which are stored elsewhere. Contractor shall allow Owner, Owner's representatives, agents and employees, Owner's other contractors, and Engineer and Engineer's consultants access to the Site to enable Owner to exercise the rights and remedies under this paragraph.
- C. All claims, costs, losses, and damages incurred or sustained by Owner in exercising the rights and remedies under this Paragraph 14.07 will be charged against Contractor as set-offs against payments due under Article 15. Such claims, costs, losses and damages will include but not be limited to all costs of repair, or replacement of work of others destroyed or damaged by correction, removal, or replacement of Contractor's defective Work.
- D. Contractor shall not be allowed an extension of the Contract Times because of any delay in the performance of the Work attributable to the exercise by Owner of Owner's rights and remedies under this Paragraph 14.07.

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

15.01 *Progress Payments*

- A. *Basis for Progress Payments:* The Schedule of Values established as provided in Article 2 will serve as the basis for progress payments and will be incorporated into a form of Application for Payment acceptable to Engineer. Progress payments for Unit Price Work will be based on the number of units completed during the pay period, as determined under the provisions of Paragraph 13.03. Progress payments for cost-based Work will be based on Cost of the Work completed by Contractor during the pay period.
- B. *Applications for Payments*
 - 1. At least 20 days before the date established in the Agreement for each progress payment (but not more often than once a month), Contractor shall submit to Engineer for review an Application for Payment filled out and signed by Contractor covering the Work completed as of the date of the Application and accompanied by such supporting documentation as is required by the Contract Documents.
 - 2. If payment is requested on the basis of materials and equipment not incorporated in the Work but delivered and suitably stored at the Site or at another location agreed to in writing, the Application for Payment must also be accompanied by: (a) a bill of sale, invoice, copies of subcontract or purchase order payments, or other documentation

establishing full payment by Contractor for the materials and equipment; (b) at Owner's request, documentation warranting that Owner has received the materials and equipment free and clear of all Liens; and (c) evidence that the materials and equipment are covered by appropriate property insurance, a warehouse bond, or other arrangements to protect Owner's interest therein, all of which must be satisfactory to Owner.

3. Beginning with the second Application for Payment, each Application must include an affidavit of Contractor stating that all previous progress payments received by Contractor have been applied to discharge Contractor's legitimate obligations associated with prior Applications for Payment.
4. The amount of retainage with respect to progress payments will be as stipulated in the Agreement.

C. *Review of Applications*

1. Engineer will, within 10 days after receipt of each Application for Payment, including each resubmittal, either indicate in writing a recommendation of payment and present the Application to Owner, or return the Application to Contractor indicating in writing Engineer's reasons for refusing to recommend payment. In the latter case, Contractor may make the necessary corrections and resubmit the Application.
2. Engineer's recommendation of any payment requested in an Application for Payment will constitute a representation by Engineer to Owner, based on Engineer's observations of the executed Work as an experienced and qualified design professional, and on Engineer's review of the Application for Payment and the accompanying data and schedules, that to the best of Engineer's knowledge, information and belief:
 - a. the Work has progressed to the point indicated;
 - b. the quality of the Work is generally in accordance with the Contract Documents (subject to an evaluation of the Work as a functioning whole prior to or upon Substantial Completion, the results of any subsequent tests called for in the Contract Documents, a final determination of quantities and classifications for Unit Price Work under Paragraph 13.03, and any other qualifications stated in the recommendation); and
 - c. the conditions precedent to Contractor's being entitled to such payment appear to have been fulfilled in so far as it is Engineer's responsibility to observe the Work.
3. By recommending any such payment Engineer will not thereby be deemed to have represented that:
 - a. inspections made to check the quality or the quantity of the Work as it has been performed have been exhaustive, extended to every aspect of the Work in progress, or involved detailed inspections of the Work beyond the responsibilities specifically assigned to Engineer in the Contract; or
 - b. there may not be other matters or issues between the parties that might entitle Contractor to be paid additionally by Owner or entitle Owner to withhold payment to Contractor.

4. Neither Engineer's review of Contractor's Work for the purposes of recommending payments nor Engineer's recommendation of any payment, including final payment, will impose responsibility on Engineer:
 - a. to supervise, direct, or control the Work;
 - b. for the means, methods, techniques, sequences, or procedures of construction, or the safety precautions and programs incident thereto;
 - c. for Contractor's failure to comply with Laws and Regulations applicable to Contractor's performance of the Work;
 - d. to make any examination to ascertain how or for what purposes Contractor has used the money paid by Owner; or
 - e. to determine that title to any of the Work, materials, or equipment has passed to Owner free and clear of any Liens.
5. Engineer may refuse to recommend the whole or any part of any payment if, in Engineer's opinion, it would be incorrect to make the representations to Owner stated in Paragraph 15.01.C.2.
6. Engineer will recommend reductions in payment (set-offs) necessary in Engineer's opinion to protect Owner from loss because:
 - a. the Work is defective, requiring correction or replacement;
 - b. the Contract Price has been reduced by Change Orders;
 - c. Owner has been required to correct defective Work in accordance with Paragraph 14.07, or has accepted defective Work pursuant to Paragraph 14.04;
 - d. Owner has been required to remove or remediate a Hazardous Environmental Condition for which Contractor is responsible; or
 - e. Engineer has actual knowledge of the occurrence of any of the events that would constitute a default by Contractor and therefore justify termination for cause under the Contract Documents.

D. *Payment Becomes Due*

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

E. *Reductions in Payment by Owner*

1. In addition to any reductions in payment (set-offs) recommended by Engineer, Owner is entitled to impose a set-off against payment based on any of the following:
 - a. Claims have been made against Owner based on Contractor's conduct in the performance or furnishing of the Work, or Owner has incurred costs, losses, or damages resulting from Contractor's conduct in the performance or furnishing of the Work, including but not limited to claims, costs, losses, or damages from workplace injuries, adjacent property damage, non-compliance with Laws and Regulations, and patent infringement;

- b. Contractor has failed to take reasonable and customary measures to avoid damage, delay, disruption, and interference with other work at or adjacent to the Site;
 - c. Contractor has failed to provide and maintain required bonds or insurance;
 - d. Owner has been required to remove or remediate a Hazardous Environmental Condition for which Contractor is responsible;
 - e. Owner has incurred extra charges or engineering costs related to submittal reviews, evaluations of proposed substitutes, tests and inspections, or return visits to manufacturing or assembly facilities;
 - f. The Work is defective, requiring correction or replacement;
 - g. Owner has been required to correct defective Work in accordance with Paragraph 14.07, or has accepted defective Work pursuant to Paragraph 14.04;
 - h. The Contract Price has been reduced by Change Orders;
 - i. An event has occurred that would constitute a default by Contractor and therefore justify a termination for cause;
 - j. Liquidated or other damages have accrued as a result of Contractor's failure to achieve Milestones, Substantial Completion, or final completion of the Work;
 - k. Liens have been filed in connection with the Work, except where Contractor has delivered a specific bond satisfactory to Owner to secure the satisfaction and discharge of such Liens; or
 - l. Other items entitle Owner to a set-off against the amount recommended.
2. If Owner imposes any set-off against payment, whether based on its own knowledge or on the written recommendations of Engineer, Owner will give Contractor immediate written notice (with a copy to Engineer) stating the reasons for such action and the specific amount of the reduction, and promptly pay Contractor any amount remaining after deduction of the amount so withheld. Owner shall promptly pay Contractor the amount so withheld, or any adjustment thereto agreed to by Owner and Contractor, if Contractor remedies the reasons for such action. The reduction imposed will be binding on Contractor unless it duly submits a Change Proposal contesting the reduction.
 3. Upon a subsequent determination that Owner's refusal of payment was not justified, the amount wrongfully withheld will be treated as an amount due as determined by Paragraph 15.01.D.1 and subject to interest as provided in the Agreement.

15.02 Contractor's Warranty of Title

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

15.03 Substantial Completion

- A. When Contractor considers the entire Work ready for its intended use Contractor shall notify Owner and Engineer in writing that the entire Work is substantially complete and request that Engineer issue a certificate of Substantial Completion. Contractor shall at the same time

submit to Owner and Engineer an initial draft of punch list items to be completed or corrected before final payment.

- B. Promptly after Contractor's notification, Owner, Contractor, and Engineer shall make an inspection of the Work to determine the status of completion. If Engineer does not consider the Work substantially complete, Engineer will notify Contractor in writing giving the reasons therefor.
- C. If Engineer considers the Work substantially complete, Engineer will deliver to Owner a preliminary certificate of Substantial Completion which will fix the date of Substantial Completion. Engineer shall attach to the certificate a punch list of items to be completed or corrected before final payment. Owner shall have 7 days after receipt of the preliminary certificate during which to make written objection to Engineer as to any provisions of the certificate or attached punch list. If, after considering the objections to the provisions of the preliminary certificate, Engineer concludes that the Work is not substantially complete, Engineer will, within 14 days after submission of the preliminary certificate to Owner, notify Contractor in writing that the Work is not substantially complete, stating the reasons therefor. If Owner does not object to the provisions of the certificate, or if despite consideration of Owner's objections Engineer concludes that the Work is substantially complete, then Engineer will, within said 14 days, execute and deliver to Owner and Contractor a final certificate of Substantial Completion (with a revised punch list of items to be completed or corrected) reflecting such changes from the preliminary certificate as Engineer believes justified after consideration of any objections from Owner.
- D. At the time of receipt of the preliminary certificate of Substantial Completion, Owner and Contractor will confer regarding Owner's use or occupancy of the Work following Substantial Completion, review the builder's risk insurance policy with respect to the end of the builder's risk coverage, and confirm the transition to coverage of the Work under a permanent property insurance policy held by Owner. Unless Owner and Contractor agree otherwise in writing, Owner shall bear responsibility for security, operation, protection of the Work, property insurance, maintenance, heat, and utilities upon Owner's use or occupancy of the Work.
- E. After Substantial Completion the Contractor shall promptly begin work on the punch list of items to be completed or corrected prior to final payment. In appropriate cases Contractor may submit monthly Applications for Payment for completed punch list items, following the progress payment procedures set forth above.
- F. Owner shall have the right to exclude Contractor from the Site after the date of Substantial Completion subject to allowing Contractor reasonable access to remove its property and complete or correct items on the punch list.

15.04 *Partial Use or Occupancy*

- A. Prior to Substantial Completion of all the Work, Owner may use or occupy any substantially completed part of the Work which has specifically been identified in the Contract Documents, or which Owner, Engineer, and Contractor agree constitutes a separately functioning and usable part of the Work that can be used by Owner for its intended purpose without

significant interference with Contractor's performance of the remainder of the Work, subject to the following conditions:

1. At any time, Owner may request in writing that Contractor permit Owner to use or occupy any such part of the Work that Owner believes to be substantially complete. If and when Contractor agrees that such part of the Work is substantially complete, Contractor, Owner, and Engineer will follow the procedures of Paragraph 15.03.A through 15.03.E for that part of the Work.
2. At any time, Contractor may notify Owner and Engineer in writing that Contractor considers any such part of the Work substantially complete and request Engineer to issue a certificate of Substantial Completion for that part of the Work.
3. Within a reasonable time after either such request, Owner, Contractor, and Engineer shall make an inspection of that part of the Work to determine its status of completion. If Engineer does not consider that part of the Work to be substantially complete, Engineer will notify Owner and Contractor in writing giving the reasons therefor. If Engineer considers that part of the Work to be substantially complete, the provisions of Paragraph 15.03 will apply with respect to certification of Substantial Completion of that part of the Work and the division of responsibility in respect thereof and access thereto.
4. No use or occupancy or separate operation of part of the Work may occur prior to compliance with the requirements of Paragraph 6.04 regarding builder's risk or other property insurance.

15.05 *Final Inspection*

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

15.06 *Final Payment*

A. *Application for Payment*

1. After Contractor has, in the opinion of Engineer, satisfactorily completed all corrections identified during the final inspection and has delivered, in accordance with the Contract Documents, all maintenance and operating instructions, schedules, guarantees, bonds, certificates or other evidence of insurance, certificates of inspection, annotated record documents (as provided in Paragraph 7.12), and other documents, Contractor may make application for final payment.
2. The final Application for Payment must be accompanied (except as previously delivered) by:
 - a. all documentation called for in the Contract Documents;
 - b. consent of the surety, if any, to final payment;
 - c. satisfactory evidence that all title issues have been resolved such that title to all Work, materials, and equipment has passed to Owner free and clear of any Liens or other title defects, or will so pass upon final payment.

- d. a list of all duly pending Change Proposals and Claims; and
 - e. complete and legally effective releases or waivers (satisfactory to Owner) of all Lien rights arising out of the Work, and of Liens filed in connection with the Work.
3. In lieu of the releases or waivers of Liens specified in Paragraph 15.06.A.2 and as approved by Owner, Contractor may furnish receipts or releases in full and an affidavit of Contractor that: (a) the releases and receipts include all labor, services, material, and equipment for which a Lien could be filed; and (b) all payrolls, material and equipment bills, and other indebtedness connected with the Work for which Owner might in any way be responsible, or which might in any way result in liens or other burdens on Owner's property, have been paid or otherwise satisfied. If any Subcontractor or Supplier fails to furnish such a release or receipt in full, Contractor may furnish a bond or other collateral satisfactory to Owner to indemnify Owner against any Lien, or Owner at its option may issue joint checks payable to Contractor and specified Subcontractors and Suppliers.
- B. *Engineer's Review of Final Application and Recommendation of Payment:* If, on the basis of Engineer's observation of the Work during construction and final inspection, and Engineer's review of the final Application for Payment and accompanying documentation as required by the Contract Documents, Engineer is satisfied that the Work has been completed and Contractor's other obligations under the Contract have been fulfilled, Engineer will, within 10 days after receipt of the final Application for Payment, indicate in writing Engineer's recommendation of final payment and present the final Application for Payment to Owner for payment. Such recommendation will account for any set-offs against payment that are necessary in Engineer's opinion to protect Owner from loss for the reasons stated above with respect to progress payments. Otherwise, Engineer will return the Application for Payment to Contractor, indicating in writing the reasons for refusing to recommend final payment, in which case Contractor shall make the necessary corrections and resubmit the Application for Payment.
- C. *Notice of Acceptability:* In support of its recommendation of payment of the final Application for Payment, Engineer will also give written notice to Owner and Contractor that the Work is acceptable, subject to stated limitations in the notice and to the provisions of Paragraph 15.07.
- D. *Completion of Work:* The Work is complete (subject to surviving obligations) when it is ready for final payment as established by the Engineer's written recommendation of final payment and issuance of notice of the acceptability of the Work.
- E. *Final Payment Becomes Due:* Upon receipt from Engineer of the final Application for Payment and accompanying documentation, Owner shall set off against the amount recommended by Engineer for final payment any further sum to which Owner is entitled, including but not limited to set-offs for liquidated damages and set-offs allowed under the provisions of this Contract with respect to progress payments. Owner shall pay the resulting balance due to Contractor within 30 days of Owner's receipt of the final Application for Payment from Engineer.

15.07 *Waiver of Claims*

- A. By making final payment, Owner waives its claim or right to liquidated damages or other damages for late completion by Contractor, except as set forth in an outstanding Claim,

appeal under the provisions of Article 17, set-off, or express reservation of rights by Owner. Owner reserves all other claims or rights after final payment.

- B. The acceptance of final payment by Contractor will constitute a waiver by Contractor of all claims and rights against Owner other than those pending matters that have been duly submitted as a Claim, or appealed under the provisions of Article 17.

15.08 *Correction Period*

- A. If within one year after the date of Substantial Completion (or such longer period of time as may be prescribed by the Supplementary Conditions or the terms of any applicable special guarantee required by the Contract Documents), Owner gives Contractor written notice that any Work has been found to be defective, or that Contractor's repair of any damages to the Site or adjacent areas has been found to be defective, then after receipt of such notice of defect Contractor shall promptly, without cost to Owner and in accordance with Owner's written instructions:
 - 1. correct the defective repairs to the Site or such adjacent areas;
 - 2. correct such defective Work;
 - 3. remove the defective Work from the Project and replace it with Work that is not defective, if the defective Work has been rejected by Owner, and
 - 4. satisfactorily correct or repair or remove and replace any damage to other Work, to the work of others, or to other land or areas resulting from the corrective measures.
- B. Owner shall give any such notice of defect within 60 days of the discovery that such Work or repairs is defective. If such notice is given within such 60 days but after the end of the correction period, the notice will be deemed a notice of defective Work under Paragraph 7.17.B.
- C. If, after receipt of a notice of defect within 60 days and within the correction period, Contractor does not promptly comply with the terms of Owner's written instructions, or in an emergency where delay would cause serious risk of loss or damage, Owner may have the defective Work corrected or repaired or may have the rejected Work removed and replaced. Contractor shall pay all costs, losses, and damages (including but not limited to all fees and charges of engineers, architects, attorneys, and other professionals and all court or arbitration or other dispute resolution costs) arising out of or relating to such correction or repair or such removal and replacement (including but not limited to all costs of repair or replacement of work of others). Contractor's failure to pay such costs, losses, and damages within 10 days of invoice from Owner will be deemed the start of an event giving rise to a Claim under Paragraph 12.01.B, such that any related Claim must be brought within 30 days of the failure to pay.
- D. In special circumstances where a particular item of equipment is placed in continuous service before Substantial Completion of all the Work, the correction period for that item may start to run from an earlier date if so provided in the Specifications.
- E. Where defective Work (and damage to other Work resulting therefrom) has been corrected or removed and replaced under this paragraph, the correction period hereunder with respect to such Work will be extended for an additional period of one year after such correction or removal and replacement has been satisfactorily completed.

- F. Contractor's obligations under this paragraph are in addition to all other obligations and warranties. The provisions of this paragraph are not to be construed as a substitute for, or a waiver of, the provisions of any applicable statute of limitation or repose.

ARTICLE 16—SUSPENSION OF WORK AND TERMINATION

16.01 *Owner May Suspend Work*

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

16.02 *Owner May Terminate for Cause*

- A. The occurrence of any one or more of the following events will constitute a default by Contractor and justify termination for cause:
 - 1. Contractor's persistent failure to perform the Work in accordance with the Contract Documents (including, but not limited to, failure to supply sufficient skilled workers or suitable materials or equipment, or failure to adhere to the Progress Schedule);
 - 2. Failure of Contractor to perform or otherwise to comply with a material term of the Contract Documents;
 - 3. Contractor's disregard of Laws or Regulations of any public body having jurisdiction; or
 - 4. Contractor's repeated disregard of the authority of Owner or Engineer.
- B. If one or more of the events identified in Paragraph 16.02.A occurs, then after giving Contractor (and any surety) 10 days' written notice that Owner is considering a declaration that Contractor is in default and termination of the Contract, Owner may proceed to:
 - 1. declare Contractor to be in default, and give Contractor (and any surety) written notice that the Contract is terminated; and
 - 2. enforce the rights available to Owner under any applicable performance bond.
- C. Subject to the terms and operation of any applicable performance bond, if Owner has terminated the Contract for cause, Owner may exclude Contractor from the Site, take possession of the Work, incorporate in the Work all materials and equipment stored at the Site or for which Owner has paid Contractor but which are stored elsewhere, and complete the Work as Owner may deem expedient.
- D. Owner may not proceed with termination of the Contract under Paragraph 16.02.B if Contractor within 7 days of receipt of notice of intent to terminate begins to correct its failure to perform and proceeds diligently to cure such failure.
- E. If Owner proceeds as provided in Paragraph 16.02.B, Contractor shall not be entitled to receive any further payment until the Work is completed. If the unpaid balance of the Contract Price exceeds the cost to complete the Work, including all related claims, costs, losses, and damages (including but not limited to all fees and charges of engineers, architects,

attorneys, and other professionals) sustained by Owner, such excess will be paid to Contractor. If the cost to complete the Work including such related claims, costs, losses, and damages exceeds such unpaid balance, Contractor shall pay the difference to Owner. Such claims, costs, losses, and damages incurred by Owner will be reviewed by Engineer as to their reasonableness and, when so approved by Engineer, incorporated in a Change Order. When exercising any rights or remedies under this paragraph, Owner shall not be required to obtain the lowest price for the Work performed.

- F. Where Contractor's services have been so terminated by Owner, the termination will not affect any rights or remedies of Owner against Contractor then existing or which may thereafter accrue, or any rights or remedies of Owner against Contractor or any surety under any payment bond or performance bond. Any retention or payment of money due Contractor by Owner will not release Contractor from liability.
- G. If and to the extent that Contractor has provided a performance bond under the provisions of Paragraph 6.01.A, the provisions of that bond will govern over any inconsistent provisions of Paragraphs 16.02.B and 16.02.D.

16.03 *Owner May Terminate for Convenience*

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

16.04 *Contractor May Stop Work or Terminate*

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

provisions of this paragraph are not intended to preclude Contractor from submitting a Change Proposal for an adjustment in Contract Price or Contract Times or otherwise for expenses or damage directly attributable to Contractor's stopping the Work as permitted by this paragraph.

ARTICLE 17—FINAL RESOLUTION OF DISPUTES

17.01 *Methods and Procedures*

- A. *Disputes Subject to Final Resolution:* The following disputed matters are subject to final resolution under the provisions of this article:
1. A timely appeal of an approval in part and denial in part of a Claim, or of a denial in full, pursuant to Article 12; and
 2. Disputes between Owner and Contractor concerning the Work, or obligations under the Contract Documents, that arise after final payment has been made.
- B. *Final Resolution of Disputes:* For any dispute subject to resolution under this article, Owner or Contractor may:
1. elect in writing to invoke the dispute resolution process provided for in the Supplementary Conditions;
 2. agree with the other party to submit the dispute to another dispute resolution process; or
 3. if no dispute resolution process is provided for in the Supplementary Conditions or mutually agreed to, give written notice to the other party of the intent to submit the dispute to a court of competent jurisdiction.

ARTICLE 18—MISCELLANEOUS

18.01 *Giving Notice*

- A. Whenever any provision of the Contract requires the giving of written notice to Owner, Engineer, or Contractor, it will be deemed to have been validly given only if delivered:
1. in person, by a commercial courier service or otherwise, to the recipient's place of business;
 2. by registered or certified mail, postage prepaid, to the recipient's place of business; or
 3. by e-mail to the recipient, with the words "Formal Notice" or similar in the e-mail's subject line.

18.02 *Computation of Times*

- A. When any period of time is referred to in the Contract by days, it will be computed to exclude the first and include the last day of such period. If the last day of any such period falls on a Saturday or Sunday or on a day made a legal holiday by the law of the applicable jurisdiction, such day will be omitted from the computation.

18.03 *Cumulative Remedies*

- A. The duties and obligations imposed by these General Conditions and the rights and remedies available hereunder to the parties hereto are in addition to, and are not to be construed in any way as a limitation of, any rights and remedies available to any or all of them which are otherwise imposed or available by Laws or Regulations, by special warranty or guarantee, or by other provisions of the Contract. The provisions of this paragraph will be as effective as if repeated specifically in the Contract Documents in connection with each particular duty, obligation, right, and remedy to which they apply.

18.04 *Limitation of Damages*

- A. With respect to any and all Change Proposals, Claims, disputes subject to final resolution, and other matters at issue, neither Owner nor Engineer, nor any of their officers, directors, members, partners, employees, agents, consultants, or subcontractors, shall be liable to Contractor for any claims, costs, losses, or damages sustained by Contractor on or in connection with any other project or anticipated project.

18.05 *No Waiver*

- A. A party's non-enforcement of any provision will not constitute a waiver of that provision, nor will it affect the enforceability of that provision or of the remainder of this Contract.

18.06 *Survival of Obligations*

- A. All representations, indemnifications, warranties, and guarantees made in, required by, or given in accordance with the Contract, as well as all continuing obligations indicated in the Contract, will survive final payment, completion, and acceptance of the Work or termination of the Contract or of the services of Contractor.

18.07 *Controlling Law*

- A. This Contract is to be governed by the law of the state in which the Project is located.

18.08 *Assignment of Contract*

- A. Unless expressly agreed to elsewhere in the Contract, no assignment by a party to this Contract of any rights under or interests in the Contract will be binding on the other party without the written consent of the party sought to be bound; and, specifically but without limitation, money that may become due and money that is due may not be assigned without such consent (except to the extent that the effect of this restriction may be limited by law), and unless specifically stated to the contrary in any written consent to an assignment, no assignment will release or discharge the assignor from any duty or responsibility under the Contract.

18.09 *Successors and Assigns*

- A. Owner and Contractor each binds itself, its successors, assigns, and legal representatives to the other party hereto, its successors, assigns, and legal representatives in respect to all covenants, agreements, and obligations contained in the Contract Documents.

18.10 *Headings*

- A. Article and paragraph headings are inserted for convenience only and do not constitute parts of these General Conditions.

SUPPLEMENTARY CONDITIONS
SECTION 00800

SUPPLEMENTARY CONDITIONS
(TO ACCOMPANY STANDARD GENERAL CONDITIONS OF THE CONSTRUCTION CONTRACT,
EJCDC NO. C-700 [2007 EDITION] FOR CITY OF TOMBALL CONSTRUCTION PROJECTS)

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SECTION 00800

SUPPLEMENTARY CONDITIONS

PART I AMENDMENTS TO GENERAL CONDITIONS

These Supplementary Conditions amend or supplement the Standard General Conditions of the Construction Contract (General Conditions) and other provisions of the Contract Documents as indicated below. All provisions which are not so amended or supplemented remain in full force and effect.

ARTICLE 1 DEFINITIONS

SC-1.01

The terms used in these Supplementary Conditions which are defined in the Standard General Conditions of the Construction Contract (General Conditions) have the meanings assigned to them in the General Conditions.

Amend Paragraph 1.01.A.19, Engineer, of the General Conditions by adding the following to the end:

"For this project the following named persons, firms, or corporations have been utilized by ENGINEER to furnish services as a consultant with respect to the project (if blank, none have been utilized by the ENGINEER):

1. _____
2. _____
3. _____"

ARTICLE 2 PRELIMINARY MATTERS

SC-2.02

Amend the first sentence of Paragraph 2.02.A of the General Conditions to read as follows:

"Five sets of the Contract Documents shall be furnished to the CONTRACTOR, at no charge, for construction purposes."

And so amended, Paragraph 2.02 remains in effect.

SC-2.03

Amend the third sentence of Paragraph 2.03.A of the General Conditions to read as follows:

"In no event will the Contract Time commence to run later than 90 days after the day of Bid opening or 30 days after the Effective Date of the Agreement, whichever is earlier, without the written agreement of the Contractor and Owner."

ARTICLE 4 AVAILABILITY OF LANDS; SUBSURFACE AND PHYSICAL CONDITIONS;
HAZARDOUS ENVIRONMENTAL CONDITIONS; REFERENCE POINTS

SC-4.02

In the preparation of Drawings and Specifications, ENGINEER or ENGINEER's Consultants have relied upon:

4.02.A.1 The following reports of exploration and tests of subsurface conditions at the site of the Work (if blank, no reports or tests were used by ENGINEER or ENGINEER's Consultants):

1. _____
2. _____

The technical data contained in such reports upon which the CONTRACTOR may rely is _____.

4.02.A.2 The following drawings of physical conditions in or relating to existing surface and subsurface structures (except Underground Facilities) which are at or contiguous to the site of Work:

1. _____
2. _____
3. _____

All of the information in such drawings constitutes technical data on which CONTRACTOR may rely with the following exceptions: _____

Copies of these reports and drawings that are not included with the Bidding Documents may be examined at the office of the ENGINEER during regular business hours. These reports and drawings are not part of the Contract Documents, but the technical data contained therein upon which CONTRACTOR is entitled to rely as provided in GC-4.02.B and as identified and established above are incorporated therein by reference. CONTRACTOR is not entitled to rely upon other information and data utilized by ENGINEER.

SC-4.06

Delete Paragraph 4.06.G of the General Conditions in its entirety.

ARTICLE 5 BONDS AND INSURANCE

SC-5.01

Delete Paragraphs 5.01.A and 5.01.B of the General Conditions in their entirety and insert the following in their place:

"A. The Successful Bidder must furnish with the executed Contract Documents a Performance Bond and a Payment Bond on the forms furnished with the Contract Documents, each in the amount of 100% of the total Contract Price in accordance with Texas Local Government Code § 252.044 and Texas Government Code Ch. 2253. CONTRACTOR shall also furnish such other Bonds as are required by the Supplementary Conditions. The surety company must be authorized to do business in Texas, which authorization must be recorded in the files of the State Board of Insurance. The surety company must be authorized to issue Payment and Performance Bonds in the amount required for the particular Contract, which authorization must be recorded in the files of the State Board of Insurance. The surety company must have a rating of at least "B" in the current Best's Key Rating Guide, or if the surety company does not have such a rating due to the length of time it has existed, the surety company must be eligible to participate in the surety bond guarantee program of the Small Business Administration and must be an approved surety listed in the current U.S. Department of Treasury Circular 570, and must meet all of the related rules and regulations of the Treasury Department. The person executing the Payment and Performance Bonds must be a licensed Texas local recording agent, and such licensing must be recorded in the files of the State Board of Insurance. The person executing the Payment and Performance Bonds must be authorized by the surety company to execute Payment and Performance Bonds on behalf of the company in the amount required for the Contract, and such authorization must be recorded in the files of the State Board of Insurance. The Contract shall not be in effect until such Bonds have been provided by the CONTRACTOR and accepted by the OWNER."

SC-5.04

The limits of liability for the insurance required by Paragraph 5.04 of the General Conditions shall provide coverage for not less than the following amounts or greater where required by Laws and Regulations:

Worker's Compensation

- (1) State: Statutory
- (2) Applicable Federal (e.g., Longshoreman's): Statutory
- (3) Employer's Liability:

\$500,000	Each Accident
\$500,000	Disease - Policy Limit
\$500,000	Disease - Each Employee

Commercial General Liability

- (1) General Aggregate Limit (other than products-completed operations) coverage must include Explosion, Collapse, and Underground Coverages \$1,000,000
- (2) Products-Completed Operations Aggregate Limit \$1,000,000
- (3) Each Occurrence Limit \$ 500,000

Commercial Automobile Liability

\$500,000 Any One Loss or Accident

Umbrella Liability

\$1,000,000 Excess Limit

Shortages in coverage in any of the areas listed above may be covered by additional umbrella coverage.

The Contractor shall not commence work on any Contract in the City until the Contractor has obtained all the insurance required under this paragraph and such insurance has been approved by the City.

Workers' Compensation Insurance Coverage - Continued

A. Definitions:

Certificate of coverage ("certificate") - A copy of a certificate of insurance, a certificate of authority to self-insure issued by the commission, or a coverage agreement (DWC-81, DWC-82, 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 ("subcontractor" in 406.096) - includes all persons or entities performing all or part of the services the contractor has undertaken to perform on the project, regardless of whether that person contracted directly with the contractor and regardless of whether that person has employees. This includes, without limitation, independent contractors, subcontractors, leasing companies, motor carriers, owner-operators, employees of any such entity, or employees of any entity which furnished 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, which 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 the 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 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 days after the contractor knew or should have known, of 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, Texas Department of Insurance, 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, which 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 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 require by paragraphs (1) - (7), 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 which entitles the governmental entity to declare the contract void if the contractor does not remedy the breach within ten days after receipt of notice of breach from the governmental entity.

SC-5.06

Delete Paragraphs 5.06, 5.07, and 5.08 of the General Conditions in their entirety.

SC-5.09

Delete Paragraph 5.09 of the General Conditions in its entirety and insert the following in its place:

- "A. If OWNER has any objection to the coverage afforded by or other provisions of the insurance required to be purchased and maintained by CONTRACTOR in accordance with Article 5 on the basis of its not complying with the Contract Documents, OWNER shall notify CONTRACTOR in writing. OWNER and CONTRACTOR shall each provide to the other such information in respect of insurance provided by each as the other may reasonably request."

ARTICLE 6 CONTRACTOR'S RESPONSIBILITIES

SC-6.02

Add Paragraph 6.02.C to the General Conditions to read as follows:

- "C. CONTRACTOR further covenants and agrees that it does not and will not knowingly employ an undocumented worker. An "undocumented worker" shall mean an individual who, at the time of employment, is not (a) lawfully admitted for permanent residence to the United States, or (b) authorized by law to be employed in that manner in the United States."

SC-6.06

Delete Paragraph 6.06.G of the General Conditions in its entirety and insert the following in its place:

"G. All Work performed for CONTRACTOR by a Subcontractor will be pursuant to an appropriate Agreement between CONTRACTOR and the Subcontractor which specifically binds the Subcontractor to the applicable terms and conditions of the Contract Documents for the benefit of OWNER and ENGINEER."

Add a new paragraph immediately after Paragraph 6.06.G of the General Conditions which is to read as follows:

"6.06.H OWNER or ENGINEER may furnish to any such Subcontractor, Supplier, or other person or organization, to the extent practicable, information about amounts paid to CONTRACTOR in accordance with CONTRACTOR's Applications for Payment on account of the particular Subcontractor's, Supplier's, other person's, or other organization's Work."

SC-6.10

Delete Paragraph 6.10 of the General Conditions in its entirety and insert the following in its place:

"A. The CONTRACTOR's attention is directed to Paragraph No. 3 of Ruling No. 9, Repairmen and Contractors (as amended) issued by the Comptroller of Public Accounts. Reference Article 20.01 (T), Limited Sales, Excise, and Use Tax and to subsequent applicable legislation. The OWNER requires that no sales tax be paid on any materials incorporated into the completed Work on this Project. All Bidders and their respective Subcontractors must comply with Paragraph No. 3 of Ruling No. 9 by obtaining the necessary permit or permits from the State Comptroller allowing the purchase of materials for incorporation into this Project without having to pay the Limited Sales, Excise, and Use Tax at the time of purchase. Total materials cost should not include materials which are used up or consumed in performing the Work, but which do not become a part of this proposed Work."

SC-6.16

Amend the third sentence of Paragraph 6.16 of the General Conditions to read as follows:

"If ENGINEER and OWNER determine that a change in the Contract Documents is required because of the action taken by CONTRACTOR in response to such an emergency, a Work Change Directive or Change Order will be issued."

And so amended, Paragraph 6.16 remains in effect.

SC-6.22

Amend Article 6 of the General Conditions by inserting the following Paragraph 6.22:

"6.22 LOSSES FROM NATURAL CAUSES:

A. All loss or damage to the CONTRACTOR arising out of the nature of the Work to be done, or from the action of the elements, or from any unforeseen circumstance in the prosecution of the same, or from unusual obstructions or difficulties which may be encountered in the prosecution of the Work, shall be sustained and borne by the CONTRACTOR at his own cost and expense."

ARTICLE 7 OTHER WORK AT THE SITE

SC-7.02

Delete Paragraphs 7.02.A and 7.02.B of the General Conditions in their entirety and insert the following in its place:

"A. If OWNER contracts with others for the performance of other Work on the Project at the site, the person or organization who will have authority and responsibility for coordination of the activities among the various prime contractors shall be the OWNER's Representative. The extent of the authority and responsibility of the OWNER's Representative will be as specified in the Contract Documents."

"B. Should CONTRACTOR cause damage to work or property of any separate contractor at the site, or should any claim arising out of CONTRACTOR'S performance of the Work at the site be made by any separate contractor against CONTRACTOR, OWNER, ENGINEER, ENGINEER'S Consultants, the Construction Coordinator, or any other person, CONTRACTOR shall promptly attempt to settle with such other contractor by agreement, or otherwise resolve the dispute by arbitration or at law. CONTRACTOR shall, to the fullest extent permitted by Laws and Regulations, indemnify and hold OWNER, ENGINEER, ENGINEER's Consultants, and the Construction Coordinator harmless from and against all claims, damages, losses, and expenses (including, but not limited to, fees of engineers, architects, attorneys and other professionals, and court and arbitration costs) arising directly, indirectly or consequentially out of any action, legal or equitable, brought by any separate contractor against OWNER, ENGINEER, ENGINEER's Consultants or the Construction Coordinator to the extent based on a claim arising out of CONTRACTOR's performance of the Work. Should a separate contractor cause damage to the Work or property of CONTRACTOR or should the performance of Work by any separate contractor at the site give rise to any other claim, CONTRACTOR shall not institute any action, legal or equitable, against OWNER, ENGINEER, ENGINEER's Consultants, or the Construction Coordinator or permit any action against any of them to be maintained and continued in its name or for its benefit in any court or before any arbiter which seeks to impose liability on or to recover damages from OWNER, ENGINEER, ENGINEER's Consultants, or the Construction Coordinator on account of any such damage or claim. If CONTRACTOR is delayed at any time in performing or furnishing Work by any act or neglect of a separate contractor and OWNER and CONTRACTOR are unable to agree as to the extent of any adjustment in Contract Times attributable thereto, CONTRACTOR may make a claim for an extension of times in accordance with Article 12. An extension of the Contract Times shall be CONTRACTOR's exclusive remedy with respect to OWNER, ENGINEER, ENGINEER's Consultants, and Construction Coordinator for any delay, disruption, interference, or hindrance caused by any separate contractor. This paragraph does not prevent recovery from OWNER, ENGINEER, ENGINEER's Consultant, or Construction Coordinator for activities that are their respective responsibilities."

ARTICLE 8 OWNER'S RESPONSIBILITIES

SC-8.02

Amend Paragraph 8.02 of the General Conditions to read as follows:

"In case of termination of the employment of ENGINEER, OWNER shall appoint an engineer whose status under the Contract Documents shall be that of the former ENGINEER."

And so amended, Paragraph 8.02 remains in effect.

SC-8.06

Delete Paragraph 8.06 of the General Conditions in its entirety.

ARTICLE 9 ENGINEER'S STATUS DURING CONSTRUCTION

SC-9.01

Amend the second sentence of Paragraph 9.01 of the General Conditions to read as follows:

"The duties and responsibilities and the limitations of authority of ENGINEER as OWNER's representative during construction are set forth in the Contract Documents and will not be changed except by written direction of OWNER."

And so amended, Paragraph 9.01 remains in effect.

SC-9.04

Delete the third sentence of Paragraph 9.04, Authorized Variations in Work, of the General Conditions in its entirety, and so amended, Paragraph 9.04 remains in effect.

ARTICLE 10 CHANGES IN THE WORK; CLAIMS

SC-10.03

Amend the first sentence of Paragraph 10.03.A of the General Conditions to read as follows:

"OWNER and CONTRACTOR shall, when appropriate, execute Change Orders recommended by ENGINEER (or Written Amendments) covering:"

And so amended, Paragraph 10.03 remains in effect.

SC-10.05

Amend the first sentence of Paragraph 10.05.B., Claims – Notice, of the General Conditions shall be amended by changing ""30 days" to read "fourteen (14) calendar days"

Amend Paragraph 10.05.E by deleting it in its entirety.

And so amended, Paragraph 10.05 remains in effect.

ARTICLE 13 TESTS AND INSPECTIONS; CORRECTION, REMOVAL, OR ACCEPTANCE OF DEFECTIVE WORK

SC-13.04

Amend the first sentence of Paragraph 13.04.B of the General Conditions to read as follows:

"If ENGINEER considers it necessary or advisable that covered Work be observed by ENGINEER or inspected or tested by others, CONTRACTOR, at ENGINEER's request and with OWNER's written approval, shall uncover, expose, or otherwise make available for observation, inspection, or testing as ENGINEER may require, that portion of the Work in question, furnishing all necessary labor, material, and equipment."

And so amended, Paragraph 13.04 remains in effect.

SC-13.07

Delete Paragraph 13.07.D of the General Conditions in its entirety and insert the following in its place:

"D. Notwithstanding any other provision of this section or the Contract Documents to the contrary, this provision shall not serve to limit any causes of action which the OWNER may have against the CONTRACTOR for Defective Work or for otherwise failing to fulfill CONTRACTOR's obligations under the Contract Documents; nor shall this provision serve to limit the time in which such causes of action shall be asserted."

SC-13.09

Amend the second sentence of Paragraph 13.09.B of the General Conditions to read as follows:

"In connection with such corrective and remedial action, OWNER may exclude CONTRACTOR from all or part of the Site, take possession of all or part of the Work and suspend CONTRACTOR's services related thereto, and incorporate in the Work all materials and equipment stored at the Site or for which OWNER has paid CONTRACTOR but which are stored elsewhere."

And so amended, Paragraph 13.09 remains in effect.

ARTICLE 14 PAYMENTS TO CONTRACTOR AND COMPLETION

SC-14.02

Amend Paragraph 14.02.D.1.b of the General Conditions to read as follows:

"Claims or Liens have been filed in connection with the Work, except where CONTRACTOR has delivered a specific Bond satisfactory to OWNER to secure the satisfaction and discharge of such Liens;"

Add Paragraph 14.02.D.1.e to the General Conditions to read as follows:

"OWNER concludes that one or more of the events enumerated in Paragraph 14.02.B.2.a through 14.02.B.2.c have not occurred."

And so amended, Paragraph 14.02 remains in effect.

SC-14.03

Amend Paragraph 14.03.A of the General Conditions to read as follows:

"CONTRACTOR warrants and guarantees that title to all Work, materials, and equipment covered by any Application for Payment, whether incorporated in the Project or not, will pass to OWNER no later than the time of payment free and clear of all Liens or Claims."

And so amended, Paragraph 14.03 remains in effect.

SC-14.04

Insert prior to the first sentence of Paragraph 14.04.A of the General Conditions the following:

"Substantial completion is the stage in the progress of the Work when the Work or designated portion thereof is sufficiently complete in accordance with the Contract Documents so that the OWNER can occupy or utilize the Work for its intended use."

And so amended, Paragraph 14.04 remains in effect.

SC-14.07

Amend Paragraph 14.07.A.2(d) of the General Conditions to read as follows:

"complete and legally effective releases or waivers (satisfactory to OWNER) of all Claim or Lien rights arising out of or Claims or Liens filed in connection with the Work."

Amend Paragraph 14.07.A.3 of the General Conditions to read as follows:

"In lieu of the releases or waivers of Liens and Claims specified in Paragraph 14.07.A.2 and as approved by OWNER, CONTRACTOR may furnish receipts or releases in full and an affidavit of CONTRACTOR that: (i) the releases and receipts include all labor, services, material, and equipment for which a Lien or Claim could be filed; and (ii) all payrolls, material and equipment bills, and other indebtedness connected with the Work for which OWNER or OWNER's property might in any way be responsible have been paid or otherwise satisfied. If any Subcontractor or Supplier fails to furnish such a release or receipt in full, CONTRACTOR may furnish a Bond or other collateral satisfactory to OWNER to indemnify OWNER against any Lien or Claim."

Amend Paragraph 14.07.C.1 of the General Conditions to read as follows:

"If OWNER concurs with ENGINEER's recommendation, thirty days after the presentation to OWNER of the Application for Payment and accompanying documentation, the amount recommended by ENGINEER will become due and, when due, will be paid by OWNER to CONTRACTOR."

And so amended, Paragraph 14.07 remains in effect.

SC-14.09

Amend Paragraph 14.09.A.1 of the General Conditions to read as follows:

"a waiver of all Claims by OWNER against CONTRACTOR, except Claims arising from unsettled Liens or Claims of laborers and materialmen, from defective Work appearing after final inspection pursuant to Paragraph 14.06, from failure to comply with the Contract Documents or the terms of any special guarantees specified therein, or from CONTRACTOR's continuing obligations under the Contract Documents; and"

And so amended, Paragraph 14.09 remains in effect.

ARTICLE 15 SUSPENSION OF WORK AND TERMINATION

SC-15.02

Amend Paragraph 15.02.A.1 of the General Conditions to read as follows:

"CONTRACTOR's failure to perform the Work in accordance with the Contract Documents (including, but not limited to, failure to supply sufficient skilled workers or suitable materials or equipment or failure to adhere to the progress schedule established under Paragraph 2.07 as adjusted from time to time pursuant to Paragraph 6.04);"

Amend the first sentence of Paragraph 15.02.B of the General Conditions to read as follows:

"If one or more of the events identified in Paragraph 15.02.A occur, OWNER may, after giving CONTRACTOR (and the surety, if any) seven days written notice, terminate the services of CONTRACTOR, exclude CONTRACTOR from the Site and take possession of the Work, incorporate in the Work all materials and equipment stored at the Site or for which OWNER has paid CONTRACTOR but which are stored elsewhere, and finish the Work as OWNER may deem expedient."

And so amended, Paragraph 15.02 remains in effect.

ARTICLE 16 DISPUTE RESOLUTION

SC-16.01

Amend Paragraph 16.01 A. of the General Conditions by deleting the second and third sentences in their entirety.

Amend Paragraph 16.01 B. of the General Conditions by deleting it in its entirety.

ARTICLE 17 MISCELLANEOUS

Amend "ARTICLE 17 MISCELLANEOUS PROVISIONS of the General Conditions to add the following provisions:

- 17.07 WAGE RATES. The prevailing wage rates for this project are included as Exhibit A to the Supplementary Conditions and are hereby made a part of the Contract Documents by reference. Wages not less than these rates must be paid on this project, including fringe benefits. The CONTRACTOR shall post the Prevailing Wage Rate Determination in a prominent and easily accessible location at the project site and shall abide by all associated laws and regulations pertaining thereto.
- 17.08 LIQUIDATED DAMAGES. The Owner will suffer financial loss in an amount that is difficult to quantify if the Project is not Substantially Completed on the date set forth in the Contract Documents. The Owner may assess liquidated damages against the Contractor (and its surety) in an amount equal to .5% of the Contract per week for each project, as fixed, agreed and liquidated damages and not a penalty, for each calendar day of delay until the Work is Substantially Completed. In the event liquidated damages are caused by the Contractor and another entity, the Owner may reasonably apportion damages. The right to assess liquidated damages is in addition to, and not in limitation of, any right or remedy available to the Owner."
- 17.09 VENUE. This Agreement is governed by the laws of the State of Texas. The parties agree that venue for any litigation arising out of this Agreement shall lie exclusively in the State and Federal Courts in Harris County, Texas.
- 17.10 NO THIRD PARTY BENEFICIARIES The signing parties to this agreement do not intend to confer any rights upon any persons not a party to this Contract; accordingly this contract shall not be construed to create any third party beneficiaries."

(SPACE INTENTIONAL)

PART II OTHER PROVISIONS

The following additional items are attached to this section.

1. Exhibit A, Wage Rates
2. Exhibit B, Worker's Compensation Insurance Coverage
3. Exhibit C, A Listing of the Duties, Responsibilities, and Limitations of Authority of the Resident Project Representative
4. Exhibit D, Addenda (if any)
5. Exhibit E, Change Order (form)
6. Exhibit F, Application for Payment (form)
7. Exhibit G, Storm Water Pollution Prevention Plan
8. Exhibit H, Conflict of Interest Questionnaire

END OF SECTION 00800

EXHIBIT A

Wage Rates

Document 00820

WAGE SCALE AND PAYROLL REQUIREMENTS FOR ENGINEERING
CONSTRUCTION

Wage Scale Requirements

- 1.1 In accordance with Prevailing Wage Law on Public Works (Chapter 2258 of the Texas Government Code), the public body awarding Contract does hereby specify the following to be the general prevailing rates in the locality in which the Work is being performed.
- 1.2 This prevailing wage rate does not prohibit the payment of more than the rates stated.
- 1.3 In bidding, Contractor warrants and represents that it has carefully examined the classifications for each craft or type of worker needed to execute the Contract and determined that such classifications in Exhibit "A" include all necessary categories to perform the work under the Contract.
- 1.4 The wage scale for engineering construction is to be applied to all site work greater than five feet from an exterior wall of new building under construction or from an exterior wall of an existing building.
- 1.5 If Contractor believes that an additional classification for a particular craft or type of worker is necessary to perform work under the Contract, it must submit with its bid a request to the Contract Compliance Division of the Office Of Business Opportunity ("OBO") to use an additional labor classification not listed in Exhibit "A" and specify the proposed new classification. OBO shall determine whether a proposed classification is already covered in Exhibit "A", and, if it is, specify which classification is appropriate. OBO's decision is conclusive. If OBO decides that a new classification is necessary, it will determine the appropriate prevailing wage rate for any resurveyed, amended, new, or additional craft or type of worker not covered by Exhibit "A". Such determination must be decided in accordance with procedures established by OBO, and in compliance with Chapter 2258 of the Texas Government Code.
- 1.6 Contractor must not use any labor classification not covered by Exhibit "A" until such classification is established and approved for use by OBO.
- 1.7 A Contractor or Subcontractor who violates Chapter 2258 of the Texas Government Code must pay to the City, \$60 per each worker employed for each calendar day or part of the day that the worker is paid less than the wage rates set forth in Exhibit "A".

- 1.8 The City may withhold money required to be withheld under Chapter 2258 of the Texas Government Code from the final payment to Contractor or earlier payments if City Council makes a determination that there is good cause to believe that Contractor has not complied with these provisions and Chapter 2258 of the Government Code, in which case the City may withhold the money at any time subsequent to the finding by City Council.
- 1.9 Contractor and Subcontractors must keep records specifying:
- (1) the name and classification of each worker employed under the Contract; and
 - (2) the actual per diem wages paid to each worker, and the applicable hourly rate.
- The records must be open at all reasonable hours for inspection by the officers and agents of the City.
- 1.10 The hourly cost of salary for non-exempt workers for labor in excess of 40 hours per worker per week, shall be calculated at 1.5 times the worker's base pay for the applicable craft and level.

Certified Payroll Requirements

- 2.1 Employees are paid weekly and payrolls are submitted weekly using the City of Tomball's electronic payroll submission module, unless the prime Contractor has been instructed to do otherwise by the Office of Business Opportunity. When no work is done after a Contractor has started work, the Contractor is required to submit a weekly compliance statement indicating no work was performed. The payrolls must reflect the exact work and classification of the workers, the exact amount that they were paid. Workers must be paid the contracted amount (prevailing wage rates). The Contractor will be penalized \$60.00 a day for each employee who is underpaid per Texas Government Code §2258.023 for all contracts.
- 2.2 Payrolls must be submitted electronically & indicate whether the worker worked inside or outside the building area when both wage rates are applicable to the contract.
- 2.3 Payrolls must be submitted each week until all work by the contractor is complete and the electronic payroll submission is marked as final in the system.
- 2.4 Payrolls must cover a seven day period from the start of the work week and must be consecutive seven day periods until all work is complete.
- 2.5 Payrolls must have employees' names, addresses, last four digits of the social security numbers, and job classifications. The job classifications must be the same as the classifications on the prevailing wage rate schedule.

- 2.6 A payroll deduction authorization form must be submitted for each employee for any deductions other than Federal and FICA taxes.
- 2.7 Employees must be paid overtime (time and a half) for all hours worked over 40 hours a week on both federally and City-funded contracts.
- 2.8 The Contractor has the responsibility to comply with all Internal Revenue Service rules and regulations. Contractors who submit certified payrolls with **Owner Operators (truckers)** must submit a signed tax liability statement from Owner Operator acknowledging their responsibility for Federal Income Tax and FICA reporting obligations.
- 2.9 If the Contractor wants to use the apprentice wage rates for an employee, the apprenticeship certificates must be submitted to the Office of Business Opportunity in advance of the employee working on the project and appearing on the payroll. You must comply with the listed number of journeymen to apprentices as listed.
- 2.10 A poster of the Prevailing Wage Rate Schedule should be clearly displayed on each job site from the time the project starts until the work is completed, or in case of annual service agreements, in the Contractor's office.
- 2.11 The Contractor shall submit the "Certificate from Contractor Appointing Officer or Employee to Supervise Payment of Employees" (Exhibit "**B**") to the Monitoring Authority listed in Document 00495 prior to final execution of the contract.
- 2.12 During the course of the work, ALL Subcontractors shall submit the "Certificate from Subcontractor Appointing Officer or Employee to Supervise Payment of Employees" (Exhibit "**C**") to the Monitoring Authority listed in Document 00495.
- 2.13 Upon completion of the Project, as part of the contract-awarding department's total clearance process, the Office of Business Opportunity's Contract Compliance Section must review whether the Wage Rate and Payroll Requirements were met and report the results to the department.

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**WAGE SCALE AND PAYROLL REQUIREMENTS
FOR ENGINEERING CONSTRUCTION**

EXHIBIT "A"

LABOR CLASSIFICATIONS AND PREVAILING WAGE RATES FOR
ENGINEERING CONSTRUCTION **2016 & 2023***

CLASSIFICATION	RATE	CLASSIFICATION	RATE
Asphalt Distributor Operator	\$14.06*	Milling Machine Operator - Fine Grade	\$13.53
Asphalt Paving Machine Operator	\$14.32*	Mixer Operator	\$10.33
Asphalt Raker	\$12.36*	Motor Grader Operator- Rough	\$14.23*
Asphalt. Shoveler	\$11.68	Motor Grader Operator	\$15.69*
Broom or Sweeper Operator	\$12.68*	Oiler	\$12.12
Bulldozer Operator	\$11.81	Painter-Structures	\$18.62*
Carpenter- Rough	\$12.49	Pavement Marking Machine Operator	\$11.18*
Concrete Finisher- Paving	\$13.07	Pile Driverman	\$14.95*
Concrete Finisher- Structures	\$12.98*	Pipe Layer	\$12.12*
Concrete Paving Curbing Machine Operator	\$11.71	Reinforcing Steel Setter - Paving	\$15.15
Concrete Paving Finishing Machine Operator	\$13.07*	Reinforcing Steel Setter - Structure	\$14.39
Concrete Paving Joint Sealer Operator	\$11.00	Roller Operator, Pneumatic - Self-propelled	\$16.00*
Concrete Paving. Saw Operator	\$13.99*	Roller Operator, Steel Wheel, Flat Wheel/Tamping	\$16.00*
Concrete Paving Spreader Operator	\$10.44	Roller Operator, Steel Wheel, Plant Mix Pavement	\$16.00*
Concrete Rubber . . .	\$9.00	Scraper Operator	\$13.47*
Crane Clamshell Backhoe Derrick, Dragline, Shovel Operator	\$12.71	Servicer	\$13.97*
Crusher and Screening Plant Operator	\$11.29	Sign Installer - PGM	\$8.54
Electrician * 3 Journeyman 2 Apprentice Allowed	\$27.11	Slip Form Machine Operator	\$11.07
Flagger	\$10.33*	Spreader Box Operator	\$13.58*
Form Builder/Setter- Structures	\$13.84*	Structural Steel Worker	\$14.39*
Form Liner- Paving and Curb	\$12.34*	Tractor Operator - Crawler Type	\$13.68*
Form Setter- Paving and Curb	\$12.34	Tractor Operator- Pneumatic	\$10.07
Foundation Drill Operator - Crawler Mounted	\$17.43*	Transit Mixer Truck Driver	\$11.00
Foundation Drill Operator - Truck Mounted	\$15.89*	Truck Driver, Lowboy-float	\$16.03*
Front End Loader Operator	\$13.55*	Truck Driver, Single-Axle - Heavy	\$11.48*
Laborer Common	\$11.02*	Truck Driver, Single-Axle - Light	\$11.48
Laborer- Utility	\$11.73*	Truck Driver, Tandem Axle Semi-Trailer	\$12.27*
Manhole Builder	\$9.00	Work Zone Barricade Servicer	\$11.67*
Mechanic	\$16.96*	Welders - Receive rate prescribed for craft performing operation to which welding is incidental	
* Apprentices- must be in an approved USDOL Program and cannot exceed ratios			

Engineering Prevailing Wages Classification Definitions

Asphalt Distributor Operator

Drives distributor truck, sets spray bars and operates valves and levers to control distribution of bituminous material for highway surfacing. May oil, grease or otherwise service and make adjustments to equipment as needed. Performs other related duties.

Asphalt Paving Machine Operator

Operates paving machine that spreads and levels asphaltic concrete on highway subgrade. Controls movement of machine, raises and lowers screed, regulates width of screed. May, oil, grease, service and make adjustments to equipment as needed. Performs other related duties.

Asphalt Raker

Distributes asphaltic materials evenly over road surface by raking and brushing material to correct thickness; directs Laborers when to add or take away material to fill low spots or to reduce high spots. Performs other related duties.

Asphalt Shoveler

A general term used on construction work covering many unskilled classifications requiring work of a physical nature. A laborer works with all crews doing everything from pick and shovel work to cleaning up lumber with hammer, shoveling and placing concrete, uses air tools, cleans concrete joints and fills joints with sealing compound from bucket or with hose and nozzle from a central source, applies coating of oil to inside face of forms, may help set and strip forms, unloads and transports reinforcing steel, cures newly poured concrete, helps lower pipe into ditch for pipelayers, builds fences, works with dirt crew keeping construction layout stakes out of the way of dirt moving equipment.

Broom or Sweeper Operator

Operates a self-propelled machine to sweep and clean roadway surfaces. May oil grease, service and make adjustments to equipment as needed. Performs other related duties.

Bulldozer Operator

Operates a crawler tractor with a bulldozer mounted in front of chassis to level, distribute and push earth or other material. May operate a ripper attachment to break up rock or other hard material. May use a push block on front of tractor to push load scrapers. May oil, grease, or otherwise service and make minor repairs to equipment as needed. Performs other related duties.

Carpenter, Rough

Works from plans to build, assemble, fit together, align, plum, and set in place forms for molding concrete structures. Forms may be wood, steel, aluminum, fiberglass or any other type of material. Checks form while concrete is placed. May install miscellaneous materials integral to concrete structures. May set precast concrete elements. Prepares for slipforming traffic rail and median barrier. May install permanent metal deck forms. May work with power tools Performs other related duties.

Concrete Finisher, Paving

Finishes the exposed surfaces of fresh concrete paving, median barrier and every element of concrete structures to the final grade and contour structures to the final grade and contour with the use of straight edges and steel trowels. Operates bridge deck finishing machine. Finishes concrete curbs and gutters. Finishes exposed surface of concrete after forms have been removed by patching imperfections with fresh concrete, rubbing surface with abrasive stone, and directing others in removing excess or defective concrete with power tools. Performs other related duties.

Concrete Finisher, Structures

A worker semi-skilled in concrete finishing who assists Concrete finisher by performing specific or general duties of lesser skill and keeping Concrete Finisher supplied with materials, tools, and supplies; cleaning working area an equipment; and holding materials and tools. Performs other related duties.

Concrete Paving Curbing Machine Operator

Operates self - propelled machine(s) which may or may not travel on concrete paving forms, spreading and leveling fresh concrete to grade by use of augers and screeds. May oil, grease or otherwise service and make adjustments to equipment as necessary. Performs other related duties.

Concrete Paving Finishing Machine Operator

Operates self - propelled machine(s) which may or may not travel on concrete paving forms, spreading and leveling fresh concrete to grade by use of augers and screeds. May oil, grease or otherwise service and make adjustments to equipment as necessary. Performs other related duties.

Concrete Paving Joint Sealer Operator

Cleans and seals joints requiring a hot or cold sealing compound in concrete paving, sidewalks, driveway and approach slabs. May oil, grease or make necessary repairs adjustments to equipment as needed. Performs other related duties.

Concrete Paving Saw Operator

Operates a water-cooled power saw with either or an abrasive blade to saw expansion and contraction joints in concrete paving. May also be used to saw asphaltic pavements. May oil grease or otherwise service and make necessary adjustments to equipment as needed. Performs other related duties.

Concrete Paving Spreader Operator

Operates self - propelled machine(s) which may or may not travel on concrete paving forms, spreading and leveling fresh concrete to grade by use of augers and screeds. May oil, grease or otherwise service and make adjustments to equipment as necessary. Performs other related duties.

Concrete Rubber

Finishes the exposed surface of concrete masonry after the forms have been removed by patching holes and broken corners with fresh concrete, rubbing surface with abrasive stone to remove rough spots, and removing high spots and defective concrete with hand chisel and hammer or pneumatic chisel and powered abrasive stone. Performs other related duties.

Crane, Clamshell, Backhoe, Derrick, Dragline, Shovel Operator

A worker who operates a lattice boom type crane can hoist and move materials, raise and lower heavy weights and perform other related operations. May be crawler type or rubber tired. May include placement of rock riprap, clamshell, dragline, pipe and pile driving operations. May oil, grease or otherwise service and make necessary adjustments to equipment as needed. Performs other related duties.

Crusher and Screed Plant Operator

Operates a crusher or screening plant through which rock is run to break it into crushed stone for construction or to control flow of materials not needed. May include minor repairs and may service and make necessary adjustments to equipment as needed. Performs other related duties.

Electrician *3 Journeyman 2 Apprentice

Plans and directs the layout of metal electrical conduit, installs wiring systems, switch-panels, buss bars, works on overhead distribution systems and underground distribution systems. Performs other related duties.

Flagger

A worker who directs traffic in or around a construction site. May use signs or devices to direct traffic. May help assemble, position and clean devices or equipment used to direct traffic. Must be able to effectively communicate with the public. May require certain level of training by TXDOT specifications. Performs other related duties.

Form Builder/Setter, Structures

Fits together, aligns and sets to grade metal and wooden forms for placement of concrete. Forms may be wood, steel, aluminum, fiberglass or any other type of material. Checks forms while concrete is placed. May install miscellaneous materials integral to concrete structures. May set precast concrete elements. Prepares for slipforming traffic rail and median barrier. May install permanent metal deck forms. May work with power tools. Performs other related duties.

Form Liner, Paving & Curb

Fits together, panels align and sets to grade metal and wooden forms for placement of concrete. Works with survey crew to set stringline for panels or moles. Performs other related duties.

Form Setter, Paving & Curb

Fits together, align and set to grade metal and wooden forms for placement of concrete paving and curbs. Works with survey crew to set stringline for paving, curb and gutter curb. Performs other related duties.

Foundation Drill Operator, Crawler Mounted

Operates a hole-drilling machine that is crawler mounted. May include geotechnical operations such as soils nails, rock nails, tiebacks, anchors and jet grouting. May oil, grease or otherwise service and make necessary adjustments to equipment as needed. Performs other related duties.

Foundation Drill Operator, Truck Mounted

Operates a hole drilling machine that is mounted on the rear of a rubber tired vehicle or truck. May include soils nails, rock nails, tiebacks, anchors and jet grouting. Drive truck from location to location or may have laborer who drives truck. May oil, grease or otherwise service and make necessary adjustments to equipment as needed. Performs other related duties.

Front End Loader Operator

Operates a rubber tired, skid steer or crawler type tractor with an attached scoop type bucket on front end. Machine is used to load materials from stockpiles, excavation, charging batch plants, loading and unloading trucks. May be used with attachments in lieu of the bucket. May oil, grease or otherwise service and make necessary adjustments to equipment as needed. Performs other related duties.

Laborer, Common

A general term used on construction work covering many unskilled classifications requiring work of a physical nature. A laborer works with all crews doing everything from pick and shovel work to cleaning up lumber with hammer, shoveling and placing concrete, uses air tools, cleans concrete joints and fills joints with sealing compound from bucket or with hose and nozzle from a central source, applies coating of oil to inside face of forms, may help set and strip forms, unloads and transports reinforcing steel, cures newly poured concrete, helps lower pipe into ditch for pipelayers, builds fences, works with dirt crew keeping construction layout stakes out of the way of dirt moving equipment.

Laborer, Utility

Performs a variety of manual duties, usually working in a utility capacity by working on multiple projects and tasks where demands require workmen with varied experience and ability to work without close direction. Unloads and transports reinforcing steel. May occasionally place and tie reinforcing steel. Directs common laborers in pouring concrete. Erects shoring and bracing. Assists in installation of pipe. Installs, operate and maintains dewatering systems. May assist equipment operators in positioning machines, verifying grades and signaling operators. Directs truck drivers and scraper operators to dumping positions to maintain grades as directed. Uses power tools and air tools. May work as lead man in a labor crew. His performance of a wide variety of construction jobs distinguishes him from a helper assigned to a specific craft. Installs and maintains erosion control. Is more or less a general utility construction worker. May be second step in learning a skill, and may later become a helper in a specific classification. Performs other related duties.

Manhole Builder

Constructs a means of permanent access to water and sewer lines for maintenance purposes. This work consists of laying brick or concrete slab at bottom of ditch up to an approximate grade line near the surface of the ground. Brick or block is normally laid to form a nearly circular manhole. Brick or block is laid in by eyesight and is normally to a plumb line. Chipped or culled brick can be used quite often is. No effort may be made to keep mortar off the face of the brick and joints are not pointed. May apply coating of concrete to interior and exterior surface. Performs other related duties.

Mechanic

Assembles, set up, adjusts and maintains and repairs all types of construction equipment and trucks. He may perform the duties of a welder in repair of equipment. Performs other related duties.

Milling Machine Operator, Fine Grade

Operates a power-driven milling machine that planes material of the to roadbed and discharges the material into a hauling unit or a windrow. May oil, grease or otherwise service and make necessary adjustments to equipment as needed. Performs other related duties.

Mixer Operator

Performs a variety of manual duties, usually working in a utility capacity by working on multiple projects and tasks where demands require workmen with varied experience and ability to work without close direction. Unloads and transports reinforcing steel. May occasionally place and tie reinforcing steel. Directs common laborers in pouring concrete. Erects shoring and bracing. Assists in installation of pipe. Installs, operate and maintains dewatering systems. May assist equipment operators in positioning machines, verifying grades and signaling operators. Directs truck drivers and scraper operators in dumping positions to maintain grades as directed. Uses power tools and air tools. May work as lead man in a labor crew. His performance of a wide variety of construction jobs distinguishes him from a helper assigned to a specific craft. Installs and maintains erosion control. Is more or less a general utility construction worker. May be second step in learning a skill, and may later become a helper in a specific classification. Performs other related duties.

Motor Grader Operator, Rough

Operates a motor grader. Equipment is used to grade excavation and embankment and to lay asphalt, base and other materials. May blade haul roads and do other general motor grader work, but does not perform finish grade work to close specification tolerances. This operator may be a learner in the first phase of learning the skills of motor grader work. May oil, grease or otherwise service and make necessary adjustments to equipment as needed. Performs other related duties.

Motor Grader Operator

Operates a motor grader. Equipment is used to grade excavation and embankment and to lay asphalt, base and other materials. May blade haul roads and do other general motor grader work, but does not perform finish grade work to close specification tolerances. This operator may be a learner in the first phase of learning the skills of motor grader work. May oil, grease or otherwise service and make necessary adjustments to equipment as needed. Performs other related duties.

Oiler

A learner or semi-skilled worker who under the direction of the watch engineer. May oil and grease or otherwise service all engines and necessary equipment as needed. He may clean and paint engine room as needed. Performs other related duties.

Painter, Structures

Paints and stains structural steel and concrete surfaces of bridges, retaining walls, or other structures. Directs cleaning and abrasive blasting of surfaces prior to painting or staining. Performs other related duties.

Pavement Marking Machine Operator

Operates machine used in laying paint stripes or markers on all types of paving. Loads machine with appropriate materials and may walk or ride on machine. May oil, grease or otherwise service and make necessary adjustments to equipment as needed. Performs other related duties.

Piledriverman

Sets in place, aligns, plumbs directs driving of timber, concrete, steel, pipe and any other type of piling. Sets, drives and pulls steel, concrete and other types of sheet piling. Rigs pile and leads and bracing. Signals operator. Splices piles before and after driving. Directs pile cutoff. May direct jetting or drilling equipment in connection with installing piles to grade. Performs other related duties.

Pipelayer

Installs concrete, clay, steel, ductile iron, plastic, corrugated pipe and any other type of pipe for storm drainage, water lines, gas lines and sanitary sewer lines. Lays underground communication and electrical ducts. May install and set electrical ground boxes, hand holes, manholes, inlets and other structures. Caulks joints, makes threaded and flanged connections. Installs valves and other accessories. Performs other related duties.

Reinforcing Steel Setter, Paving

Works from plans to lay out and install reinforcing steel within forms or in mats of concrete paving. May direct unloading of material. Determines rigging required to complete work. Gives direction to reinforcing steel worker (helper) or common or utility laborers. May install miscellaneous materials integral to concrete structure or paving. May work with power tools. Performs other related duties.

Reinforcing Steel Setter, Structure

Works from plans to lay out and install reinforcing steel within forms or in mats of concrete paving. May direct unloading of material. Determines rigging required to complete work. Gives direction to reinforcing steel worker (helper) or common or utility laborers. May install miscellaneous materials integral to concrete structure or paving. May work with power tools. Performs other related duties.

Roller Operator, Pneumatic, Self-Propelled

Operates a self-propelled machine with either steel wheels pneumatic tires, which is used to compact and smooth all bituminous materials. May oil, grease or otherwise service and make necessary adjustments to equipment as needed. Performs other related duties.

Roller Operator, Steel Wheel, Flat Wheel/Tamping

Operates a self-propelled machine with either steel wheels or pneumatic tires which is used to compact earth fills, subgrade, flexible base and all other types of materials except bituminous. May oil, grease or otherwise service and make necessary adjustments to equipment as needed. Performs other related duties.

Roller Operator, Steel Wheel, Plant Mix Pavement

Operates a self-propelled machine with either steel wheels pneumatic tires, which is used to compact and smooth all bituminous materials. May oil, grease or otherwise service and make necessary adjustments to equipment as needed. Performs other related duties.

Scraper Operator

Operates a self-contained wheeled tractor scraper both self loading or assisted by crawler tractors or other scrapers. Used to excavate and transport earth or other materials. May oil, grease or otherwise service and make necessary adjustments to equipment as needed. Performs other related duties.

Servicer

Drives a truck, which carries various fuels, oils, greases and filters. Must have knowledge of and is responsible for the correct oiling and greasing and changing of filters on equipment according to the manufacturers' specifications. Uses compressed air grease guns, wrenches and other tools. May make adjustments to clutches, brakes and other mechanical items. Keeps record of service preventive maintenance records. May have laborer assisting him. May require CDL if driving truck on public highways. Performs other related duties.

Sign Installer (PGM)

Sets forms, reinforcing steel, anchor bolts and pours concrete for Sign foundations. Fabricates and erects pipe and angle Frameworks by bolting, welding or other means prior to installation of signs that are normally prefabricated. Works from plans in location and drilling holes for proper location and alignment of signs. May direct hoisting of signs into place. Fastens signs to framework by bolting and other means. Locates and sets lighting brackets. May perform other work associated with signing projects. Supervises sign erector helper. Performs other related duties.

Slip Form Machine Operator

Cleans and seals joints requiring a hot or cold sealing compound in concrete paving, sidewalks, driveway and approach slabs. May oil, grease or make necessary repairs adjustments to equipment as needed. Performs other related duties.

Spreader Box operator

Operates spreader box by adjusting hopper and strike off blade so that the gravel, stone or other material may be spread to a specific depth on road surface during seal coat and surface treatment operations. May oil, grease or otherwise service and make necessary adjustments to equipment as needed. Performs other related duties.

Structural Steel Worker

Works from plans to lay out and install reinforcing steel within forms or in mats of concrete paving. May direct unloading of material. Determines rigging required to complete work. Gives direction to reinforcing steel worker (helper) or common or utility laborers. May install miscellaneous materials integral to concrete structure or paving. May work with power tools. Performs other related duties.

Tractor operator, Crawler Type

Operates a crawler tractor with a bulldozer mounted in front of chassis to level, distribute and push earth or other material. May operate a ripper attachment to break up rock or other hard material. May use a push block on front of tractor to push load scrapers. May oil, grease, or otherwise service and make minor repairs to equipment as needed. Performs other related duties.

Tractor Operator, Pneumatic

Operates a gasoline or diesel powered agricultural tractor that tows compaction rollers, plow, disc, water tanks, scrapers and other similar operations. May use other miscellaneous attachments. May oil, grease or otherwise service and make necessary adjustments to equipment as needed. Performs other related duties.

Traveling Mixer Operator

Drives a gasoline or diesel truck upon which is mounted a concrete mixer. Operates concrete mixer and dumps concrete on the grade, into forms or into concrete pumps or buckets. Cleans mixer drum. May require CDL license for on highway use. May service and make necessary adjustments for proper operation of equipment. Performs other related duties.

Truck driver, lowboy-Float

Drives a heavy-duty diesel powered truck to which is attached a trailer upon which heavy equipment is hauled. Driver is often required to operate heavy equipment to load or unload the lowboy. May require CDL license for on highway use. May service and make necessary adjustments for proper operation of equipment. Performs other related duties.

Truck driver, Single Axle, Heavy

Drive a light capacity truck for transporting loads of construction material. The truck is of single rear axle type, may have various kinds of beds attached, such as dump, flat bed, tank, etc. May require CDL license for driving on highway. May services and make necessary adjustments for proper operation equipment. Performs other related duties.

Truck driver, Single Axle-Light

Drive a light capacity truck for transporting loads of construction material. The truck is of single rear axle type, may have various kinds of beds attached, such as dump, flat bed, tank, etc. May require CDL license for driving on highway. May services and make necessary adjustments for proper operation equipment. Performs other related duties.

Truck Driver, Tandem Axle, Semi-Trailer

Drives a diesel-powered tractor pulling a semi trailer hauling materials. Hauls dirt, rock, aggregates or other material. May require CDL license for driving on highway. May service and make necessary adjustments for proper operation of equipment. Performs other related duties.

Work Zone Barricade Servicer

Fabricates, erects and maintains temporary traffic control devices, including arrow boards, signs, barricades, channelizing devices, barrels and all message boards. May operates a truck during traffic control operations.

WELDERS - Receives rate for craft being performed to which welding is incidental.

EXHIBIT "B"

CERTIFICATE FROM CONTRACTOR APPOINTING OFFICER OR EMPLOYEE TO
SUPERVISE PAYMENT OF EMPLOYEES

Project Name _____

E-Mail Address: _____

Project WBS#: _____ Date _____

(I) (We) hereby certify that (I am) (we are) the **Prime Contractor** for _____

(specify type of job)

in connection with construction of the above-mentioned Project, and that (I) (we) have appointed _____, whose signature appears below, to supervise the payment of (my) (our) employees beginning _____, 20 ____; that he/she is in a position to have full knowledge of the facts set forth in the payroll documents and in the statement of compliance required by the Copeland Act and the City of **Tomball**, which he/she is to execute with (my) (our) full authority and approval until such time as (I) (we) submit to the City of **Tomball** a new certificate appointing some other person for the purposes hereinabove stated.

(Identifying Signature of Appointee) Phone: _____

Attest: _____
(Name of Firm or Corporation)

By: _____
(Signature)

(Title)

By: _____
(Signature)

(Title)

City of Tomball
Pine St. EST Rehabilitation
Project No. 2024-05

**WAGE SCALE AND PAYROLL REQUIREMENTS
FOR ENGINEERING CONSTRUCTION**

NOTE: This certificate must be executed by an authorized officer of a corporation or by a member of a partnership, and shall be executed prior to and be submitted with the first payroll. Should the appointee be changed, a new certificate must accompany the first payroll for which the new appointee executes a statement of compliance required by the Copeland Act and the City of Tomball.

EXHIBIT "C"

CERTIFICATE FROM SUBCONTRACTOR APPOINTING OFFICER OR EMPLOYEE TO
SUPERVISE PAYMENT OF EMPLOYEES

Project Name _____

E-Mail Address: _____

Project WBS#: _____ Date _____

(I) (We) hereby certify that (I am) (we are) the **Sub Contractor** for _____

(Specify work to be performed by subcontractor for this project)

in connection with construction of the above-mentioned Project, and that (I) (we) have appointed _____, whose signature appears below, to supervise the payment of (my) (our) employees beginning _____, 20_____; that he/she is in a position to have full knowledge of the facts set forth in the payroll documents and in the statement of compliance required by the Copeland Act and the City of Tomball, which he/she is to execute with (my) (our) full authority and approval until such time as (I) (we) submit to the City of **Tomball** a new certificate appointing some other person for the purposes hereinabove stated.

(Identifying Signature of Appointee) Phone: _____

Attest: _____
(Name of Firm or Corporation)

By: _____
(Signature)

(Title)

By: _____
(Signature)

(Title)

NOTE: This certificate must be executed by an authorized officer of a corporation or by a member of a partnership, and shall be executed prior to and be submitted with the first payroll. Should the appointee be changed, a new certificate must accompany the first payroll for which the new appointee executes a statement of compliance required by the Copeland Act and the City of Tomball.

City of Tomball
Pine St. EST Rehabilitation
Project No. 2024-05

**WAGE SCALE AND PAYROLL REQUIREMENTS
FOR ENGINEERING CONSTRUCTION**

END OF DOCUMENT

EXHIBIT B

Worker's Compensation Insurance Coverage

EXHIBIT B
MEMORDANDUM

4/28/2008

Date: April 28, 2008
To: City of Tomball Contract Insurance Requirements
From: Mark A. McClure, P.E. *mm*
Director of Engineering & Planning
City of Tomball
Re: Certificate of Insurance Explanations

Effective immediately, to facilitate the processing of Contracts, the Engineering & Planning Department is requesting the following information be submitted with each Certificate of Insurance. A sample insurance form is attached, matching the numbered listings below:

1. Certificate must not be more than 12 months old.
2. Name and address of producer writing coverage.
3. Name of insurance company providing coverage as listed in Best's Key Rating Guide or on company's Certificate of Authority on file with Texas Department of Insurance. Company must have rating of B+ or better; provided, however, that this requirement will be waived for workers compensation coverage if the coverage is placed with a company that participates in the State of Texas Workers' Compensation Assigned Risk Pool.
4. Name and address of insured, as shown on policy.
5. Must reference the insurer of the policy being described.
6. Must be a policy number, no binders.
7. Date policy became effective.
8. Expiration date must be at least 60 days from date of deliver of certificate.
9. Check limits of liability against contract.
10. Must check either; 1) Any Auto, or 2) All Owned, Hired, and Non-Owned Autos.
11. Statutory limits must be checked per our ordinance.
12. Must name the City as Additional Insured on Commercial General Liability and Automobile Liability. Must have a Waiver of Subrogation in favor of the City on Commercial General Liability, Automobile Liability, and Workers' Compensation/Employers' Liability.
13. Name and file number of project.
14. Address of the City of Tomball and the name of the project manager (as a suggestion either project applicable Department Director or Assistant City Manager).
15. Cancellation clause of the underlying policy must endorsed to provide that , "should any of the above described policies be canceled before the expiration date thereof, the issuing company will mail 30 days written notice to the certificate holder named."
16. Signature or facsimile signature of authorized representative of producer.

UNLESS OTHERWISE SPECIFIED:

Minimum Insurance Requirements: Small contracts (less than \$50,000.00)-Workers compensation insurance and Automobile Liability Insurance required by law.

Minimum Insurance Requirements: All other contracts-

1. Commercial General Liability: \$500,000 per occurrence for bodily injury, personal injury and property damage. \$1,000,000 Aggregate Policy will include coverage for a) Premises - Operations; b) Broad Form Contractual Liability; c) Products and Completed Operations; d) Use of Contractors and Subcontractors; e) Personal Injury; f) Broad Form Property Damage; g) Explosion Collapse and Underground (XCU) Coverage (when applicable), Fire Damage, Medical Expense. NOTE: The aggregate loss limit applies to each project.
2. Workers' Compensation and Employer's Liability: Workers' Compensation limits as required by the Labor Code of the State of Texas and Statutory Employer's Liability Limits.
3. Automobile Liability - \$500,000 per occurrence; 1,000,000 Aggregate if contract involves road construction projects.

CERTIFICATE OF LIABILITY INSURANCE

1 DATE (MM/DD/YYYY)

PRODUCER <div style="text-align: center; border: 1px solid black; border-radius: 50%; width: 30px; height: 30px; margin: 0 auto; display: flex; align-items: center; justify-content: center;">2</div>	THIS CERTIFICATION IS ISSUED AS A MATTER OF INFORMATION ONLY AND CONFERS NO RIGHTS UPON THE CERTIFICATE HOLDER. THIS CERTIFICATE DOES NOT AMEND, EXTEND OR ALTER THE COVERAGE AFFORDED BY THE POLICIES BELOW.												
INSURED <div style="text-align: center; border: 1px solid black; border-radius: 50%; width: 30px; height: 30px; margin: 0 auto; display: flex; align-items: center; justify-content: center;">4</div>	<table border="1" style="width: 100%; border-collapse: collapse;"> <tr> <td style="width: 80%; padding: 2px;">INSURERS AFFORDING COVERAGE</td> <td style="width: 20%; padding: 2px;">3</td> </tr> <tr> <td style="padding: 2px;">INSURER A:</td> <td style="padding: 2px;"></td> </tr> <tr> <td style="padding: 2px;">INSURER B:</td> <td style="padding: 2px;"></td> </tr> <tr> <td style="padding: 2px;">INSURER C:</td> <td style="padding: 2px;"></td> </tr> <tr> <td style="padding: 2px;">INSURER D:</td> <td style="padding: 2px;"></td> </tr> <tr> <td style="padding: 2px;">INSURER E:</td> <td style="padding: 2px;"></td> </tr> </table>	INSURERS AFFORDING COVERAGE	3	INSURER A:		INSURER B:		INSURER C:		INSURER D:		INSURER E:	
INSURERS AFFORDING COVERAGE	3												
INSURER A:													
INSURER B:													
INSURER C:													
INSURER D:													
INSURER E:													

COVERAGES

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. AGGREGATE LIMITS SHOWN MAY HAVE BEEN REDUCED BY PAID CLAIMS.

INSR/ADD'L LTR	TYPE OF INSURANCE	POLICY NUMBER	POLICY EFFECTIVE DATE (MM/DD/YY)	POLICY EXPIRATION DATE (MM/DD/YY)	LIMITS																								
5	GENERAL LIABILITY <input type="checkbox"/> COMMERCIAL GENERAL LIABILITY <input type="checkbox"/> CLAIMS MADE <input type="checkbox"/> OCCUR GEN'L AGGREGATE LIMIT APPLIES PER: <input type="checkbox"/> POLICY <input type="checkbox"/> PRO-JECT <input type="checkbox"/> LOC	6	7	8	EACH OCCURRENCE \$ DAMAGE TO RENTED PREMISES (Ea occurrence) \$ MED EXP (Any one person) \$ PERSONAL & ADV INJURY \$ GENERAL AGGREGATE \$ PRODUCTS - COMP/OP AGG \$ \$																								
	AUTOMOBILE LIABILITY <input type="checkbox"/> ANY AUTO <input type="checkbox"/> ALL OWNED AUTOS <input type="checkbox"/> SCHEDULED AUTOS <input type="checkbox"/> HIRED AUTOS <input type="checkbox"/> NON-OWNED AUTOS				COMBINED SINGLE LIMIT (Ea accident) \$ BODILY INJURY (Per person) \$ BODILY INJURY (Per accident) \$ PROPERTY DAMAGE (Per accident) \$																								
	GARAGE LIABILITY <input type="checkbox"/> ANY AUTO				AUTO ONLY - EA ACCIDENT \$ OTHER THAN EA ACC \$ AUTO ONLY: AGG \$																								
	EXCESS/UMBRELLA LIABILITY <input type="checkbox"/> OCCUR <input type="checkbox"/> CLAIMS MADE <input type="checkbox"/> DEDUCTIBLE RETENTION \$				EACH OCCURRENCE \$ AGGREGATE \$ \$ \$ \$																								
	WORKERS COMPENSATION AND EMPLOYERS' LIABILITY ANY PROPRIETOR/PARTNER/EXECUTIVE OFFICER/MEMBER EXCLUDED? If yes, describe under SPECIAL PROVISIONS below				<table border="1" style="width: 100%; border-collapse: collapse;"> <tr> <td style="width: 10%;"></td> <td style="width: 10%;">WC STATUTORY LIMITS</td> <td style="width: 10%;">OTH-ER</td> <td style="width: 10%;"></td> <td style="width: 10%;"></td> <td style="width: 10%;"></td> </tr> <tr> <td></td> <td>E.L. EACH ACCIDENT</td> <td></td> <td></td> <td></td> <td>\$</td> </tr> <tr> <td></td> <td>E.L. DISEASE - EA EMPLOYEE</td> <td></td> <td></td> <td></td> <td>\$</td> </tr> <tr> <td></td> <td>E.L. DISEASE - POLICY LIMIT</td> <td></td> <td></td> <td></td> <td>\$</td> </tr> </table>		WC STATUTORY LIMITS	OTH-ER					E.L. EACH ACCIDENT				\$		E.L. DISEASE - EA EMPLOYEE				\$		E.L. DISEASE - POLICY LIMIT				\$
	WC STATUTORY LIMITS	OTH-ER																											
	E.L. EACH ACCIDENT				\$																								
	E.L. DISEASE - EA EMPLOYEE				\$																								
	E.L. DISEASE - POLICY LIMIT				\$																								
	OTHER PROFESSIONAL LIABILITY				PER CLAIM \$ AGGREGATE \$																								

DESCRIPTION OF OPERATIONS / LOCATIONS / VEHICLES / EXCLUSIONS ADDED BY ENDORSEMENT / SPECIAL PROVISIONS

GENERAL LIABILITY AND AUTOMOBILE LIABILITY POLICIES ENDORSED TO INCLUDE CITY OF TOMBALL

PROJECT DESCRIPTION:

CERTIFICATE HOLDER City of Tomball 501 James Street Tomball, Texas 77377	CANCELLATION SHOULD ANY OF THE ABOVE DESCRIBED POLICIES BE CANCELLED BEFORE THE EXPIRATION DATE THEREOF, THE ISSUING INSURER WILL ENDEAVOR TO MAIL <u>30</u> DAYS WRITTEN NOTICE TO THE CERTIFICATE HOLDER NAMED TO THE LEFT, BUT FAILURE TO DO SO SHALL IMPOSE NO OBLIGATION OR LIABILITY OF ANY KIND UPON THE INSURER, ITS AGENTS OR REPRESENTATIVES. AUTHORIZED REPRESENTATIVE
--	--

EXHIBIT C**A Listing of the Duties, Responsibilities, and Limitations to Authority of the Resident Project Representative (RPR)****A. General**

RPR as Owner's agent at the site, will act as directed by and under the supervision of the Owner, and will confer with ENGINEER regarding RPR's actions. RPR's dealings in matters pertaining to the on-site Work shall in general be with ENGINEER and CONTRACTOR keeping OWNER advised as necessary. RPR's dealings with subcontractors shall only be through or with the full knowledge and approval of CONTRACTOR. RPR shall generally communicate with OWNER with the knowledge of and under the direction of ENGINEER.

B. Duties and Responsibilities of RPR**1. Schedules:**

Review the progress schedule, schedule of Shop Drawing submittals, and other required schedules prepared by CONTRACTOR and consult with ENGINEER concerning acceptability.

2. Conferences and Meetings:

Attend meetings with CONTRACTOR, such as preconstruction conferences, progress meetings, job conferences, and other Project-related meetings, and prepare and circulate copies of minutes thereof.

3. Liaison:

- a. Serve as ENGINEER's liaison with CONTRACTOR, working principally through CONTRACTOR's superintendent, and assist in understanding of the Contract Documents, and assist ENGINEER in serving as OWNER's liaison with CONTRACTOR when CONTRACTOR's operations affect OWNER's on-site operations.
- b. Assist in obtaining from OWNER additional details or information when required for proper execution of the Work.

4. Shop Drawings and Samples:

- a. Record date of receipt of Shop Drawings and samples.
- b. Receive samples, which are furnished at the site by CONTRACTOR, and notify ENGINEER of availability of samples for examination.
- c. Advise ENGINEER and CONTRACTOR of the commencement of any Work requiring a Shop Drawing or sample if the submittal has not been approved by ENGINEER.

5. Review of Work, Rejection of Defective Work, Inspections, and Tests:

- a. Conduct on-site observations of the Work in progress to assist ENGINEER in determining if the Work is in general proceeding in accordance with the Contract Documents.
- b. Report to ENGINEER whenever RPR believes that any Work is unsatisfactory, faulty or defective, or does not conform to the Contract Documents, or has been damaged, or does not meet the requirements of any inspection, test, or approval required to be made; and advise ENGINEER of Work that RPR believes should be corrected or rejected, or should be uncovered for observation, or requires special testing, inspection, or approval.
- c. Verify that tests, equipment, and systems start-up and operating and maintenance training are conducted in the presence of appropriate personnel, and that CONTRACTOR maintains adequate records thereof; and observe, record, and report to ENGINEER appropriate details relative to the test procedures and start-ups.
- d. Accompany visiting inspectors, other than the OWNER's, representing public or other agencies having jurisdiction over the Project, record the result of these inspections, and report to ENGINEER.

6. Interpretation of Contract Documents:

Report to ENGINEER when clarifications and interpretations of the Contract Documents are needed and transmit to Contract clarifications and interpretations as issued by the ENGINEER.

7. Modifications:

Consider and evaluate CONTRACTOR's suggestions, for modifications in Drawings or Specifications and report with RPR's recommendations to ENGINEER. Transmit to CONTRACTOR decisions as issued by ENGINEER.

8. Records:

- a. Maintain at the job site orderly files for correspondence, reports of job conferences, Shop Drawings and samples, reproductions of original Contract Documents including all Work Directive Changes, Addenda, Change Orders, Field Orders, additional Drawings issued subsequent to the execution of the Contract, ENGINEER's clarification and interpretations of the Contract Documents, progress reports, and other Project-related documents.
- b. Keep a diary or log book recording CONTRACTOR hours on the job site, weather conditions, data relative to questions of Work Directive Changes, Change Orders or changed conditions, list of job site visitors, daily activities, decisions, observations in general, and specific observations in more detail as in the case of observing test procedures, and send copies to ENGINEER.

- c. Record names, addresses, and telephone numbers of all contractors, subcontractors, and major Suppliers of materials and equipment.

9. Reports:

- a. Furnish ENGINEER periodic reports as required of progress of the Work and of CONTRACTOR's compliance with the progress schedule and schedule of Shop Drawings and sample submittals.
- b. Consult with ENGINEER in advance of schedule of major tests, inspections, or start of important phases of the Work.
- c. Draft proposed Change Orders and Work Directive Changes, obtaining back-up material from CONTRACTOR, and recommend to ENGINEER Change Orders, Work Directive Changes, and Field Orders.
- d. Report immediately to OWNER and ENGINEER upon the occurrence of any accident.

10. Payment Requests:

Review Applications for Payment with CONTRACTOR for compliance with the established procedure for their submission and forward with recommendations to ENGINEER, noting particularly the relationship of the payment requested to the schedule of items, Work completed, and materials and equipment delivered at the site but not incorporated in the Work.

11. Certificates, Maintenance and Operation Manuals:

During the course of the Work, verify that certificates, maintenance and operation manuals, and other data required to be assembled and furnished by CONTRACTOR are applicable to the items actually installed and in accordance with the Contract Documents, and have this material delivered to ENGINEER for review and forwarding to OWNER prior to final payment for Work.

12. Completion:

- a. Before ENGINEER issues a Certificate of Substantial Completion, submit to CONTRACTOR a list of observed items requiring completion of correction.
- b. Conduct final inspection in the company of ENGINEER, OWNER, and CONTRACTOR, and prepare a final list of items to be completed or corrected.
- c. Observe that all items on final list have been completed or corrected and make recommendations to ENGINEER concerning acceptance.

C. Limitations of Authority

Resident Project Representative:

1. Shall not authorize any deviation from the Contract Documents or substitution of materials or equipment unless authorized by ENGINEER.
2. Shall not exceed limitations of authority as set forth in the Agreement or the Contract Documents.
3. Shall not undertake any of the responsibilities of CONTRACTOR, subcontractor, or CONTRACTOR's superintendent.
4. Shall not advise on, issue directions relative to, or assume control over any aspect of the means, methods, techniques, sequences, or procedures of construction unless such advice or directions are specifically required by the Contract Documents.
5. Shall not advise on, issue directions regarding, or assume control over safety precautions and programs in connection with the Work.
6. Shall not accept Shop Drawing or sample submittals from anyone other than CONTRACTOR.
7. Shall not authorize OWNER to occupy the Project in whole or in part.
8. Shall not participate in specialized field or laboratory tests or inspections conducted by others except as specifically authorized by Owner.

EXHIBIT D

EXHIBIT D

Attach any and all Addendums

Document 00910

ADDENDUM NO. _____

Date of Addendum: _____

PROJECT NAME: Pine St. EST Rehabilitation

PROJECT NO: 2024-04

BID DATE: Nov. 16, 2023 (There is no change to the Bid Date.)

FROM: [City Engineer's Name], P.E., City Engineer
City of Tomball, [Contracting Department]
[Street Address of Contracting Department]
_____, Texas [Zip Code]
Attn: _____, P.E., Project Manager

TO: Prospective Bidders

This Addendum forms a part of the Bidding Documents and will be incorporated into the Contract documents, as applicable. Insofar as the original Project Manual and Drawings are inconsistent, this Addendum governs.

CHANGE IN BID DATE

The Bid Date for this Project has been changed from _____ to _____.
Date Date

The bid date for this project has been indefinitely postponed. Another Addendum will be issued to reset the Bid Date or to cancel bidding on this Project.

This Addendum uses the change page method: remove and replace or add pages, or Drawing sheets, as directed in the change instructions below. Change bars (|) are provided in the outside margins of pages from the Project Manual to indicate where changes have been made; no change bars are provided in added Sections. Reissued Drawing Sheets show the Addendum number below the title block and changes in the Drawing are noted by a revision mark and enclosed in a revision cloud.

CHANGES TO PREVIOUS ADDENDA

ADDENDUM NO. _____

CHANGES TO PROJECT MANUAL

BIDDING REQUIREMENTS

[2. Document 00020 - Notice to Bidders. Replace page 00020-

2.] CONTRACT FORMS

[3. Document 00610 - Replace revised Performance Bond, page 00610-1.]

CONDITIONS OF THE CONTRACT

[4. Document 00800 - Supplementary Conditions. Replace page 00800-4
and add page 00800-5.]

SPECIFICATIONS

[5. Section 02050 - Demolition. Add section including pages 02050-
1 through 02050-3.]

CHANGES TO DRAWINGS

[6. Delete Sheet S-9, Beam Schedule, and replace with Sheet S-9-A.]

CLARIFICATIONS

[7. Document 00210 - Supplementary Instructions to Bidders states that no substitutions will be considered during the bidding phase. Substitutions will be considered during the first 15 percent of the Contract Time or first 90 days of the Contract, whichever is less, as stated in Document 00700 - General Conditions.]

END OF ADDENDUM NO. ____

DATED: _____
[Director]

END OF DOCUMENT

Document 00911

NOTICE OF
ADDENDUM NO. _____

Date of Addendum: _____

PROJECT NAME: _____

PROJECT NO: 2024-05 _____

BID DATE: Nov. 16, 2023 _____ (There is no change to the Bid Date.)

FROM: [Director's Name], [Title]
City of Tomball, [Contracting Department]
[Street Address of Contracting Department]
Tomball, Texas [Zip Code]
Attn: _____, P.E., Project Manager

TO: Prospective Bidders

CHANGE IN BID DATE

The Bid Date for this Project has been changed from _____ to _____.
Date Date

The bid date for this project has been indefinitely postponed. Another Addendum will be issued to reset the Bid Date or to cancel bidding on this Project.

The referenced Addendum forms a part of the Bidding Documents and will be incorporated into the Contract documents, as applicable.

Written questions regarding this Addendum may be submitted to the Project Manager following the procedures specified in Document 00200 - Instructions to Bidders. Immediately notify the City Engineer through the named Project Manager upon finding discrepancies or omissions in the Bid Documents.

This Addendum includes:

ADDENDUM SYNOPSIS

- Changes to Previous Addendum
- Changes to Project Manual
 - Bidding Requirements
 - Contract Forms
 - Condition of the Contract
 - Specifications
- Changes to Drawings
- Clarifications

DATED: _____
[Director]

END OF DOCUMENT

Document 00931

REQUEST FOR INFORMATION

- 1. PROJECT No.: 2024-05 2. RFI No.: _____
- 3. PROJECT NAME: Pine St. EST Rehabilitation
- 4. CONTRACTOR: _____
- 5. CONTRACT No.: _____
- 6. SPECIFICATION Nos.: _____
- 7. DRAWING Nos.: _____
- 8. RESPONSE CODE: CRITICAL ROUTINE 9. DATE RESPONSE REQUIRED: _____
- 10. INFORMATION REQUIRED:

11. _____ TITLE _____ DATE _____
 CONTRACTOR (Signature)

12. RESPONSE:

13. _____ DATE _____
 PROJECT MANAGER (Signature)

14. If Contractor believes the response given in Item 12 requires an adjustment in Contract Price or Contract Time, Contractor shall submit a timely proposal so as not to delay Contractor’s Work in accordance with General Conditions, Article 7 - Changes in the Work.

END OF DOCUMENT

EXHIBIT E

Change Orders

Document 00940

WORK CHANGE DIRECTIVE / WCD No. _____

PROJECT: Pine St. EST Rehabilitation

CONTRACT No.: _____ PROJECT No.: 2024-05

TO: _____
Contractor and _____
Address for Written Notice _____

REFERENCE RFIs/RFPs: _____

You are hereby directed to make the following changes in the Work, as described below and specified or shown on attachments, if applicable.

1.01 DESCRIPTION OF CHANGES

A. Brief description of changes in the Work:

B. Justification for change(s):

1.02 PROPOSED ADJUSTMENTS

A. Contract Price (Check one):

- Lump sum [increase / decrease] of \$_____.
- Unit Price of \$_____ per _____.
- As provided in subparagraph _____ of General Conditions.
- As follows:

B. Contract Time: Contract Time is proposed to [be adjusted / remain unchanged]. Proposed adjustment, if any, is [an increase / a decrease] of ____ days.

1.03 NOTICE TO PROCEED BY THE CITY
Signature by City Engineer indicates notice to proceed to Contractor for the described work and outlines proposed method of adjustment in Contract Price and Contract Time.

Project Manager Date [Intermediate Authority, if needed] Date

[Intermediate Authority, if needed] Date City Engineer Date

1.04 ACCEPTANCE BY CONTRACTOR
Signature by Contractor indicates Contractor's agreement with the above proposed adjustments in Contract Price and Contract Time.

Contractor Signature and Title Date

END OF DOCUMENT

cc: [Design Consultant], [Owning Dept. Director], [Other Copy Addees], [File(s)]

EXECUTIVE SUMMARY

WCD No. _____ Contract No.: _____ Proj. No.: 2024-05

1.01 CONTRACT PRICE SUMMARY		<u>DOLLAR AMOUNT</u>	<u>PERCENT</u>
A.	Original Contract Price	\$	100.00%
B.	Previous Change Orders	\$0.00	#VALUE!
C.	This Work Change Directive	\$0.00	#VALUE!
D.	Revised Contract Price	\$0.00	#VALUE!
E.	Projected Contract Modifications*		
F.	Projected Contract Price		
D.	Revised Contract Time	180 Days	Friday, March 28, 2003
E.	Projected Contract Modifications*		
F.	Projected Contract Time		

1.03 TOTAL VALUE OF INCREASES OUTSIDE OF GENERAL SCOPE OF WORK
A. Including this Work Change Directive, the following table is provided to track conditions related to Paragraph 7.1.2.3 of Document 00700 - General Conditions.

<u>WCD & C.O. Nos.</u>	<u>AMOUNT ADDED</u>	<u>PERCENT OF ORIGINAL CONTRACT PRICE</u>
[1]	[\$0.00]	[0%]
<hr/>		
TOTALS	\$0.00	0.0%

* Based on approved WCDs not yet included in Change Orders and Change Orders not yet issued.

END OF SUMMARY

EXECUTIVE SUMMARY:

1. Paragraph 1.01: Insert (A) Original Contract Price, (B) cost of previous Change Orders and (C) cost of this WCD in the price summary block. Other amounts and percentages in block are calculated by formula except projected amounts on last two lines. Fill in these lines, based on approved WCDs not yet included in Change Orders and Change Orders not yet issued.
2. Paragraph 1.02: Insert Date of Commencement of Work (from Notice to Proceed), (A) original Contract Time, (B) additional days added from previous Change Orders and (C) days required for this WCD in the time summary block. Other days and dates in block are calculated by formula except projected amounts on last two lines. Fill in these lines, based on approved WCDs not yet included in Change Orders and Change Orders not yet issued.
3. Paragraph 1.03 A: Project Manager will provide information from all previous Change Orders and WCDs for this table (i.e. number, amount and percentage of Original Contract Price) so that it can be determined if Council Action is necessary. *NOTE: The conditions of Paragraph 7.1.2.3 of Document 00700 - General Conditions may make Council Action necessary even if funding is already available and even if the 5% contingency threshold has not yet been reached.*

Document 00941

CHANGE ORDER / C.O. No. _____

PROJECT: Pine St. EST Rehabilitation Project

CONTRACT No.: _____ PROJECT No.: 2024-05

TO: _____
Contractor and _____
Address for Written Notice _____

REFERENCE RFIs/RFPs: _____

1.01 DESCRIPTION OF CHANGES

	CONTRACT CHANGE	
	<u>AMOUNT</u>	<u>TIME</u>
ITEM 1 SCOPE: <i>[Description of first change order item]</i> JUSTIFICATION: <i>[Justification for adding or deleting work described in "Item 1 Scope"]</i>	\$0.00	0 Days
ITEM 2 SCOPE: JUSTIFICATION:	\$0.00	0 Days
ITEM 3 SCOPE: JUSTIFICATION:	\$0.00	6 Days
TOTALS:	\$0.00	6 Days

1.02 ACCEPTANCE BY CONTRACTOR

Contractor agrees to perform change(s) included in this Change Order for the price and time indicated. The prices for changes include all costs associated with this Change Order.

Contractor Signature and Title

Date

1.03 ACCEPTANCE BY THE CITY

Project Manager Date

[City Management – Required for COs to Council] Date

[Intermediate Authority, if needed] Date

[Mayor – Required for COs to Council] Date

[Intermediate Authority, if needed] Date

Public Works Director Date

END OF DOCUMENT

cc: *[Design Consultant], [Owning Dept. Director], [Other Copy Address], [File(s)]*

EXECUTIVE SUMMARY

C.O. No. _____ Contract No.: _____ Proj. No.: 2024-05

1.01	CONTRACT PRICE SUMMARY	<u>DOLLAR AMOUNT</u>	<u>PERCENT</u>
A.	Original Contract Price	\$0.00	100.00%
B.	Previous Change Orders	\$0.00	#DIV/0!
C.	This Change Order	\$0.00	#DIV/0!
D.	Contract Price	\$0.00	#DIV/0!

Date of Commencement of the Work: #VALUE! DATE HERE

1.02	CONTRACT TIME SUMMARY	<u>DURATION</u>	<u>COMPLETION DATE</u>
A.	Original Contract Time	90 Days	#VALUE! #VALUE!
B.	Previous Change Orders	0 Days	#VALUE! #VALUE!
C.	This Change Order	0 Days	#VALUE! #VALUE!
D.	Contract Time	90 Days	#VALUE! #VALUE!

1.03 TOTAL VALUE OF INCREASES OUTSIDE OF GENERAL SCOPE OF WORK
A. Including this Change Order, the following table is provided to track conditions related to Paragraph 7.1.2.3 of Document 00700 - General Conditions.

<u>CHANGE ORDER No.</u>	<u>AMOUNT ADDED</u>	<u>PERCENT OF ORIGINAL CONTRACT PRICE</u>
[1]	[\$0.00]	[0%]
<hr/>		
TOTALS	\$0.00	0.0%

END OF SUMMARY

INSTRUCTIONS

PURPOSE: Change Orders are used to affect Modifications to the Contract. Prior to final payment, previously approved Work Change Directives can be combined into a summary Change Order to reconcile project cost accounting. When signed and dated by Contractor and City Engineer, document becomes an approved Change Order.

APPLICATION: This form is applicable to agreed on Modifications to the Contract including, but not limited to the following:

- Additions or reductions (including deletions) of existing bid item quantities.
- Increases or decreases in construction Contract Time.
- Change in methods, material, etc., not covered by existing bid item quantities.
- New work not covered by existing bid item quantities.
- Price or schedule consideration for conditions not indicated by the Contract.

INSTRUCTIONS: Project Manager or Design Consultant prepares this form. The Executive Summary is for use by the City in analyzing the Change Order but is not a part of the Change Order. This form has two MS Excel tables imbedded in the MS Word document (Paragraphs 1.01 and 1.02 in the Executive Summary). Double click on any cell in these tables to make entries in spreadsheet mode. Click anywhere outside the spreadsheet to return to word processing mode. Other tables in the Change Order and Executive Summary are MS Word tables, not imbedded Excel spreadsheets. Red colored text and numerals represent input fields. Black text and numerals are in cells with formulas or fixed text. Do not make entries in these cells. Following instructions correspond to blanks requiring input and paragraph numbers on form. Paragraph 1.02 of the Change Order form is completed by Contractor. All other items are completed by the City or Design Consultant. Paragraph 1.03 of the Change Order form is completed by administrative and approving authorities. Contractor shall provide all backup material to justify the costs of items enumerated in Paragraph 1.01 of the Change Order form.

CHANGE ORDER FORM:

1. Insert Change Order number and Contract number for the Project at the top of each page, following page one, if the Change Order must be longer than one page.
2. Insert Project name exactly as stated in the Agreement.
3. Insert Project number and other identifying numbers (e.g. CIP, Proj. No., AIP, File No.) for the Project.
4. Insert name of Contractor performing the Work and Contractor's address for notices. Address should be as shown in the Agreement unless changed by proper notice.
5. Insert applicable references to related RFIs and RFPs.
6. Paragraph 1.01: Insert brief descriptions of the changes, including reference to applicable Work Change Directives. Give justification to support change, cost of making change, and adjustment in Contract Time warranted by change. If more than one item is included, number each item. Extend the table to additional pages if necessary. Formulas are imbedded for totals but check the math when extending the table length.
7. Paragraph 1.02: Project Manager signs and dates and has other administrative authorities or representatives sign and date where indicated. Project Manager will substitute actual titles of these persons where red bracketed instructions are shown. Mayor's and Contracting Department Director's signature (and date) are only needed when the Change Order must go to City Council for funding prior to approval. City Engineer for Contracting Department (should be the same person designated in the Agreement) will only sign and date Paragraph 1.03 when funds are approved and in place for payment of additional work. City Engineer's signature and date signify approval of Change Order and is the only authorized approval authority of the City according to Document 00700 – General Conditions.
8. Insert appropriate list of "copy to" persons and file. Delete brackets and instructions. Change color of remaining text to black.

Project No. 2024-05
EXECUTIVE SUMMARY:

1. Paragraph 1.01: Insert (A) Original Contract Price, (B) cost of previous Change Orders and (C) cost of this Change Order in the price summary block. Other amounts and percentages in block are calculated by formula. Cost of this Change Order is calculated at the bottom of the table in Paragraph 1.01 of the Change Order form, when all items have been filled in BUT it does not automatically change the amount in Paragraph 1.01 C.
2. Paragraph 1.02: Insert Date of Commencement of Work (from Notice to Proceed), (A) original Contract Time, (B) additional days added from previous Change Orders and (C) days required for this Change Order in the time summary block. Other days and dates in block are calculated by formula. Days for this Change Order are calculated at the bottom of the table in Paragraph 1.01 of the Change Order form, when all items have been filled in BUT it does not automatically change the amount in Paragraph 1.02 C.
3. Paragraph 1.03 A: Project Manager will provide information from all previous Change Orders for this table (i.e. number, amount and percentage of Original Contract Price) so that it can be determined if Council Action is necessary. *NOTE: The conditions of Paragraph 7.1.2.3 of Document 00700 - General Conditions may make Council Action necessary even if funding is already available and even if the 5% contingency threshold has not yet been reached.*

EXHIBIT F

Applications for Payment

Document 00643

ESTIMATE AND CERTIFICATE FOR PAYMENT, UNIT PRICE WORK

Estimate No. _____
 Cut off Date: _____
 Estimate Date: _____

Project Name: Pine St. EST Rehabilitation
 Contractor: _____
 Address: _____

Contract No.: _____
 Project No.: 2024-05
 Ordinance No.: _____

Contract Date: _____
 Start Date: _____
 Current Contract Completion Date: _____
 Substantial Completion Date: _____
 Percentage: By Time _____% In Place _____%

CONTRACT TIME IN CALENDER DAYS

Original Contract Time: _____ Days
 Approved Extensions: _____ Days
 Total Contract Time: _____ Days
 Days Used to Date: _____ Days
 Days Remaining to Date: _____ Days

Date Insurance Exp. _____ Drug Policy Due _____ Current MWBE % _____ Schedule Update Received _____

CONTRACT AMOUNT TO DATE:

1. Original Contract Price:		\$ _____
2. Approved Change Orders: <u>No./Description</u>	<u>Amount</u>	
_____	\$ _____	
_____	\$ _____	
_____	\$ _____	
_____	\$ _____	
_____	\$ _____	
_____	\$ _____	
Total Change Orders to Date: _____ +/-	\$ _____	\$ _____
TOTAL CONTRACT AMOUNT:		\$ _____

A. EARNINGS TO DATE:

1. Work Completed to Date: _____ % Complete	\$ _____
2. Materials Stored on Site: \$ _____	
3. Materials Stored in Place: \$ _____	
4. Balance - Materials Accepted, Not in Work:	\$ _____
TOTAL EARNINGS TO DATE:	\$ _____

B. DEDUCTIONS:

1. Retainage: _____ % of \$ _____	\$ _____
2. Add: Retainage Deduction: \$ _____	
3. Total Retainage:	\$ _____
4. Liquidated Damages: _____ Days @ \$ _____	\$ _____
5. Quality Control Retest Cost:	\$ _____
6. Sunday/Holiday Overtime Cost:	\$ _____
TOTAL DEDUCTIONS:	\$ _____

C. AMOUNT DUE THIS PERIOD:

1. Total Earnings to Date:	\$ _____
2. Total Deductions:	\$ _____
3. Total Payments Due:	\$ _____
4. Less Previous Payments:	\$ _____
5. Restoration Adjustment:	\$ _____
TOTAL AMOUNT DUE THIS DATE:	\$ _____

Prepared By: _____ Date: _____ Checked By: _____ Date: _____

Submitted By: _____ Date: _____ Approved: _____ Date: _____

Approved: _____ Date: _____

Director,

END OF DOCUMENT

EXHIBIT G

Storm Water Pollution Prevention Plan

Refer to Plans and Specifications

EXHIBIT "H"

Conflict of Interest Questionnaire

EXHIBIT "H"

Section 00800

Conflict of Interest Questionnaire

City of Tomball



*Gretchen Fagan
Mayor*

February 7, 2008

Attention: Vendors, Agents, Contractors, Prospective Bidders, Etc.

Re: House Bill 914 – Adding Chapter 176.2 to the Local Government Code

In the 2005 Regular Session, the Texas Legislature passed House Bill 914, which requires the disclosure and availability of information concerning certain local government entities, local government officials, and vendors or other persons, agencies, corporations, or entities contracting or seeking to contract with the City of Tomball for the sale or purchase of property, goods or services.

As a courtesy, enclosed is a copy of the Conflict of Interest Questionnaire (CIQ), a copy of HB 914, and a list of all City officials, as defined under Chapter 176 of the Local Government Code. Please complete this questionnaire and return to the City Secretary as soon as possible at the following address:

CIQ
Attention: City Secretary
City of Tomball
401 Market Street
Tomball, Texas 77375.

If you need additional information regarding the new requirements, please contact your attorney for additional instructions. You may also contact me at 281-290-1002 or dspeer@ci.tomball.tx.us.

Sincerely,

Doris Speer
City Secretary

Enclosure

CONFLICT OF INTEREST QUESTIONNAIRE

For vendor or other person doing business with local governmental entity

FORM CIQ

This questionnaire reflects changes made to the law by H.B. 1491, 80th Leg., Regular Session.

This questionnaire is being filed in accordance with Chapter 176, Local Government Code by a person who has a business relationship as defined by Section 176.001(1-a) with a local governmental entity and the person meets requirements under Section 176.006(a).

By law this questionnaire must be filed with the records administrator of the local governmental entity not later than the 7th business day after the date the person becomes aware of facts that require the statement to be filed. See Section 176.006, Local Government Code.

A person commits an offense if the person knowingly violates Section 176.006, Local Government Code. An offense under this section is a Class C misdemeanor.

OFFICE USE ONLY

Date Received

1 Name of person who has a business relationship with local governmental entity.

2 Check this box if you are filing an update to a previously filed questionnaire.

(The law requires that you file an updated completed questionnaire with the appropriate filing authority not later than the 7th business day after the date the originally filed questionnaire becomes incomplete or inaccurate.)

3 Name of local government officer with whom filer has employment or business relationship.

Name of Officer

This section (item 3 including subparts A, B, C & D) must be completed for each officer with whom the filer has an employment or other business relationship as defined by Section 176.001(1-a), Local Government Code. Attach additional pages to this Form CIQ as necessary.

A. Is the local government officer named in this section receiving or likely to receive taxable income, other than investment income, from the filer of the questionnaire?

Yes No

B. Is the filer of the questionnaire receiving or likely to receive taxable income, other than investment income, from or at the direction of the local government officer named in this section AND the taxable income is not received from the local governmental entity?

Yes No

C. Is the filer of this questionnaire employed by a corporation or other business entity with respect to which the local government officer serves as an officer or director, or holds an ownership of 10 percent or more?

Yes No

D. Describe each employment or business relationship with the local government officer named in this section.

4

Signature of person doing business with the governmental entity

Date

Section 01110

SUMMARY OF WORK

PART 1 GENERAL

1.1 SECTION INCLUDES

1. Summary of the Work including work by City, City furnished products, Work sequence, future Work, Contractor use of Premises, and City occupancy.

1.2 WORK COVERED BY CONTRACT DOCUMENTS

1. Furnish all necessary materials, machinery, equipment, superintendence and labor for the rehabilitation of a 750K gallon elevated storage tank of welded steel construction. The exterior of the tank shall be shrouded and all nearby electrical power lines protected from construction activity. The exterior of the tank shall be power washed as well as all exposed piping attached to the tank and cleaned of loose debris. All corner, rough edges, exposed rust shall be brushed with a wire brush to remove loose debris prior to spray, roller, brush painting. Interior shall be sandblasted or combination of power washed and sandblasted to remove all loose debris and prepared for spray, roller, brush painting. All corners, rough edges, exposed rust shall be brushes with a wire brush to remove loose debris prior to painting. Once approved thickness has been met and paint and coating has meet specification requirements as approved by a certified tester, the interior of tank shall be disinfected and tested per TCEQ requirements prior to filling and placing into usage. Work of the contract is for the rehabilitation of Pine St. EST.

1.3 CASH ALLOWANCES

1. Include the following specific Cash Allowances in the Contract Price under provision of General Conditions Paragraph 3.9:
 1. \$25,000 for contingencies.

1.4 CITY FURNISHED PRODUCTS

1. Items Furnished by City for Installation and Final Connection by Contractor:
2. Contractor's Responsibilities:
 1. Arrange and pay for product delivery to site.

2. Receive and unload products at site; jointly with City, inspect for completeness or damage.
3. Handle, store, install, and finish products.
4. Repair or replace damaged items.

1.5 WORK SEQUENCE

1. Construct Work in phases during the construction period, coordinate construction schedule and operations with City:
 1. Phase 1: [_____].
 2. Phase 2: [_____].
 3. Phase 3: [_____].
2. Coordination of the Work: Refer to Section 01312 - Coordination and Meetings, and Section 01230 - Alternates

1.6 CONTRACTOR USE OF PREMISES

1. Comply with procedures for access to the site and Contractor's use of rights-of-way as specified in Section 01145 - Use of Premises.
2. Construction Operations: Limited to City's rights-of-way provided by City.
3. Utility Outages and Shutdown: Provide notification to the City and private utility companies (when applicable) a minimum of 48 hours, excluding weekends and holidays, in advance of required utility shutdown. Coordinate all work as required.

1.7 STREET CUT ORDINANCE

1. Excavations on or under pavement in City's Right-of-Way must have a permit. Comply with City of Tomball, Texas Ordinance No. _____, an ordinance amending Chapter ____ of the Code of Ordinances, Tomball, Texas, relating to excavating on the Public Right-of-Way.
2. Comply with New Pavement Repair Details Drawing No. _____ sheets _____ and Street Cut Pavement Replacement, Drawing No. _____ sheets _____.

3. Quantities are included for the pavement replacement in accordance with the various specification sections that identify method of pavement.

1.8 WARRANTY

1. Comply with warranty requirements in accordance with Document 00700 - General Conditions.

PART 2 PRODUCTS - Not Used

PART 3 EXECUTION - Not Used

END OF SECTION

Section 01145

USE OF PREMISES

PART 1 GENERAL

1.01 SECTION INCLUDES

- A. General use of site including properties inside and outside rights-of-way, work affecting road, ramps, streets and driveways and notification to adjacent occupants.

1.02 MEASUREMENT AND PAYMENT

- B. No payment will be made for this item. Include cost of work activities specified in this section in overhead cost of this project.

1.03 RIGHTS-OF-WAY

- A. Confine access, operations and storage areas to rights-of-way provided by City as stipulated in Document 00700 - General Conditions; trespassing on abutting lands or other lands in the area is not allowed.
- B. Make arrangements, at no cost to City, for temporary use of private properties. Contractor and Contractor's surety shall indemnify and hold harmless City against claims or demands arising from use of properties outside rights-of-way. Submit notarized copy of agreement between private property owner and Contractor prior to use of area.
- C. Obtain permits from City of Tomball Parks and Recreation Department for storage of materials on esplanades and other areas within rights-of-way under Parks and Recreation Department's jurisdiction. Submit copies of permits to City prior to use of area.
- D. Restrict total length of distributed materials along route of construction to 1,000 linearfeet unless approved in writing by City Engineer.

1.04 PROPERTIES OUTSIDE OF RIGHTS-OF-WAY

- A. Do not alter condition of properties adjacent to and along rights-of-way.
- B. Do not use ways, means, methods, techniques, sequences, and procedures that result in damage to properties or improvements.

- C. Restore damaged properties outside of rights-of-ways at no cost to City.

1.05 USE OF SITE

- A. Obtain approvals from governing authorities prior to impeding or closing public roads and streets. Do not close more than two consecutive intersections at one time.
- B. Notify City Engineer and City Traffic Management and Maintenance department at least 48 hours prior to closing street or street crossing. Obtain permits for street closures in advance.
- C. Maintain 10-foot-wide minimum access lane for emergency vehicles including access to fire hydrants.
- D. Avoid obstructing drainage ditches or inlets; when obstruction is unavoidable due to requirements of Work, provide grading and temporary drainage structures to maintain unimpeded flow.
- E. Locate and protect private lawn sprinkler systems which may exist within site. Test existing irrigation systems prior to construction. Repair or replace damaged systems to condition existing at start of Work, or better.
- F. Perform daily clean-up in affected construction areas in order to restore site to existing or better conditions. Areas should be free of debris, scrap material, dirt, mud, and other items identified by City Engineer. Do not leave buildings, roads, streets and other construction areas unclean.
- G. Restore damaged landscaping to condition existing at start of Work, or better.
- H. Beware of overhead power lines existing in area and in close proximity of project. When 10 feet of clearance between energized overhead power line and construction-related activity cannot be maintained, request Reliant Energy de-energize or move conflicting overhead power line. Contact Reliant Energy representatives at (713) 207-7777. Schedule, coordinate and pay costs associated with de-energizing or moving conflicting overhead power lines. There is no separate pay item for this effort. Include these costs in various items of bid that make such work necessary.

1.06 NOTIFICATION TO ADJACENT OCCUPANTS

- A. Notify individual occupants in areas to be affected by Work of proposed construction and time schedule. Notify not less than 72 hours or more than 2

weeks prior to work performed within 200 feet of homes or businesses. Follow form and content of sample door hanger provided by City Engineer.

- B. Include in notification names and telephone numbers of two company representatives for resident contact available on 24-hour call. Include precautions taken to protect private property and identify potential access, utility inconvenience and disruption.
- C. Submit proposed notification to City Engineer for approval. Consider ethnicity of neighborhood where English is not dominant language. Provide notice in understandable language.

1.07 PUBLIC, TEMPORARY, AND CONSTRUCTION ROADS AND RAMPS

- A. Construct and maintain temporary detours, ramps, and roads to provide for normal public traffic flow when use of public roads or streets is closed by necessities of Work.
- B. Provide mats or other means to prevent overloading or damage to existing roadways from tracked equipment, large tandem axle trucks or equipment that will damage existing roadway surface.
- C. Construct and maintain access roads and parking areas as specified in Section 01504- Temporary Facilities and Controls.

1.08 EXCAVATION IN STREETS AND DRIVEWAYS

- A. Avoid hindering or inconveniencing of public travel on streets or intersecting alleys for more than two blocks at one time, except by permission of City Engineer.
- B. Obtain City Traffic Management and Maintenance Department and City Engineer's approval when nature of Work requires closing entire street. Permits required for street closure are Contractor's responsibility. Avoid unnecessary inconvenience to abutting property owners.
- C. Remove surplus materials and debris and open each block for public use when work in that block is complete.
- D. Acceptance of any portion of Work is not based on return of street to public use.
- E. Avoid obstructing driveways or entrances to private property.

F. Provide temporary crossing or complete excavation and backfill in one continuous operation to minimize duration of obstruction when excavation is required across drives or entrances.

G. Provide barricades and signs in accordance with Section VI of the State of Texas Manual on Uniform Traffic Control Devices.

1.09 TRAFFIC CONTROL

A. Comply with traffic regulation as specified in Section 01555 - Traffic Control and Regulation.

1.10 SURFACE RESTORATION

A. Restore site to condition existing before construction.

B. Repair paved area per requirements of Section 02951 - Pavement Repair and Resurfacing.

C. Repair damaged turf areas, level with bank run sand conforming to Section 02317 - Excavation and Backfill for Utilities, or topsoil conforming to Section 02911 - Topsoil, and re-sod in accordance with Section 02922 - Sodding. Water and level newly sodded areas with adjoining turf using appropriate steel wheel rollers for sodding. Do not use spot sodding or sprigging.

1.11 LIMITS OF CONSTRUCTION

A. Confine operations to lands within construction work limits shown on Drawings. Unless otherwise noted on Drawings adhere to the following:

1. Where utility alignment is within esplanade, and construction limits are shown on Drawings to extend to edge of esplanade, keep equipment, materials, stockpiles, a minimum of 5 feet from back of curb.
2. Where construction limits are shown on Drawings to extend to property line, keep equipment, materials, stockpiles, a minimum of 5 feet away from sidewalks.

1.12 EQUIPMENT AND MATERIAL SALVAGE

A. Upon completion of Work, carefully remove salvageable equipment and material. Deliver them to City of Tomball as directed by City Engineer. Dispose

of equipment offsite at no additional cost to City when City Engineer deems equipment unfit for further use.

PART 2 PRODUCTS - Not Used

PART 3 EXECUTION - Not Used

END OF
SECTION

Section 01230

ALTERNATES

PART 1 GENERAL

1.01 SECTION INCLUDES

- A. Submission procedures.
- B. Documentation of changes to Contract Price and Contract Time.

1.02 RELATED SECTIONS

- A. Document 00200 - Instructions to Bidders: Definition of Alternate Bids.
- B. Document 00410 - Bid Form: Quotation of each Alternate Bid.
- C. Document 00520 - Agreement Between City of Tomball and Contractor: Monetary value of each accepted Alternate.
- D. Document 00700 - General Conditions: Product Options and Substitutions.
- E. Section 01110 - Summary of Work: Description of each Alternate Bid.
- F. Section 01330 - Submittal Procedures: Construction schedule affected by Alternates.

1.03 REQUIREMENTS

- A. When allowed in Bid documents, alternate bids quoted on Bid Forms will be reviewed and accepted or rejected at City option.
- B. Volunteer Alternates, any Alternate not specified in Section 01110, will not be considered.
- C. Accepted Alternates will be identified in Owner-Contractor Agreement.

1.04 SELECTION AND AWARD OF ALTERNATIVES

- A. Bids will be evaluated on base bid price. After determination of lowest bidder, consideration will be given to Alternates and Bid Price adjustments.

PART 2 PRODUCTS - Not Used

PART 3 EXECUTION - Not Used

END OF SECTION

Section 01255

CHANGE ORDER PROCEDURES

PART1 GENERAL

1.1 SECTION INCLUDES

1. Procedures for processing Change Orders, including:
 1. Assignment of responsible individual for approval and communication of changes in Work
 2. Documentation of change in Contract Price and Contract Time.
 3. Change procedures, using proposals and construction contract modifications, Work Change Directive, Stipulated Price Change Order, Unit Price Change Order, Time and Materials Change Order.
 4. Execution of Change Orders.
 5. Correlation of Contractor submittals.

1.2 REFERENCES

1. Rental Rate Blue Book for Construction Equipment (Data Quest Blue Book). Rental Rate is defined as full unadjusted base rental rate for appropriate item of construction equipment.

1.3 RESPONSIBLE INDIVIDUAL

1. Provide letter indicating name and address of individual authorized to execute change documents and responsible for informing others in Contractor's employ and Subcontractors of changes to Work. Information shall be provided at Preconstruction Conference.

1.4 DOCUMENTATION OF CHANGE IN CONTRACT PRICE AND CONTRACT TIME

1. Maintain detailed records of changes in Work. Provide full information required for identification and evaluation of proposed changes, and substantiate costs of changes in Work.

2. Document each proposal for change in cost or time with sufficient data to allow evaluation of proposal.
3. Proposals shall include the following minimum information:
 1. Quantities of items in original Document 00410 - Bid Form with additions, reductions, deletions, and substitutions.
 2. Quantities and cost of items in original schedule of values with additions, reductions, deletions and substitutions.
 3. Provide unit prices for items not included in Schedule of Unit Prices with supporting information when absent from Schedule of Unit Price Work.
 4. Justification for changes in Contract Time.
 5. Additional data upon request.
4. For changes in Work performed on a time-and-materials basis, provide the following additional information:
 1. Quantities and description of products and equipment.
 2. Taxes, insurance and bonds.
 3. Overhead and profit as noted in Document 00800 - Supplementary Conditions.
 4. Dates, times, and by whom work was performed.
 5. Time records and certified copies of applicable payrolls.
 6. Invoices, receipts for products, rented equipment, and subcontracts, similarly documented.
5. For changes in Work performed on a time-and-materials basis, payment for rental equipment will be as follows:
 1. Actual invoice cost for duration required to complete extra work without markup for overhead and profit. When extra work comprises only a portion of rental invoice where equipment would otherwise be on site, compute hourly equipment rate by dividing the actual monthly invoice by 176. (One day equals 8 hours and one week equals 40 hours.)

2. Do not exceed estimated operating costs given in Blue Book for items of equipment. Overhead and profit will be allowed on operating cost.
6. For changes in Work performed on a time-and-materials basis using Contractor-owned equipment, use Blue Book rates as follows:
 1. Contractor-owned equipment will be paid at Blue Book Rental Rate for duration of time required to complete extra work without markup for overhead and profit. Utilize lowest cost combination of hourly, daily, weekly or monthly rates. Use 150 percent of Rental Rate for double shifts (one extra shift per day) and 200 percent of Rental Rate for more than two shifts per day. Standby rates shall be 50 percent of appropriate Rental Rate shown in Blue Book. No other rate adjustments apply.
 2. Do not exceed estimated operating costs given in Blue Book. Overhead and profit will be allowed on operating cost. Operating costs will not be allowed for equipment on standby.

1.5 CHANGE PROCEDURES

1. Changes to Contract Price or Contract Time can only be made by issuance of Document 00941 - Change Order. Issuance of Document 00940- Work Change Directive will be formalized into a Change Order. Changes will be in accordance with requirements of Document 00700 - General Conditions.
2. City Engineer will advise of minor changes in Work not involving an adjustment to Contract Price or Contract Time as authorized by Document 00700 - General Conditions by issuing supplemental instructions.
3. Request clarification of Drawings, Specifications, Contract Documents or other information by using Document 00931- Request for Information. Response by City Engineer to Requests for Information does not authorize Contractor to perform tasks outside scope of Work. Changes must be authorized as described in this section.

1.6 PROPOSALS AND CONTRACT MODIFICATIONS

1. City Engineer may issue Document 00932- Request for Proposal, which includes detailed description of proposed change with supplementary or revised Drawings and Specifications. City Engineer may also request a proposal in response to Request for Information. Prepare and submit proposal within 7 days or as specified in request.

2. Submit request for Contractor changes to City Engineer describing proposed change and its full effect on Work, with a statement describing reason for change and effect on Contract Price and Contract Time including full documentation.
3. City may use Design Consultant to review change orders.

1.7 WORK CHANGE DIRECTIVE

1. City Engineer may issue a signed Work Change Directive instructing Contractor to proceed with a change in Work. Work Change Directive will subsequently be incorporated in Change Order.
2. Document will describe changes in Work and designate method of determining change in Contract Price or Contract Time.
3. Proceed promptly to execute changes in Work in accordance with Work Change Directive.

1.8 STIPULATED PRICE CHANGE ORDER

1. Stipulated Price Change Order will be based on accepted proposal.

1.9 UNIT PRICE CHANGE ORDER

1. Where Unit Prices for affected items of Work are included in Document 00410 - Bid Form, unit price Change Order will be based on unit prices, subject to Articles 7 and 9 of Document 00700 - General Conditions.
2. Where unit prices of Work are not pre-determined in Document 00410- Bid Form, Work Change Directive or accepted proposal will specify unit prices to be used.

1.10 TIME-AND-MATERIAL CHANGE ORDER

1. Provide itemized account and supporting data after completion of change, within time limits indicated for claims in Document 00700 - General Conditions.
2. City Engineer will determine change allowable in Contract Price and Contract Time as provided in Document 00700 - General Conditions.
3. Maintain detailed records of work done on time-and-material basis as specified in Paragraph 1.04, Documentation of Change in Contract Price and Contract Time.

4. Provide full information required for evaluation of changes and substantiate costs for changes in Work.

1.11 EXECUTION OF CHANGE DOCUMENTATION

1. City Engineer will issue Change Orders, Work Change Directives, or accepted proposal for signatures of parties as described in Document 00700 - General Conditions.

1.12 CORRELATION OF CONTRACTOR SUBMITTALS

1. For Stipulated Price Contracts, promptly revise Schedule of Values and Application for Payment forms to record authorized Change Orders as separate line item.
2. For Unit Price Contracts, next monthly estimate of Work after acceptance of a Change Order will be revised to include new items not previously included and appropriate unit rates.
3. Promptly revise progress schedules to reflect change in Contract Time, and to adjust time for other items of work affected by change, and resubmit for review.
4. Promptly enter changes to on-site and record copies of Drawings, Specifications or Contract Documents as required in Section 01785 - Project Record Documents.

PART 2 PRODUCTS - Not Used

PART 3 EXECUTION - Not Used

END OF SECTION

Section 01270

MEASUREMENT AND PAYMENT

PART 1 G E N E R A L

1.1 SECTION INCLUDES

1. Procedures for measurement and payment plus conditions for nonconformance assessment and nonpayment for rejected products.

1.2 AUTHORITY

1. Measurement methods delineated in Specification sections are intended to complement criteria of this section. In event of conflict, requirements of the Specification section shall govern.
2. City Engineer will take measurements and compute quantities accordingly.
3. Assist by providing necessary equipment, workers, and survey personnel.

1.3 UNIT QUANTITIES SPECIFIED

1. Quantity and measurement estimates stated in Agreement are for contract purposes only. Quantities and measurements supplied or placed in Work and verified by City Engineer shall determine payment as stated in Article 9 of Document 00700 - General Conditions.
2. When actual Work requires greater or lesser quantities than those quantities indicated in Document 00410 - Bid Form, provide required quantities at unit prices contracted, except as otherwise stated in Article 9 of Document 00700 - General Conditions.

1.4 MEASUREMENT OF QUANTITIES

1. Measurement by Weight: Reinforcing steel, rolled or formed steel or other metal shapes are measured by CRSI or AISC Manual of Steel Construction weights. Welded assemblies are measured by CRSI or AISC Manual of Steel Construction or scale weights.
2. Measurement by Volume:

1. Stockpiles: Measured by cubic dimension using mean length, width, and height or thickness.
2. Excavation and Embankment Materials: Measured by cubic dimension using average end area method.
3. Measurement by Area: Measured by square dimension using mean length and width or radius.
4. Linear Measurement: Measured by linear dimension, at item centerline or mean chord.
5. Stipulated Price Measurement: By unit designated in Agreement.
6. Other: Items measured by weight, volume, area, or linear means or combination, as appropriate, as completed item or unit of Work.
- G. Measurement by Each: Measured by each instance or item provided.
- H. Measurement by Lump Sum: Measure includes all associated work.

1.5 PAYMENT

1. Payment Includes: Full compensation for required supervision, labor, products, tools, equipment, plant, transportation, services, and incidentals; and erection, application or installation of an item of Work; and Contractor's overhead and profit.
2. Total compensation for required Unit Price Work shall be included in Unit Price bid in Document 00410 - Bid Form. Claims for payment as Unit Price Work, but not specifically covered in list of unit prices contained in Document 00410, will not be accepted.
3. Interim payments for stored materials will be made only for materials to be incorporated under items covered in unit prices, unless disallowed in Supplementary Conditions.
4. Progress payments will be based on City Engineer's observations and evaluations of quantities incorporated in Work multiplied by unit price.
5. Final payment for Work governed by unit prices will be made on basis of actual measurements and quantities determined by City Engineer multiplied by unit price for Work which is incorporated in or made necessary by the Work.

1.6 NONCONFORMANCE ASSESSMENT

1. Remove and replace Work, or portions of Work, not conforming to Contract Documents.
2. When not practical to remove and replace Work, City Engineer will direct one of the following remedies:
 1. Nonconforming Work will remain as is, but Unit Price will be adjusted lower at discretion of City Engineer.
 2. Nonconforming Work will be modified as authorized by City Engineer, and Unit Price will be adjusted lower at discretion of City Engineer, when modified Work is deemed less suitable than specified.
3. Specification sections may modify above remedies or may identify a specific formula or percentage price reduction.
4. Authority of City Engineer to assess nonconforming work and identify payment adjustment is final.

1.7 NONPAYMENT FOR REJECTED PRODUCTS

1. Payment will not be made for the following:
 1. Products wasted or disposed of in unacceptable manner.
 2. Products determined as nonconforming before or after placement.
 3. Products not completely unloaded from transporting vehicle.
 4. Products placed beyond lines and levels of required Work.
 5. Products remaining on hand after completion of Work, unless specified otherwise.
 6. Loading, hauling, and disposing of rejected products.

PART 2 PRODUCTS - Not Used

PART 3 EXECUTION - Not Used

END OF SECTION

Section 01292

SCHEDULE OF VALUES

PART 1 GENERAL

1.01 SECTION INCLUDES

- A. Preparation and submittal of Schedule of Values for stipulated price contracts or for major lump sum items on unit price contracts for progress payments.

1.02 MEASUREMENT AND PAYMENT

- A. No separate payment will be made for this item. Include cost of preparing Schedule of Values in overhead cost for this project.

1.03 DEFINITION

- A. Schedule of Values is itemized list that establishes value of each part of Work for stipulated price contract and for major lump sum items in unit price contract. Schedule of Values is used as basis for preparing applications for payments. Quantities and unit prices may be included in schedule when designated by City Engineer.
- B. Major lump sum item is a lump sum item in Schedule of Unit Price Work which qualifies as Major Unit Price Work as defined in Document 00700 - General Conditions. Break down costs to list major products or operations for each line item which has an installed value of more than \$2000.

1.04 PREPARATION

- A. For stipulated price contracts, subdivide Schedule of Values into logical portions of Work, such as major work items or work in contiguous geographic areas. Use Section 01325 - Construction Schedule to guide subdivision of work items. Items in Schedule of Values will correlate directly with tasks enumerated in Construction Schedule. Organize each portion using Table of Contents of Project Manual as an outline for listing value of Work by Sections. A pro rata share of mobilization, bonds, and insurance may be listed as separate items for each portion of Work.
- B. For unit price contracts, items should include proportional share of Contractor's overhead and profit so that total of all items will equal Contract Price.

- C. For lump sum equipment items where submittal of operation/maintenance data and testing are required, include separate item for equipment operation and maintenance data submittal valued at 5 percent of lump sum amount for each equipment item and separate item for testing and adjusting valued at 5 percent of lump sum amount for each equipment item.
- D. Round off figures for each listed item to nearest \$100 except for value of one item, when necessary, to make total of items in Schedule of Values equal Contract Price for stipulated price contracts or lump sum amount in Schedule of Unit Price Work.
- E. Submit Schedule of Values in approved electronic spreadsheet file and print on 8-1/2-inch by 11-inch white bond paper.

1.05 SUBMITTAL

- A. Submit Schedule of Values in accordance with requirements of Section 01330 - Submittal Procedures. Submit at least 10 days prior to submitting first application for progress payment.
- B. Revise Schedule of Values and resubmit for items affected by contract modifications, Change Orders, and Work Change Directives. After changes are reviewed without exception by City Engineer, make submittal at least 10 days prior to submitting next application for progress payment.

PART 2 PRODUCTS - Not Used

PART 3 EXECUTION - Not Used

END OF SECTION

Section 01312

COORDINATION AND MEETINGS

PART 1 GENERAL

1.01 SECTION INCLUDES

- A. General coordination including preconstruction conference, site mobilization conference, and progress meetings.

1.02 MEASUREMENT AND PAYMENT

- 1. No payment will be made for this item. Include cost of meetings and project coordination in overhead cost for this project.

1.03 RELATED DOCUMENTS

- A. Coordination is required throughout documents. Refer to Contract Documents, coordinate as necessary.

1.04 CITY ENGINEER AND REPRESENTATIVES

- A. City Engineer, named in Document 00520 - Agreement Between City of Tomball and Contractor, may act directly or through designated representatives as defined in Document 00700 - General Conditions.

1.05 CONTRACTOR COORDINATION

- A. Coordinate scheduling, submittals, and Work of various Specification sections to assure efficient and orderly sequence of installation of interdependent construction elements.
- B. Coordinate completion and clean up of Work for Substantial Completion and for portions of Work designated for City's partial occupancy.
- C. Coordinate access to site for correction of nonconforming Work to minimize disruption of City's activities where City is in partial occupancy.

1.06 PRECONSTRUCTION CONFERENCE

- A. City Engineer will schedule preconstruction conference.

B. Attendance Required: City Engineer's representatives, Design Consultant, Special Consultants as required by City Engineer, Contractor, and major Subcontractors.

C. Agenda:

1. Distribution of Contract Documents.
2. Designation of personnel representing parties in Contract, and Design Consultant.
3. Review of insurance.
4. Discussion of formats for Schedule of Values and Construction Schedule.
5. Procedures and processing of shop drawings, substitutions, pay estimates or applications for payment, Requests for Information, Request for Proposal, Change Orders, and Contract closeout, other submittals
6. Scheduling of Work and coordination with other contractors.
7. Review of Subcontractors.
8. Appropriate agenda items listed for Site Mobilization Conference, Paragraph 1.07C, when preconstruction conference and site mobilization conference are combined.
9. Procedures for testing.
10. Procedures for maintaining record documents.

1.07 SITE MOBILIZATION CONFERENCE

A. When required by Contract Documents, City Engineer will schedule conference at Project site prior to Contractor occupancy.

B. Attendance Required: City Engineer representatives, Design Consultant , Special Consultants, Contractor's Superintendent, and major Subcontractors.

C. Agenda:

1. Use of premises by City and Contractor.
2. Safety and first aid procedures.

3. Construction controls provided by City.
4. Temporary utilities.
5. Survey and layout.
6. Security and housekeeping procedures.
7. Field office requirements.

1.08 PROGRESS MEETINGS

- A. Hold project meetings at Project field office or other location as designated by City Engineer. Hold meetings at monthly intervals, or more frequently when directed by City Engineer.
- B. Attendance Required: Job superintendent, major Subcontractors and suppliers, City Engineer representatives, and Design Consultant as appropriate to agenda topics for each meeting.
- C. City Engineer or representative will make arrangements for meetings, and recording minutes.
- D. City Engineer or representative will prepare agenda and preside at meetings.
- E. Provide required information and be prepared to discuss each agenda item.
- F. Agenda:
 1. Review minutes of previous meetings.
 2. Review of Work progress schedule, pay estimates, cash flow curve, payroll and compliance submittals.
 3. Field observations, problems, and decisions.
 4. Identification of problems, which impede planned progress.
 5. Review of submittal schedule and status of submittals.
 6. Review of RFI and RFP status.
 7. Change Order status.

8. Review of off-site fabrication and delivery schedules.
9. Maintenance of progress schedule.
10. Corrective measures to regain projected schedule.
11. Planned progress during succeeding Work period.
12. Coordination of projected progress.
13. Maintenance of quality and Work standards.
14. Effect of proposed changes on progress schedule and coordination.
15. Other item relating to Work.

PART 2 PRODUCTS - Not Used

PART 3 EXECUTION - Not Used

END OF SECTION

Section 01321

CONSTRUCTION PHOTOGRAPHS

PART 1 GENERAL

1.01 SECTION INCLUDES

- A. Photographic requirements for construction photographs and submittals.

1.02 MEASUREMENT AND PAYMENT

- A. No payment will be made for this item. Include cost of construction photographs in overhead cost for this project.

1.03 SUBMITTALS

- A. Refer to Section 01330 for submittal requirements.
- B. Prints: Prepare 2 prints of each view and submit 1 print directly to City and Engineer within 7 days of taking photographs. Retain one print in field office at Project site and available for reference.
- C. Extra Prints: When requested by City and Engineer, submit extra prints of photographs, with distribution directly to designated parties who will pay costs for extra prints directly to photographer.
- D. Submit photographs taken prior to start of construction to show original site conditions.
- E. Submit photographs monthly, with Pay Estimate.
- F. Negatives: Include photographic negatives in protective envelopes, identified by Project name, Contractor, and date taken with each submittal

1.04 QUALITY ASSURANCE

- A. Responsible for timely execution of photographs, their vantage point, and quality.

PART 2 PRODUCTS

2.01 PRECONSTRUCTION PHOTOGRAPHS

- A. Prior to commencement of any construction, take 35mm color photographs of entire route of project and streets proposed to detour traffic. Present one set of prints and negatives to City and Engineer for use in contract administration and inspection.
- B. Photographs: Two prints; color, matte finish; 3 by 5 -inch size, mounted on 8-1/2 by 11- inch soft card stock, with left edge binding margin for three-hole punch.
- C. Photographs shall show on readable non-reflective chalkboard :
 - 1. Job number
 - 2. Project Number
 - 3. Date and time photographs were taken (Automatic date/time in negative is acceptable)
 - 4. Baseline station, direction of view (i.e. N, S, NW, etc.) and house number or street address and street name on chalkboard.
- D. Indicate condition of the following:
 - 1. Esplanades and boulevards
 - 2. Yards (near side and far side of street)
 - 3. Housewalk and sidewalk
 - 4. Curb
 - 5. Area between walk and curb
 - 6. Particular features (for example, yard light, shrubs, fences, and trees)
 - 7. Date shall be on negative
 - 8. Provide notation of vantage point marked for location and direction of shot, onkey plan of site
- E. Take sufficient number of photographs to show structural condition of concrete and condition of trees, shrubs, and grass.
- F. Identify each photograph with applied label or rubber stamp on back with the following information:

1. Name of Project
 2. Name and address of photographer (if professional photographer is used)
 3. Name of Contractor
 4. Date photograph was taken
 5. Place photographs in plastic pockets and bound in three-ring notebook for easy access and viewing
- G. Include photographs of streets not previously included in detour.

PART 3 EXECUTION - Not Used

END OF SECTION

Section 01325

CONSTRUCTION SCHEDULE

PART 1 GENERAL

1.01 GENERAL

- A. Provide Construction Schedules for Work included in Contract in accordance with requirements in this Section. Create Construction Schedule using Critical Path Method (CPM) computer software capable of mathematical analysis of Precedence Diagramming Method (PDM) plans. Provide printed activity listings and bar charts in formats described in this Section.
- B. Combine activity listings and bar charts with narrative report to form Construction Schedule submittal for City and Engineer.

1.02 MEASUREMENT AND PAYMENT

- A. No payment will be made for this item. Include the cost of construction scheduling in overhead cost for this project.

1.03 SCHEDULING STAFF

- A. Employ or retain services of individual experienced in critical path scheduling for duration of Contract. Individual shall cooperate with City and Engineer and update schedule monthly as required to indicate current status of Work.

1.04 SUBMITTALS

- A. Conform to requirements of Section 01330 - Submittal Procedures.
- B. During preconstruction meeting, as described in Section 01312 - Coordination and Meetings, provide sample bar charts and activity listings produced from scheduling software proposed. Scheduling software is subject to review by City and Engineer and must meet requirements provided in this Section. Review of samples will be provided by City and Engineer within 7 days of submittal.
- C. Within 21 days of receipt of approval of Contractor's format, or 30 days of Notice to Proceed, whichever is later, submit proposed Construction Schedule for review. Base Construction Schedule submittal on following:

1. Level of detail and number of activities required in schedule are dependent on project type.
 - a. For wastewater projects, Categorize Work Type and Area Code in schedule.
 - 1) For wastewater rehabilitation projects, there are 6 work-type categories. An area code will be assigned for each Meter Service Area or Basin. Include at least one activity for each unique combination of work type and area code. Normal schedules of wastewater rehabilitation projects contain between 35 and 100 activities, depending on number of basins and work types involved in each basin.
 - 2) For wastewater relief projects (line work), area codes will be assigned geographically.
 - 3) For wastewater plant or facility work, other criteria may apply to assignment of area codes, such as a combination of geographical and craft categories.
2. For projects with multiple types of tasks within scope, indicate types of Work separately within schedule.
3. For projects with work at different physical locations or service areas, or different facilities within a site, indicate each location or facility separately within schedule. Show Work on each floor of multi-story building as separate tasks.
4. For projects with multiple crafts or significant subcontractor components, indicate elements separately within schedule. Unless permitted by City and Engineer, tasks shall consist of work covered by only one division of Project Manual.
5. Unless permitted by City and Engineer, each schedule task shall be same as Schedule of Values line item, and vice versa.
6. For projects with significant major equipment items or materials representing over 5 percent of Total Contract Price, indicate shop drawing submittal and review, purchase, delivery, and installation dates. Include activities for testing, adjustment, and delivering O & M manuals.
7. No task except acquisition of major equipment items shall represent more than one percent of Total Contract Price for facility projects and 3 percent of Total

Contract Price for other projects. Duration of tasks may not exceed 40 calendar days.

8. For projects where operating facilities are involved, identify each period of work, which will impact any process or operation in schedule and must be agreed to by City and Engineer and facility operator prior to starting work in area.
 9. Construction Schedule submittals shall include:
 - a. Printed bar charts that meet criteria outlined in this Section and are produced by Contractor's approved scheduling software.
 - b. Activity listings that meet criteria outlined in this Section and are produced by Contractor's approved scheduling software.
 - c. Predecessor/successor listing sorted by Activity ID that meets criteria outlined in this Section and which is produced by Contractor's scheduling software.
 - d. A logic network diagram is required with first Construction Schedule submittal for facilities projects.
 - e. Prepare and submit graphic or tabular display of estimated monthly billings, i.e., a cash flow curve for Work with first schedule submittal. This information is not required in monthly updates, unless significant changes in work require re-submittal of schedule for review. Display shall allocate units indicated in bid schedule or Schedule of Values to Construction Schedule activities. (Weighted allocations are acceptable, where appropriate). Dollar value associated with each allocated unit will be spread across duration of activity on monthly basis. Total for each month and cumulative total will be indicated. These monthly forecasts are only for planning purposes of. Monthly payments for actual work completed will be made by City Engineer in accordance with Document 00700 - General Conditions.
 - f. Narrative Report that provides information outlined in this Section.
- D. No payment will be made until Construction Schedule and billing forecast are accepted by City Engineer.
- E. If Contractor desires to make changes in his method of operating and scheduling, after original schedule has been reviewed by City Engineer, notify City Engineer in

writing, stating reasons for changes. When City Engineer considers these changes to be significant, Contractor may be required to revise and resubmit for review all or affected portion of Contractor's Construction Schedule to show effect on Work.

- F. Upon written request from City Engineer, revise and submit for review all or any part of Construction Schedule submittal to reflect changed conditions in Work or deviations made from original plan and schedule.
- G. Updated Construction Schedule with Actual Start and Actual Finish Dates, Percent Complete, and Remaining Duration of each Activity shall be submitted monthly. Data date used in updating monthly Construction Schedule shall be same date as is used in monthly Payment Application. This monthly update of schedule shall be required before monthly Payment Application will be processed for payment.

1.05 SCHEDULING COMPUTER SOFTWARE REQUIREMENTS

- A. Create Contractor's Construction Schedule using CPM computer software that provides mathematical analysis of PDM plans. Use software capable of creating bar charts and activity listings which can be sorted by various fields, i.e., Sort by Activity ID; Sort by Early Start; Sort by Total Float; Sort by Area Code; sort by Specification Section number; and sort by Subcontractor. Use software capable of producing logic network diagram.
- B. Use PDM scheduling software capable of producing activity listings and bar charts with following information for each activity in schedule:
 - 1. Activity ID
 - 2. Activity Description
 - 3. Estimated (Original) Duration
 - 4. Remaining Duration
 - 5. Actual Duration
 - 6. Early Start Date
 - 7. Late Start Date
 - 8. Early Finish Date
 - 9. Late Finish Date
 - 10. Free Float
 - 11. Total Float
 - 12. Activity Codes (such as Area Code, Work Type, Specification Section, Subcontractor)
- C. Use PDM scheduling software capable of printing calendars using mathematical analysis of schedule, indicating standard work days of week and scheduled holidays.

- D. Use Scheduling software capable of printing activity listing that indicates Predecessors and Successors, Lag Factors and Lag Relationships used in creating logic of schedule.
- E. Use scheduling software to provide monthly time in Bar Chart Format and scale with 12-month scale not to exceed one page width. Bar charts may be printed or plotted on 8.5 by 11-inch, 8.5 by 14-inch or 11 by 17-inch sheet sizes. Over-size plots are not acceptable.

1.06 NARRATIVE SCHEDULE REPORT

- A. Narrative Schedule Report shall list Activities Started This Month; Activities Completed This Month; Activities Continued This Month; Activities Scheduled To Start or Complete Next Month; Problems Encountered This Month; Actions Taken to Solve These Problems.
- B. Narrative Schedule Report shall describe changes made to Construction Schedule Logic (i.e., changes in Predecessors and Lags); Activities Added to Schedule; Activities Deleted from Schedule; any other changes made to Schedule other than addition of Actual Start Dates and Actual Finish Dates and changes of Data Date and Remaining Durations for re-calculation of mathematical analysis.

PART 2 PRODUCTS - Not Used

PART 3 EXECUTION - Not Used

END OF SECTION

Section 01326

CONSTRUCTION SCHEDULE (BAR CHART)

PART 1 GENERAL

1.01 SECTION INCLUDES

- A. Provide initial Construction Schedule as required by this section for Work. Do not start construction until schedule is reviewed by City and Engineer.

1.02 MEASUREMENT AND PAYMENT

- A. No payment will be made for this item. Include the cost of construction scheduling in overhead cost for this project.

1.03 FORM AND CONTENT OF INITIAL CONSTRUCTION SCHEDULE

A. Bar Chart:

1. Show major construction activities such as pipe laying (by traffic control phases or other approved key areas), tunnel construction, pavement removal, pavement replacement, pressure testing, chlorination, clean up and punch out as separate activities on schedule.
2. Show week duration for activities.
3. Show separate activities for each shop drawing and product data submittal critical to timely completion. Show submission dates and dates approved submittals will be needed from City and Engineer.
4. Provide separate horizontal bar for each activity. List start and finish date for each activity at left side of diagram.
5. Horizontal Time Scale: Identify first work day of each week.
6. Scale and Spacing: Notes must be legible. Allow space for notations and future revisions.
7. Order of Listings: Order bar chart listings by phases or other approved groups of activities that are contiguous. List activities in chronological order within each phase or group.

B. Narrative Description:

1. Submit Narrative Description of anticipated work sequence as indicated by sequence of activities presented in schedule.
2. Narrative shall be of sufficient detail to discuss any activity that affects public (such as phases of traffic control), interaction with specific City forces (such as valved operation, chlorination and testing) or other associated prime Contractors.

1.04 PROGRESS REVISIONS

- A. Submit Progress Revisions or necessary information to complete and process Payment Application. When required, resubmittal for rejected revision must be submitted and reviewed prior to following months processing of Payment Application. Following months Payment Application will not be processed until resubmittal is reviewed and required Progress Revisions received.
- B. Provide Narrative Report to describe:
 1. Major changes in scope.
 2. Revised projections in progress, completion, or changes in activity duration.
 3. Other identifiable changes.
 4. Problem areas, anticipated delays, and impact on schedule.
 5. Corrective action recommended and its effect.
 6. Effect of changes on schedules or other prime contractors.
 7. Material delivery lead times.
 8. Include additional data with Bar Chart described in Paragraph 1.03A of this section:
 9. Show original dates for each activity in approved initial progress schedule by narrow bar next to wider bar for current schedule.
 10. Show date each activity actually started or finished when event has occurred. Clearly identify actual dates in two right-most columns in left portion of 11 by 17-inch chart.
 11. Indicate percentage progress to date of submission for each activity.

1.05 SUBMITTALS

- A. Submit initial progress schedule within 15 days after award of contract. City and Engineer will review schedule and return copy within 21 days after receipt.
- B. Progress revisions cut-off date may be as early as twentieth of month to avoid delaying processing of Payment Application. Use cut-off day for first approved revision for all revisions.
- C. When required, resubmit within 7 days after return of review copy.
- D. Include in schedule connecting lines between bars to indicate sequence that activities will be accomplished. Impact will be known by corresponding changes to preceding or succeeding activities identified by connecting lines when activities start or finish is modified. Submit minimum of 6 copies of bar chart on 11 by 17-inch opaque reproductions. Five copies will be retained by City and Engineer and remaining copy will be returned.

PART 1 PRODUCTS - Not Used

PART 2 EXECUTION - Not Used

END OF SECTION

Section 01330

SUBMITTAL PROCEDURES

PART 1 GENERAL

1.1 SECTION INCLUDES

1. Submittal procedures for:
 1. Schedule of Values
 2. Construction Schedules and Cash Flow Curve (billing forecast).
 3. Shop Drawings, Product Data and Samples
 4. Operations and Maintenance Data
 5. Manufacturer's Certificates
 6. Construction Photographs
 7. Project Record Documents and monthly certification.
 8. Video Tapes
 9. Design Mixes

1.2 SUBMITTAL PROCEDURES

1. Scheduling and Handling:
 1. Submit shop drawings, data and samples for related components as required by City and Engineer.
 2. Schedule submittals well in advance of need for material or equipment for construction. Allow time to make delivery of material or equipment after submittal is approved.
 3. Develop submittal schedule that allows sufficient time for initial review, correction, resubmission and final review of all submittals. City and Engineer will review and return submittals to Contractor as expeditiously as possible but amount of time required for review will vary depending on complexity and

quantity of data submitted. In no case will submittal schedule be acceptable that allows less than 30 days for initial review by City and Engineer. This time for review is not justification for delays or additional compensation to Contractor.

4. City and Engineer's review of submittals covers only general conformity to Drawings, Specifications and dimensions that affect layout. Contractor is responsible for quantity determination. No quantities will be verified by City and Engineer. Contractor is responsible for errors, omissions or deviations from Contract requirements; review of submittals in no way relieves Contractor from the obligation to furnish required items according to Drawings and Specifications.
 5. Submit 5 copies of documents unless otherwise specified in following paragraphs or Specifications.
 6. Revise and resubmit submittals as required. Identify all changes made since previous submittal.
 7. Assume risk for material or equipment which is fabricated or delivered prior to approval. No material or equipment shall be incorporated into Work or included in periodic progress payments until approval has been obtained in specified manner.
2. Transmittal Form and Numbering:
1. Transmit each submittal to City and Engineer with Transmittal letter which includes:
 1. Date and submittal number
 2. Project title and number
 3. Names of Contractor, Subcontractor, Supplier and Manufacturer
 4. Identification of product or material being supplied
 5. Location of where product or material is being installed
 6. Specification section number
 2. Identification of deviations from contract documents must be clouded on submitted drawings, and itemized and detailed on separate 8-1/2 by 11-inch

sheet titled "DEVIATIONS FOR _____." When deviations do not exist, this sheet must state so.

3. Design deviations must be signed and sealed by Professional Engineer registered in State of Texas.
 4. Sequentially number each transmittal letter beginning with number 1. Resubmittals use original number with alphabetic suffix (i.e., 2A for first resubmittal of Submittal 2 or 15C for third resubmittal of Submittal 15). Each submittal shall only contain one type of work, material, or equipment. Mixed submittals will not be accepted.
3. Contractor's Stamp:
1. Apply Contractor's Stamp, certifying that items have been reviewed in detail and are correct in accordance with Contract, except as noted by any requested variance.
 2. As a minimum, Contractor's Stamp shall include:
 1. Contractor's name
 2. Job number
 3. Submittal number
 4. Certification statement Contractor has reviewed submittal and it is in compliance with Contract
 5. Signature line for Contractor
4. Submittal Response:
1. Submittal will be returned marked "ACKNOWLEDGE RECEIPT" when no response is required. Resubmittal is not required.
 2. Submittal will be returned marked "NO EXCEPTION" when sufficient information is supplied to determine item described is equal to that specified. Resubmittal is not required.
 3. Submittal will be returned marked "EXCEPTIONS AS NOTED" when sufficient information is supplied to determine that item will be acceptable when certain changes are made. Changes, or exceptions, will be clearly stated. When exceptions require other changes, additional changes must be submitted for approval. Resubmittal is not required, when exceptions do not require other changes.

4. When submittal does not contain sufficient information or when information provided does not meet contract requirements, submittal will be returned "REJECTED-RESUBMIT." Additional data or details as requested by City and Engineer for approval must be formulated and resubmitted as required.

1.3 SCHEDULE OF VALUES

1. Submit Schedule of Values in accordance with Section 01292 - Schedule of Values.

1.4 CONSTRUCTION SCHEDULES

1. Submit Construction Schedules and billing forecast in accordance with Section 01325 - Construction Schedule (CPM), or Section 01326 - Construction Schedule (Bar Chart).

1.5 SHOP DRAWINGS, PRODUCT DATA, AND SAMPLES

1. Submit shop drawings in accordance with Section 01340 - Shop Drawings, Product Data, and Samples.

1.6 OPERATIONS AND MAINTENANCE DATA

1. Submit Operations and Maintenance data in accordance with Section 01782 - Operations and Maintenance Data.

1.7 MANUFACTURER'S CERTIFICATES

1. When specified in Specification sections, submit manufacturers' certificate of compliance for review by City and Engineer.
2. Place Contractor's Stamp, as described in Paragraph 1.03C, on front of certification.
3. Submit supporting reference data, affidavits, and certifications as appropriate.
4. Certificates may be recent or previous test results on material or product, but must be acceptable to City and Engineer.

1.8 CONSTRUCTION PHOTOGRAPHS

1. Submit Construction Photographs and video tapes in accordance with Section 01321 - Construction Photographs, Section 01322 - Construction Photographs for Facility Projects.

1.9 PROJECT RECORD DOCUMENTS

1. Submit Project Record Documents in accordance with Section 01785 - Project Record Documents.
2. With each payment request, submit written certification that As-built conditions are being documented on-site in accordance with Section 01785 - Project Record Documents, and that they have been reviewed by City.

1.10 VIDEO

1. Submit television videos as required in Section 02533 - Acceptance Testing for Sanitary Sewers.
2. Number transmittal forms for videos sequentially beginning with T01, T02, T03, etc.

1.11 DESIGN MIXES

1. When specified in Specifications, submit design mixes for review.
2. Place Contractor's Stamp, as described in Paragraph 1.03C, on front of each design mix.
3. Mark each design mix to identify proportions, gradations, and additives for each class and type of design mix submitted. Include applicable test results on samples for each mix. All tests and certifications shall have been performed within the last 12 months prior to date of submittal
4. Maintain copy of approved design mixes at mixing plant.

1.12 CHANGES TO CONTRACT

1. Change to contract may be initiated by completing Request for Information form. City and Engineer provides response to Contractor by completing form and returning it to Contractor. When Contractor signs form and checks block indicating that response will result in no increase in cost or time, inquiry is complete. When Contractor and City and Engineer agree that an increase in time

or cost is warranted, City and Engineer will forward Request for Proposal so that Change Order may be negotiated and approved.

1.13 NON-INCLUSIVE SUBMITTAL LIST

1. See entire Specification Section 01292, "Schedule of Values"
2. See entire Specification Section 01330, "Submittal Procedures"
3. See entire Specification Section 01326, "Construction Schedule (Bar Chart)"
4. Construction Photographs (ref. Section 01321)
5. Design of temporary utility relocations and permanent relocations initiated by Contractor
6. Potentially petroleum contaminated material, if applicable (ref. Section 02105 and 02110)
7. Tree and shrub protection and name and experience of qualified tree surgeon (ref. Section 01562)
8. Groundwater control for open cut excavation (ref. Section 01578)
9. Traffic control plan (ref. Section 01555)
10. Project record documents (ref. Section 01785)
11. Operation and maintenance information (ref. Section 01782)
12. Potential obstruction report (ref. Section 02317)
13. Hot-mix asphaltic base (ref. Section 02711)
14. Geotextile (ref. Section 02621)
15. Tunnel shafts (ref. Section 02445)
16. All items listed in Section 02425, "Tunnel Excavation and Primary Liner"
17. Auger pits (ref. Section 02447)
18. Tunneling grout (ref. Section 02431)

19. Asphaltic concrete paving (ref. Section 02741)
20. Concrete paving (ref. Section 02751)
21. Temporary and removable reflectorized pavement markings (ref. Section 02765)
22. Manholes (ref. Section 02081, 02082 and 02084)
23. Ductile iron pipe (ref. Section 02501)
24. Steel pipe (ref. Section 02502 and 02518)
25. Pretensioned and prestressed concrete cylinder pipe (ref. Section 02613 and 02507)
26. PVC pipe (ref. Section 02506)
27. Water main in tunnels or casings (ref. Section 02517)
28. Blocking pipe in tunnel (ref. Section 02517)
29. Polyurethane coatings on steel pipe, if applicable (ref. Section 02527)
30. Valves and appurtenances (ref. Sections 02521 - 02524)
31. Cathodic protection systems (ref. Section 13111)
32. Concrete for utility construction (ref. Section 03315)
33. Miscellaneous metals (ref. Section 05500)

PART 2 P R O D U C T S - Not Used

PART 3 E X E C U T I O N - Not Used

END OF SECTION

Section 01340

SHOP DRAWINGS, PRODUCT DATA, AND SAMPLES

PART 1 GENERAL

1.1 SECTION INCLUDES

1. Methods, schedule, and process followed for shop drawings, product data and sample submittals.

1.2 REQUIREMENT

1. Submit shop drawings, product data and samples as required by General Conditions and as designated in Specifications using procedures specified in Section 01330 - Submittal Procedures and requirements of this Section.
2. Shop drawings, product data and samples are not considered Contract Documents.
3. Registered Professional Engineer licensed by State of Texas must sign and seal design deviations from contract documents.

1.3 SHOP DRAWING/SUBMITTAL SCHEDULE

1. Submit separate Shop Drawing/Submittal schedule at same time Construction Schedule is submitted. List products, materials and equipment for which Shop Drawings and other submittals are required in the order in which they appear in Specifications. Include product data and sample submittals in schedule. Application for payment will not be processed until schedule of shop drawing submittals is approved by City and Engineer.

1.4 SHOP DRAWINGS

1. Submit minimum of seven sets of Shop Drawings and product data in form and quality suitable for microfilming. Review and sign Shop Drawings indicating compliance with Contract.
2. Place Contractor's Stamp on each drawing as described in Section 01330 - Submittal Procedures.
3. Show the following accurately and distinctly:

1. Field and erection dimensions
2. Arrangement and section views
3. Relation to adjacent materials or structure, including complete information for making connections between work under this Contract and work under other contracts
4. Types of materials and finishes
5. Parts list and descriptions
6. Assembly drawings of equipment components and accessories showing respective positions and relationships to complete equipment package
7. Identify details by reference to drawing sheet and detail numbers, schedule or room numbers as shown on Contract Drawings where necessary for clarity.

4. Scale drawings to provide true representation of specific equipment or item furnished.
5. Coordinate and submit components, necessary for City and Engineer to adequately review submittal, as complete package. Reproduction of design drawings for use of shop drawings is not allowed.
6. For major changes to original documents, submit CAD drawings.

1.05 PRODUCT DATA

1. Submit product data for review as required in Specification sections.
2. Place Contractor's Stamp, on each data item submitted, as described in Section 01330 - Submittal Procedures.
3. Mark each copy to identify applicable products, models, options to be used in this Project. Supplement manufacturers' standard data to provide information unique to this Project, where required by Specifications.
4. Give manufacturers, trade name, model or catalog designation and applicable reference standard for products specified only by reference standard.
5. Pre-approved and Pre-qualified Products.

1. For "pre-approved", "pre-qualified" and "approved" products named in City standard products list, provide appropriate list designation as described in Section 01630 - Product Substitution Procedures within 30 days after Notice to Proceed.
2. For products proposed as alternates to "approved" products, provide information required to demonstrate proposed products meet level of quality and performance criteria of "approved" product.
6. Submit revised data and samples for resubmittal in manner required for initial submission.

1.06 SAMPLES

1. Submit samples for review as required by Specifications. Have samples reviewed and signed by Registered Professional.
2. Place Contractor's Stamp on each sample or firmly attached sheet of paper, as described in Section 01330 - Submittal Procedures.
3. Submit number of samples specified in Specifications; one will be retained by City and Engineer.
4. Reviewed samples that may be used in Work are identified in Specifications.
5. Provide mark up as identified in specifications.

PART 2 PRODUCTS - Not Used

PART 3 EXECUTION - Not Used

END OF SECTION

Section 01422

REFERENCE STANDARDS

PART 1 GENERAL

1.1 SECTION INCLUDES

1. Section includes general quality assurance related to Reference Standards and list of references.

1.2 QUALITY ASSURANCE

1. For Products or workmanship specified by association, trade, or Federal Standards, comply with requirements of standard, except when more rigid requirements are specified or are required by applicable codes.
2. Conform to reference standard by current date of issue as stated in Document 0700 - General Conditions.
3. Request clarification from City and Engineer before proceeding when specified reference standards conflict with Contract Documents.

1.3 SCHEDULE OF REFERENCES

AASHTO	American Association of State Highway and Transportation Officials 444 North Capitol Street, N.W. Washington, D.C. 20001
ACI	American Concrete Institute P.O. Box 9094 Farmington Hills, MI 48333-9094
AGC	Associated General Contractors of America 333 John Carlyle Street Alexandria, VA 22314
AI	Asphalt Institute Research Park Drive P.O. Box 14052 Lexington, KY 40512

	AITC	American Institute of Timber Construction 7012 S. Revere Parkway, Suite 140 Englewood, CO 80112
	AISC	American Institute of Steel Construction One East Wacker Dr. Chicago, IL 60601
	AISI	American Iron and Steel Institute 1101 17 th Street NW, Suite 1300 Washington, D.C. 20036
	ASME	American Society of Mechanical Engineers Three Park Avenue New York, NY 10016
	ANSI	American National Standards Institute 1819 L Street NW Sixth Floor Washington, D.C. 20036
	APA	American Plywood Association Box 11700 Tacoma, WA 98411
	API	American Petroleum Institute 1220 L Street, N.W. Washington, D.C. 20005
Association	AREMA	American Railway Engineering and Maintenance-of-Way 8201 Corporate Drive, Suite 1125 Landover, Maryland 20785
	ASTM	American Society for Testing and Materials 100 Barr Harbor Drive West Conshohocken, PA 19428
	AWPA	American Wood-Preservers' Association P.O. Box 5690 Granbury, TX 76049

AWS	American Welding Society 550 NW 42 nd Avenue Miami, FL 33126
AWWA	American Water Works Association 6666 West Quincy Avenue Denver, CO 80235
COH	City of Houston P.O. Box 1562 Houston, TX 77251-1562
CLFMI	Chain Link Fence Manufacturers Institute 9891 Broken Land Parkway, Suite 300 Columbia, MD 21046
CRSI	Concrete Reinforcing Steel Institute 933 Plum Grove Road Schaumburg, IL 60173-4758
EJMA	Expansion Joint Manufacturers Association 25 North Broadway Tarrytown, NY 10591
FS	Federal Standardization Documents General Services Administration Specifications Unit (WFSIS) 7th and D Streets, S.W. Washington, D.C. 20406
ICEA	Insulated Cable Engineer Association P.O. Box 440 S. Yarmouth, MA 02664
IEEE	Institute of Electrical and Electronics Engineers 445 Hoes Lane P.O. Box 459 Piscataway, NJ 08855-459
ISA	International Society of Arboriculture P.O. Box 3129 Champaign, IL 61826-3129

MIL	Military Specifications General Services Administration Specifications Unit (WFSIS) 7th and D Streets, S.W. Washington, D.C. 20406
NACE	National Association of Corrosion Engineers 1440 South Creek Drive Houston, TX 77084-4906
NEMA	National Electrical Manufacturers' Association 1300 North 17 th Street, Suite 1847 Rosslyn, VA 22209
NFPA	National Fire Protection Association 1 Batterymarch Park P.O. Box 9101 Quincy, MA 02269-9101
OSHA	Occupational Safety Health Administration U.S. Department of Labor Office of Public Affairs-Room N3647 200 Constitution Avenue Washington, D.C. 20210
PCA	Portland Cement Association 5420 Old Orchard Road Skokie, IL 60077-1083
PCI	Prestressed Concrete Institute 209 W. Jackson Blvd. Chicago, IL 60606
SDI	Steel Deck Institute P.O. Box 25 Fox River Grove, IL 60021
SSPC	Society for Protective Coatings (Steel Structures Painting Council) 40 24 th Street, Sixth Floor Pittsburgh, PA 15222

TAC	Texas Administrative Code Texas Natural Resources Conservation Commission P. O. Box 13087 Library MC-196 Austin, TX 78711-3087
TxDOT	Texas Department of Transportation 125 East 11 th Street Austin, TX 78701 2483
UL	Underwriters' Laboratories, Inc. 333 Pfingston Road Northbrook, IL 60062
UNI-BELL	UNI-BELL Pipe Association 2655 Villa Creek Drive, Suite 155 Dallas, TX 75234

PART 2 PRODUCTS - Not Used

PART 3 EXECUTION - Not Used

END OF SECTION

Section 01450

CONTRACTOR'S QUALITY CONTROL

PART 1 GENERAL

1.01 SECTION INCLUDES

- A. Quality assurance and control of installation and manufacturers' field services and reports.

1.02 MEASUREMENT AND PAYMENT

- A. No payment will be made for this item. Include cost of Contractor's quality control in overhead cost for this project.

1.03 QUALITY ASSURANCE/CONTROL OF INSTALLATION

- A. Monitor quality control over suppliers, manufacturers, products, services, site conditions and workmanship, to produce Work of specified quality at no additional cost to City.
- B. Comply fully with manufacturers' installation instructions, including each step in sequence.
- C. Request clarification from City and Engineer before proceeding when manufacturers' instructions conflict with Contract.
- D. Comply with specified standards as minimum requirements for Work except when more stringent tolerances, codes, or specified requirements indicate higher standards or more precise workmanship.
- E. Perform Work by persons qualified to produce specified level of workmanship.

1.04 REFERENCES

- A. Obtain copies of standards and maintain at job site when required by individual Specification sections.

1.05 MANUFACTURERS' FIELD SERVICES AND REPORTS

- A. When specified in individual Specification sections or as required by City and Engineer, provide material or product suppliers' or manufacturers' technical

representative to observe site conditions, conditions of surfaces and installation, quality of workmanship, start-up of equipment, operator training, test, adjust and balance of equipment as applicable and to initiate operation, as required. Conform to minimum time requirements for start-up operations and operator training when defined in Specification sections.

- B. At City and Engineer's request, submit qualifications of manufacturers' representative to City and Engineer 15 days in advance of required representatives' services. Representative is subject to approval by City and Engineer.
- C. A manufacturers' representative is to report observations and site decisions or instructions given to applicators or installers that are supplemental or contrary to a manufacturer's written instructions. Submit report within 14 days of observation to City and Engineer for review.

PART 1 PRODUCTS - Not Used

PART 2 EXECUTION - Not Used

END OF SECTION

Section 01452

INSPECTION SERVICES

PART 1 G E N E R A L

1.1 SECTION INCLUDES

1. Inspection services and references

1.2 INSPECTION

1. City and Engineer will appoint Inspector as representative of City to perform inspections, tests and other services specified in individual specification Sections
2. Alternately, City and Engineer may appoint, employ and pay independent firm to provide additional inspection or construction management services as indicated in Section 01454 - Testing Laboratory Services.
3. Reports will be submitted by independent firm to City and Engineer, indicating observations and results of tests and indicating compliance or non-compliance with Contract.
4. Assist and cooperate with Inspector; furnish samples of materials, design mix, equipment, tools, and storage.
5. Notify City and Engineer 24 hours prior to expected time for operations requiring services.
6. Sign and acknowledge report for Inspector.

PART 2 P R O D U C T S - Not Used

PART 3 E X E C U T I O N - Not Used

END OF SECTION

Section 01454

TESTING LABORATORY SERVICES

PART 1 GENERAL

1.1 SECTION INCLUDES

1. Testing laboratory services and responsibilities related to those services.

1.2 REFERENCES

1. ASTM C 1077 - Standard Practice for Laboratories Testing Concrete and Concrete Aggregates for Use in Construction and Criteria for Laboratory Evaluation.
2. ASTM D 3666 - Standard Specification for Minimum Requirements for Agencies Testing and Inspecting Bituminous Paving Materials.
3. ASTM D 3740 - Standard Practice for Minimum Requirements for Agencies Engaged in the Testing and/or Inspection of Soil and Rock as Used in Engineering Design and Construction.
4. ASTM E 329 - Standard Specification for Minimum Requirements for Agencies Engaged the Testing and/or Inspection of Materials Used in Construction.
5. ISO/IEC 17025 - General Requirements for the Competence of Calibration and Testing Laboratories.

1.3 SELECTION AND PAYMENT

1. The City will select, employ, and pay for services of independent testing laboratory to perform inspection and testing identified in Part 3 of individual Specification sections.
2. Employ and pay for services of independent testing laboratory or laboratories to perform inspection and testing identified in Part 2 of individual Specification sections.
3. Employment of testing laboratory by the City does not relieve the Contractor of obligation to perform the Work in accordance with requirements of Contract Documents.
4. City deducts minimum 2-hour charge for testing laboratory time from periodic progress payment when operations requiring testing or inspection are canceled without prior notification.

5. City deducts cost of retesting from periodic progress payment whenever failed work is removed, replaced and retested.
6. City and Engineer schedules and monitors testing. Provide 24 hours notice of testing to City and Engineer to avoid delay of the Work.

1.4 QUALIFICATION OF LABORATORY

1. Meet laboratory requirements of ASTM E 329 and applicable requirements of ASTM C 1077, ASTM D 3666 and ASTM D 3740.
2. Meet ISO/IEC 17025 conditions for accreditation by the American Association for Laboratory Accreditation (A2LA) in specific fields of testing required in individual Specification sections.
3. If laboratory subcontracts are part of testing services, such work will be placed with laboratory complying with requirements of this Section.

1.5 LABORATORY REPORTS

1. Testing laboratory provides and distributes copies of laboratory reports to distribution list provided by City and Engineer at preconstruction conference.
2. Keep one copy of each laboratory report distributed or faxed at site field office for duration of project.
3. Laboratory will fax material supplier, Contractor and City and Engineer no later than close of business on working day following test completion and review, reports which indicate failing test results.

1.6 LIMITS ON TESTING LABORATORY AUTHORITY

1. Laboratory may not release, revoke, alter, or enlarge requirements of Contract.
2. Laboratory may not approve or accept any portion of the Work.
3. Laboratory may not assume duties of Contractor.
4. Laboratory has no authority to stop the Work.

1.7 CONTRACTOR RESPONSIBILITIES

1. Provide safe access to the Work and to manufacturer=s facilities for City and Engineer and for testing laboratory personnel.

2. Provide testing laboratory with copy of construction schedule and copy of each update to construction schedule.
3. Notify City and Engineer and testing laboratory during normal working hours of day previous to expected time for operations requiring inspection and testing services. When Contractor fails to make timely prior notification, then do not proceed with operations requiring inspection and testing services.
4. Notify Design Consultant 24 hours in advance when Specification requires presence of Design Consultant for sampling or testing.
5. Request and monitor testing as required to provide timely results and avoid delay to the Work. Provide samples to laboratory in sufficient time to allow required test to be performed in accordance with specified test methods before intended use of material.
6. Cooperate with laboratory personnel in collecting samples on site. Provide incidental labor and facilities for safe access to the Work to be tested; to obtain and handle samples at site or at source of products to be tested; and to facilitate tests and inspections including storage and curing of test samples.
7. Arrange with laboratory through City and Engineer. Payment for additional testing will be made in accordance with Document 00700 - General Conditions:
 - a. Retesting required for failed tests
 - b. Retesting for nonconforming Work
 - c. Additional sampling and tests requested beyond specified requirements
 - d. Insufficient notification of cancellation of tests for Work scheduled but not performed

PART 2 PRODUCTS - Not Used

PART 3 EXECUTION

1.8 CONDUCTING TESTING

1. Conform laboratory sampling and testing specified in individual Specification sections to latest issues of ASTM standards, TxDOT methods, or other recognized test standards as approved by City and Engineer.

2. Requirements of this section also apply to those tests for approval of materials, for mix designs and for quality control of materials as performed by employed testing laboratories.

END OF SECTION

Section 01502

MOBILIZATION

PART 1 G E N E R A L

1.1 SECTION INCLUDES

1. Mobilization of construction equipment and facilities onto site.

1.2 UNIT PRICES

- A. Measurement for mobilization is on lump sum basis.

- B. Mobilization payments will be included in periodic progress payment upon written application subject to following provisions:

1. Authorization for payment of 50 percent of Contract Price for mobilization will be made upon receipt and approval by City and Engineer of following items, as applicable:

- a. Schedule of Values
- b. Trench safety program
- c. Construction Schedule
- d. Preconstruction photographs
- f. Dewatering plan, when required

2. Authorization for payment of remaining 50 percent of Contract Price for mobilization will be made upon completion of Work amounting to 5 percent of Contract Price less mobilization unit price.

- C. Mobilization payments will be subject to retainage amounts stipulated in Document 0700 - General Conditions.

- D. A reduction of 10% of mobilization amount bid in Schedule for Unit Price Work will be applied to each Payment Application when Field Office is not properly maintained. Proper maintenance consists of operational plumbing and sanitary facilities, adequate potable water supply, operational telephone and facsimile machine and functionable temperature control.

PART 2 P R O D U C T S - Not Used

PART 3 E X E C U T I O N - Not Used

END OF SECTION

Section 01572

POLLUTION SOURCE CONTROLS ON CONSTRUCTION
PROJECTS

PART 1 GENERAL

1.01 SECTION INCLUDES

- A. Description of erosion, sediment control and other control-related practices utilized during construction activities.

1.02 UNIT PRICES

- A. Unless indicated in Unit Price Schedule as a pay item, no separate payment shall be made for Work performed under this Section. Include cost of Work performed under this Section in pay items of which this Work is a component.

1.03 REFERENCE STANDARDS

- A. ASTM D 4632 - Standard Test Method for Grab Breaking Load and Elongation of Geotextiles.
- B. Storm Water Quality Management Guidance Manual prepared by City of Tomball, Harris County and Harris County Flood Control District.

1.04 SUBMITTALS

- A. Submit manufacturer's catalog sheets and other product data on dispensing equipment, pump, and aboveground fuel storage tanks, indicating capacity and dimensions of tank.
- B. Submit drawings to show location of tank protection area and driveway. Indicate nearest inlet or channelized flow area. Clearly dimension distances and measurements.
- C. Submit list of spill containment equipment, and quantities thereof, located at fueling area.
- D. Submit manufacturer's catalog sheets and other product data on geotextile fabric.

1.05 QUALITY ASSURANCE

- A. Person conducting visual examination for pollutant shall be fully knowledgeable about the NPDES Construction General Permit, detecting sources of storm water contaminants, inspection of aboveground storage tank and appurtenances for leakage, and the day-to-day operations that may cause unexpected pollutant releases.

PART 2 P R O D U C T S

2.01 ABOVEGROUND STORAGE TANK

- A. Tank Assembly: Must be listed with UL 1709 and UL 2085.
- B. Inner Steel Storage Tank: Follow UL 142, with minimum thickness of 1/8-inch welded construction.
- C. Tank Encasement: Either concrete or steel to provide minimum of 110 percent containment of inner tank capacity. Provide 5-gallon overspill containment pan for tank refueling.
- D. Dispenser Pump: For submersible pump, UL listed emergency shut-off valve to be installed at each dispenser. For suction pump, UL listed vacuum-activated shut-off valve, with shear section, is to be installed at each dispenser. Fuel may not be dispensed from tank by gravity flow or by pressurization of tank. Means must be provided to prevent release of fuel by siphon flow.
- E. Representative Manufacturers: Convault, Fireguard, Ecovault, SuperVault, or equal.

2.02 CONCRETE

- A. Provide concrete with minimum strength of 4,000 psi at 28 days.

2.03 AGGREGATES

- A. Coarse aggregate shall consist of crushed stone, gravel, crushed blast furnace slag, or combination of these materials. Aggregate shall be composed of clean, hard, durable materials, free from adherent coatings, salt, alkali, dirt, clay, loam, shale, soft or flaky materials, or organic and injurious matter.
- B. Coarse aggregates shall conform to following gradation requirements.

Sieve Size (Square Mesh)	Percent Retained (By Weight)
2-1/2"	0
2"	0 - 20
1-1/2"	15 - 50
3/4"	60 - 80
No. 4	95 - 100

2.04 GEOTEXTILE FABRIC

- A. Provide woven or non-woven geotextile filter fabric made of either polypropylene, polyethylene, ethylene, or polyamide material in continuous rolls of longest practical length.
- B. Geotextile fabric shall have a grab strength of 270 psi in any principal direction (ASTM D4632), Mullen burst strength exceeding 200 psi (ASTM D-3786) and equivalent opening size between 50 and 70.
- C. Filter fabric material shall contain ultraviolet inhibitors and stabilizers to provide minimum of 6 months of expected usable construction life at a temperature range of 0 degrees F to 120 degrees F.
- D. Representative Manufacturers: Mirafi, Inc., Synthetic Industries, or equal.

PART 3 EXECUTION

3.01 PREPARATION AND INSTALLATION

- A. No clearing and grubbing or rough cutting permitted until erosion and sediment control systems are in place, other than site Work specifically directed by City Engineer to allow soil testing and surveying.
- B. Prohibit equipment and vehicles from maneuvering on areas outside of dedicated rights-of-way and easements for construction. Immediately repair damage caused by construction traffic to erosion and sediment control systems.
- C. Maintain existing erosion and sediment control systems located within project site until acceptance of Project or until directed by City Engineer to remove and discard existing system.

- D. Regularly inspects and repairs or replaces damaged components of erosion and sediment control systems as specified in this Section. Unless otherwise directed, maintain erosion and sediment control systems until project area stabilization is accepted by City. Remove erosion and sediment control systems promptly when directed by City Engineer. Discard removed materials off site.
- E. Remove and dispose sediment deposits at designated spoil site for Project. If a project spoil site is not designated on Drawings, dispose of sediment off site at location not in or adjacent to stream or flood plain. Assume responsibility for off-site disposal. Spread sediment evenly throughout site, compacted and stabilized. Prevent sediment from flushing into a stream or drainage way. If sediment has been contaminated, dispose of in accordance with existing federal, state, and local rules and regulations.
- F. Assume responsibility for collecting, storing, hauling, and disposing of spoil, silt, and waste materials as specified in this or other Specifications and in compliance with applicable federal, state, and local rules and regulations.
- G. Employ protective measures to avoid damage to existing trees to be retained on project site. Conduct construction operations under this Contract in conformance with erosion control practices described in Drawings and this Specification.
- H. Prepare spill response and containment procedures to be implemented in event of significant materials spill. Significant materials include but are not limited to: raw materials; fuels; materials such as solvent, detergents, and plastic pellets; finished materials such as metallic products; raw materials used in food processing or production; hazardous substances designated under section 101(14) of CERCLA; chemical required to be reported pursuant to Section 313 of Title III of SARA; fertilizers; pesticides, and waste products such as slag, ashes and sludge that have potential to be released with storm water discharges. Spill containment procedures shall be kept on-site or in construction field office.
- I. Spill containment equipment appropriate to size of operation is to be located in close proximity of fueling area. Such equipment includes, but not limited to, suitable waste containers for significant materials, drip pans, booms, inlet covers, or absorbent.
- J. Properly label significant materials or waste containers used for construction activities and stored on-site overnight.
- K. Install, maintain, and inspect erosion, sediment control measures and practices as specified in Drawings and in this or other Specifications.

3.02 TOPSOIL PLACEMENT FOR EROSION AND SEDIMENT CONTROL SYSTEMS

- A. When topsoil is specified as a component of another Specification, conduct erosion control practices described in this Specification during topsoil placement operations.
 - 1. When placing topsoil, maintain erosion and sediment control systems consisting of swales, grade stabilization structures, berms, dikes, waterways, and sediment basins.
 - 2. Maintain grades, which have been previously established on areas to receive topsoil.
 - 3. After areas to receive topsoil have been brought to grade, and immediately prior to dumping and spreading topsoil, loosen sub grade by discing or by scarifying to a depth of at least 2 inches to permit bonding of topsoil to subsoil. Compact by passing bulldozer up and down slope, tracking over entire surface area of slope to create horizontal erosion control slots.
 - 4. No sod or seed shall be placed on soil, which has been treated with soil sterilants until sufficient time has elapsed to permit dissipation of toxic materials.

3.03 DUST CONTROL

- A. Implement dust control methods to control dust creation and movement on construction sites and roads and to prevent airborne sediment from reaching receiving streams or storm water conveyance systems, to reduce on-site and off-site damage, to prevent health hazards, and to improve traffic safety.
- B. Control blowing dust by using one or more of following methods:
 - 1. Mulches bound with chemical binders such as Carasol, Terratack, or equal.
 - 2. Temporary vegetative cover.
 - 3. Spray-on adhesives on mineral soils when not used by traffic.
 - 4. Tillage to roughen surface and bring clods to surface.
 - 5. Irrigation by water sprinkling.
 - 6. Barriers using solid board fences, snow fences, burlap fences, crate walls, bales of hay, or similar materials.

- C. Implement dust control methods immediately whenever dust can be observed blowing on project site.

3.04 KEEPING STREETS CLEAN

- A. Keep streets clean of construction debris and mud carried by construction vehicles and equipment. If necessary, install stabilized construction exits at construction, staging, storage, and disposal areas. Vehicle/equipment wash area (stabilized with coarse aggregate) may be installed adjacent to stabilized construction exit, as needed. Release wash water into a drainage swale or inlet protected by erosion and sediment control measures. Construction exit and wash areas are specified in Section 01575 - Stabilized Construction Exit.
- B. In addition to stabilized construction exits, shovel or sweep pavement to extent necessary to keep street clean. Water hosing or sweeping of debris and mud off of street into adjacent areas is not allowed.

3.05 EQUIPMENT MAINTENANCE AND REPAIR

- A. Confine maintenance and repair of construction machinery and equipment to areas specifically designated for that purpose. Locate areas so that oils, gasoline, grease, solvents, and other potential pollutants cannot be washed directly into receiving streams or storm water conveyance systems. Provide these areas with adequate waste disposal receptacles for liquid as well as solid waste. Clean and inspect maintenance areas daily.
- B. On construction site where designated equipment maintenance areas are not feasible, take precautions during each individual repair or maintenance operation to prevent potential pollutants from washing into streams or conveyance systems. Provide temporary waste disposal receptacles.

3.06 WASTE COLLECTION AND DISPOSAL

- A. Formulate and implement a plan for collection and disposal of waste materials on construction site. In plan, designate locations for trash and waste receptacles and establish a collection schedule. Specify and carry out methods for ultimate disposal of waste in accordance with applicable local, state, and federal health and safety regulations. Make special provisions for collection and disposal of liquid wastes and toxic or hazardous materials.
- B. Keep receptacles and waste collection areas neat and orderly to extent possible. Waste shall not be allowed to overflow its container or accumulate from day-to-day. Locate trash collection points where they shall least likely be affected by

concentrated storm water runoff.

3.07 WASHING AREAS

- A. Avoid washing concrete delivery trucks or dump trucks and other construction equipment at locations where runoff shall flow directly into a watercourse or storm water conveyance system. Designate special areas for washing vehicles. Locate these areas where wash water shall spread out and evaporate or infiltrate directly into ground, or where runoff can be collected in temporary holding or seepage basin. Beneath wash areas construct a gravel or rock base to minimize mud production.

3.08 STORAGE OF CONSTRUCTION MATERIALS AND CHEMICALS

- A. Isolate sites where chemicals, cements, solvents, paints, or other potential water pollutants are stored in areas where they shall not cause runoff pollution.
- B. Store toxic chemicals, materials, pesticides, paints, and acids in accordance with manufacturers= guidelines. Protect groundwater resources from leaching by placing a plastic mat, packed clay, tar paper, or other impervious materials on areas where toxic liquids are to be opened and stored.

3.09 DEMOLITION AREAS

- A. Demolition activities which create large amounts of dust with significant concentrations of heavy metals or other toxic pollutants shall use dust control techniques to limit transport of airborne pollutants. However, retain water or slurry used to control dust contaminated with heavy metals or toxic pollutants on site, and prevent runoff directly into watercourses or storm water conveyance systems. Carry out methods of ultimate disposal of these materials in accordance with applicable local, state, and federal health and safety regulations.

3.10 SANITARY FACILITIES

- A. Provide construction sites with adequate portable toilets for workers in accordance with Section 01504 - Temporary Facilities and Controls, and applicable health regulations.

3.11 PESTICIDES

- A. Use and store pesticides during construction in accordance with manufacturer's guidelines and with local, state, and federal regulations. Avoid overuse of pesticides, which could produce contaminated runoff. Take great care to prevent accidental spillage. Never wash pesticide containers in or near flowing streams or storm water conveyance systems.

3.12 CONSTRUCTION METHODS

- A. Provide fuel tank protection area and driveway as shown on Drawings.
- B. Do not locate fueling area in or near channelized flow area or close to storm sewer conveyance system. Provide sufficient space to allow installation of other erosion and sediment controls to protect those areas.
- C. Clear and grub fueling area to remove unsuitable materials. Place geotextile fabric as permeable separator to prevent mixing of coarse aggregate with underlying soil. Overlap fabric minimum of 6 inches. Place coarse aggregate on top of geotextile fabric to minimum depth of 8 inches.
- D. Grade protection area and driveway to provide sufficient drainage away from stabilized areas. Use sandbags, gravel, boards, or similar methods to prevent sediment from entering public right-of-way, receiving stream or storm water conveyance system. Provide driveway to fuel tank area with minimum width of 15 feet for one-way traffic and 30 feet for two-way traffic.
- E. Place aboveground storage tank on top of cast-in-place or pre-cast foundation. Base size and thickness of foundation on size and weight of tank to be used, with minimum thickness of 6 inches. Enclose concrete foundation by 5-inch by 5-inch concrete curb and extend minimum of 1 foot beyond tank and dispenser assemblies, so that leak and drip can be contained within concrete foundation.
- F. Slope concrete foundation minimum of 1 percent toward 6-inch wide by 12-inch long by 4-inch deep sump pit. Install minimum of 2-inch pipe inside sump pit with valve on outside of curb to allow draining of concrete foundation.
- G. Install portable concrete Jersey Barrier around concrete foundation. Provide minimum clearance of 2 feet from edge of foundation. In lieu of Jersey barrier,

install 4-inch diameter steel pipe bollards around foundation. Bury bollards minimum of 3 feet deep, 3 feet above ground, and 4 feet on center, encased in 12-inch wide concrete foundation.

3.13 MAINTENANCE

- A. Inspections shall be conducted by designated health and safety officer qualified to conduct health and safety inspections.
- B. Inspect stabilized areas after every storm event and at least once a week. Provide periodic top dressing with additional coarse aggregate to maintain required depth. Repair and clean out damaged control measures used to trap sediment.
- C. Inspect fuel tank foundation's bermed area after every storm event and at least once a week. Visually examine storm water contained in tank's bermed foundation area for oil sheen or other obvious indicators of storm water pollution. Properly dispose of storm water when pollutant is present. Record visual examination of storm water discharge in Report noting date and time of examination, name of examiner, observations of water quality, and volume of storm water discharged from bermed area. Keep Report with other storm water pollution control inspection reports on site, in readily accessible location.

3.14 TEMPORARY FUELING AREA CLOSURE

- A. Dispose of temporary vehicle and equipment fueling area by removal of sediment and erosion controls properly off site. City Engineer will inspect topsoils in fueling area and immediate vicinity for evidence of fuel leaks. If City Engineer determines that sufficient pollutants have been released, remove soil and properly dispose off site. Other remediation methods may be required.

END OF SECTION

Section 01576

WASTE MATERIAL DISPOSAL

PART 1 GENERAL

1.1 SECTION INCLUDES

- A. Disposal of waste material and salvageable material.

1.2 UNIT PRICES

- A. No separate payment will be made for waste material disposal under this Section. Include payment in unit price for related sections.

1.3 SUBMITTALS

- A. Conform to requirements of Section 01330 - Submittal Procedures.
- B. Submit copy of approved "Development Permit", as defined in Chapter 38 of Flood Plain Ordinance (City Ordinance Number 2007-07), prior to disposal of excess material in areas designated as being in "100-year Flood Hazard Area" within City. Contact City of Tomball/Montgomery County Flood Plain Manager, Craig T. Meyers, Community Development Director, at (281-290-1412) for flood plain information.
- C. Obtain and submit disposal permits for proposed disposal sites if required by local ordinances.
- D. Submit copy of written permission from property owner, with description of property, prior to disposal of excess material adjacent to Project. Submit written and signed release from property owner upon completion of disposal work.

1.4 SALVAGEABLE MATERIAL

- A. Excavated Material: When indicated on Drawings, load, haul, and deposit excavated material at location or locations shown on Drawings outside limits of Project.
- B. Base, Surface, and Bedding Material: Load shell, gravel, bituminous, or other base and surfacing material designated for salvage into City trucks.
- C. Pipe Culvert: Load culverts designated for salvage into City trucks.

- D. Other Salvageable Materials: Conform to requirements of individual Specification Sections.
- E. Coordinate with City and Engineer loading of salvageable material on City trucks.

1.5 EXCESS MATERIAL

- A. Remove and legally dispose of vegetation, rubble, broken concrete, debris, asphaltic concrete pavement, excess soil, and other materials not designated for salvage from job site.
- B. Excess soil may be deposited on private property adjacent to Project when written permission is obtained from property owner. See Paragraph 1.03 D above.
- C. Verify flood plain status of any proposed disposal site. Do not dispose of excavated materials in area designated as within 100-year Flood Hazard Area unless a Development Permit has been obtained. Remove excess material placed in "100-year Flood Hazard Area" within City, without "Development Permit", at no additional cost to City.
- D. Remove waste materials from site daily, in order to maintain site in neat and orderly condition.

PART 2 PRODUCTS - Not Used

PART 3 EXECUTION - Not Used

END OF SECTION

Section 01610

BASIC PRODUCT REQUIREMENTS

PART 1 GENERAL

1.1 SECTION INCLUDES

1. Requirements for transportation, delivery, handling and storage of materials and equipment.

1.02 PRODUCTS

1. Products: Means material, equipment, or systems forming Work. Does not include machinery and equipment used for preparation, fabrication, conveying and erection of Work. Products may also include existing materials or components designated for reuse.
2. Do not reuse materials and equipment, designated to be removed, except as specified by Contract.
3. Provide equipment and components from fewest number of manufacturers as practical, in order to simplify spare parts inventory and allow for maximum interchangeability of components. For multiple components of same size, type or application, use same make and model of component throughout Project.

1.03 TRANSPORTATION

1. Make arrangements for transportation, delivery and handling of equipment and materials required for timely completion of Work.
2. Transport and handle products in accordance with instructions.
3. Consign and address shipping documents to proper party giving name of Project, street number and city. Shipments shall be delivered to Contractor.

1.04 DELIVERY

1. Arrange deliveries of products to accommodate short-term site completion schedules and in ample time to facilitate inspection prior to installation. Avoid deliveries that cause lengthy storage or overburden of limited storage space.

2. Coordinate deliveries to avoid conflict with Work and conditions at site and to accommodate following:
 - a. Work of other contractors or City
 - b. Limitations of storage space.
 - c. Availability of equipment and personnel for handling products.
 - d. City's use of premises.
3. Have products delivered to site in manufacturer's original, unopened, labeled containers.
4. Immediately upon delivery, inspect shipment to assure:
 - a. Product complies with requirements of Contract.
 - b. Quantities are correct.
 - c. Containers and packages are intact; labels are legible.
 - d. Products are properly protected and undamaged.

1.05 PRODUCT HANDLING

1. Coordinate off-loading of materials and equipment delivered to job site. If necessary to move stored materials and equipment during construction, relocate materials and equipment at no additional cost to City.
2. Provide equipment and personnel necessary to handle products, including those provided by City, by methods to prevent damage to products or packaging.
3. Provide additional protection during handling as necessary to prevent breaking, scraping, marring, or otherwise damaging products or surrounding areas.
4. Handle products by methods to prevent over bending or over stressing.
5. Lift heavy components only at designated lifting points.
6. Handle materials and equipment in accordance with manufacturer's recommendations.

7. Do not drop, roll, or skid products off delivery vehicles. Hand carry or use suitable materials handling equipment.

1.06 STORAGE OF MATERIAL

1. Store and protect materials in accordance with manufacturer's recommendations and requirements of these Specifications.
2. Make necessary provisions for safe storage of materials and equipment. Place loose soil materials, and materials to be incorporated into Work to prevent damage to any part of Work or existing facilities and to maintain free access at all times to all parts of Work and to utility service company installations in vicinity of Work. Keep materials and equipment neatly and compactly stored in locations that will cause minimum inconvenience to other contractors, public travel, adjoining owners, tenants, and occupants. Arrange storage to provide easy access for inspection.
3. Restrict storage to areas available on construction site for storage of material and equipment as shown on Drawings or approved by City Engineer.
4. Provide off-site storage and protection when on-site storage is not adequate. Provide addresses of and access to off-site storage locations for inspection by City Engineer.
5. Do not use lawns, grass plots, or other private property for storage purposes without written permission of owner or other person in possession or control of premises.
6. Protect stored materials and equipment against loss or damage.
7. Store in manufacturer's unopened containers.
8. Neatly, safely, and compactly stack materials delivered and stored along line of Work to avoid inconvenience and damage to property owners and general public, and maintain at least 3 feet from fire hydrant. Keep public, private driveways and street crossings open.
9. Repair or replace damaged lawns, sidewalks, streets or other improvements to satisfaction of City Engineer. Total length which materials may be distributed along route of construction at one time is 1000 linear feet, unless otherwise approved in writing by City Engineer.

PART 2 PRODUCTS - Not Used

PART 3 EXECUTION - Not Used

END OF SECTION

Section 01630

PRODUCT SUBSTITUTION PROCEDURES

PART 1 GENERAL

1.1 SECTION INCLUDES

1. Options for making product or process selections.
2. Procedures for proposing equivalent construction products or processes, including preapproved, prequalified, and approved products or processes.

1.2 DEFINITIONS

1. Product means materials, equipment, or systems incorporated into Project. Product does not include machinery and equipment used for production, fabrication, conveying, and erection of Work. Products may also include existing materials or components designated for reuse.
2. Process proprietary system or method for installing system components resulting in integral, functioning part of Work. For this Section, the word Products includes Processes.

1.3 SELECTION OPTIONS

1. Preapproved Products are construction products of certain manufacturers or suppliers designated in Specifications as "preapproved." List of preapproved products is maintained by City. Preapproved products for this Project are designated as preapproved in Specifications. Products of other manufacturers or suppliers not acceptable for this Project and not considered under submittal process for approving alternate products.
2. Prequalified Products are construction products of certain manufacturers or suppliers designated in Specifications as "prequalified." Prequalified Products for this Project are designated as prequalified in Specifications. Products of other manufacturers or suppliers shall not be acceptable for this Project and shall not be considered under submittal process for approving alternate products.

3. Approved Products are construction products or processes of certain manufacturers or suppliers designated in Specifications followed by words "or approved equal." Approval of alternate products or processes not listed in Specifications may be obtained through provisions for product options and substitutions in Document 00700 - General Conditions, and by following submittal procedures specified in 01330- Submittal Procedures. Procedure for approval of alternate products is not applicable to preapproved or prequalified products.
4. Product Compatibility to maximum extent possible, is to provide products that are of same type or function from single manufacturer, make, or source. Where more than one choice is available, select product that is compatible with other products already selected, specified, or in use by City.

1.4 CONTRACTOR'S RESPONSIBILITY

1. Responsibility related to product options and substitutions is defined in Document 00700- General Conditions.
2. Furnish information City Engineer deems necessary to judge equivalency of alternate product.
3. Pay for laboratory testing, as well as other review or examination costs, needed to establish equivalency between products in order to obtain information upon which City Engineer can base decision.
4. If City Engineer determines alternate product is not equal to that named in Specifications, furnish one of specified products.

1.5 CITY ENGINEER'S REVIEW

1. Use alternate products or processes only when approved in writing by City Engineer. City Engineer's determination regarding acceptance of proposed alternate product is final.
2. Alternate products shall be accepted if product is judged by City Engineer to be equivalent to specified product or to offer substantial benefit to City.
3. City retains right to accept any product or process deemed advantageous to City, and similarly, to reject any product or process deemed not beneficial to City.

1.6 SUBSTITUTION PROCEDURE

1. Collect and assemble technical information applicable to proposed product to aid in determining equivalency as related to approved product specified.
2. Submit written request for construction product to be considered as alternate product.
3. Submit product information after effective date of Contract and within time period allowed for substitution submittals given in Document 00700 - General Conditions. After submittal period has expired, requests for alternate products shall be considered only when specified product becomes unavailable because of conditions beyond Contractor's control.
4. Submit 5 copies of each request for alternate product approval. Include following information:
 1. Complete data substantiating compliance of proposed substitution with Contract.
 2. For products:
 1. Product identification, including manufacturer's name and address
 2. Manufacturer's literature with product description, performance and test data and reference standards
 3. Samples, as applicable
 4. Name and address of similar projects on which product was used and date of installation. Include name of Owner, Architect/Engineer, and installing contractor
 3. For construction methods:
 1. Detailed description of proposed method
 2. Drawings illustrating methods
 4. Itemized comparison of proposed substitution with product or method specified

5. Data relating to changes in construction schedule
 6. Relation to separate contracts, if any
 7. Accurate cost data on proposed substitution in comparison with product or method specified
 8. Other information requested by City Engineer
5. Approved alternate products shall be subject to same review process as specified product for shop drawings, product data, and samples.

PART 2 PRODUCTS - Not Used

PART 3 EXECUTION - Not Used

END OF SECTION

Section 01731

CUTTING AND PATCHING

PART 1 GENERAL

1.01 SECTION INCLUDES

- A. Cutting, patching and fitting of Work or Work under construction. Coordinating installation or connection of Work with existing facilities, or uncovering Work for access, inspection or testing and related submittals. Demolition is specified elsewhere.

1.02 UNIT PRICES

- A. No separate payment will be made for cutting and patching under this Section. Include payment in unit price for related sections.

1.03 CUTTING AND PATCHING

- A. Perform activities to avoid interference with facility operations and Work of others in accordance with Document 00700 - General Conditions of Contract.
- B. Execute cutting and patching, including excavation, backfill and fitting to:
 - 1. Remove and replace defective Work or Work not conforming to Drawings and Specifications
 - 2. Take samples of installed Work as required for testing
 - 3. Remove construction required to provide for specified alteration or addition to existing Work
 - 4. Uncover Work to provide for inspection or reinspection of covered Work by City Engineer or regulatory agencies having jurisdiction
 - 5. Connect Work not accomplished in proper sequence to completed Work
 - 6. Remove or relocate existing utilities and pipes that obstruct Work

7. Make connections or alterations to existing or new facilities
 8. When necessary, provide openings, channels, chases and flues and cut, patch, and finish
 9. Provide protection for other portions of Project
- C. Restore existing Work to state equal to or better than that prior to cutting and patching and to standards of these Specifications.
- D. Support, anchor, attach, match, trim and seal materials to Work of others. Unless otherwise specified, furnish and install sleeves, inserts, hangers, required for execution of Work.
- E. Provide shoring, bracing and support as required to maintain structural integrity and protect adjacent Work from damage during cutting and patching. Before cutting beams or other structural members, anchors, lintels or other supports, request written instructions from City Engineer. Follow instructions, as applicable.
- F. Fully integrate new materials with existing similar materials by bonding, lapping, mechanically tying, anchoring or other effective means that shall prevent cracks and shall not show evidence of patching. Conceal effects of demolition and patching and provide new construction that blends with existing adjacent or abutting surfaces without obvious breaks, joints or changes of surface appearance unless specifically shown otherwise.

1.03 SUBMITTALS

- A. Conform to requirements of Section 01330 - Submittal Procedures.
1. Submit written notice to City Engineer requesting consent to proceed prior to cutting, which may affect structural integrity or design function, City operations, or Work of another contractor.
- B. Include the following in submittal:
1. Identification of Project
 2. Description of affected Work
 3. Necessity for cutting

4. Effect on other Work and on structural integrity
5. Include description of proposed Work:
 - a. Scope of cutting and patching
 - b. Contractor, subcontractor or trade to execute Work
 - c. Proposed products
 - d. Extent of refinishing
 - e. Schedule of operations
6. Alternatives to cutting and patching

- D. When conditions of Work or schedule indicate change of materials or methods, submit written recommendation to City Engineer including:
1. Conditions indicating change
 2. Recommendations for alternative materials or methods
 3. Submittals as required for substitutions
- E. Submit written notice to City Engineer designating time Work shall be uncovered for observation. Do not begin cutting or patching operations until authorized by City Engineer.

1.04 CONNECTIONS TO EXISTING FACILITIES

- A. Perform construction necessary to complete connections and tie-ins to existing facilities. Keep all existing facilities in continuous operation unless otherwise specifically permitted in these Specifications or approved by City Engineer.
- B. Coordinate interruption of service requiring connection into existing facilities with City Engineer. Bypassing of wastewater or sludge to waterways is not permitted. Provide temporary pumping facilities to handle wastewater if necessary. Use temporary bulkheads to minimize disruption. Provide temporary power supply and piping to facilitate construction where necessary.
- C. Submit detailed schedule of proposed connections, including shut-downs and tie-ins. Include proposed time and date as well as anticipated duration of Work.

Submit detailed schedule coordinated with construction schedule.

1. Provide specific time and date information to City Engineer 48 hours in advance of proposed Work.

D. Procedures and Operations:

1. Operate existing pumps, valves and gates required for sequencing procedures under supervision of City Engineer. Do not operate valve, gate or other item of equipment without City Engineer's knowledge.
2. Insofar as possible, equipment shall be tested and in operating condition before final tie-ins are made to connect equipment to existing facility.
3. Carefully coordinate Work and schedules. Provide written notice to City Engineer at least 48 hours before shutdowns or bypasses are required.

PART 2 PRODUCTS - Not Used

PART 3 EXECUTION - Not Used

END OF
SECTION

Section 01732

PROCEDURE FOR WATER VALVE ASSISTANCE

PART 1 GENERAL

1.01 SECTION INCLUDES

- A. Operation of existing valves is by City of Tomball employees. Operation of new valves by the Contractor's employees is included in the project.

1.02 MEASUREMENT AND PAYMENT

- A. No separate payment will be made for this item. Include the cost of valve operation and valve assistance in Unit Price bid for valves and water mains.

1.03 PROCEDURE

- A. Perform activities listed in Exhibit A attached to this section.

1.04 SUBMITTALS

- A. Submit request for work order planning meeting as noted in 01330 - Submittal Procedures.

1. Include information listed in Step 1 of Exhibit A, attached to this Section.

1.05 CANCELLATION

- A. The Contractor, Construction, and Public Utilities Division may cancel the agreed scheduled valve assistance appointment at no extra cost to either party. The Contractor shall notify the City Inspector 24 hours in advance. The City Inspector shall notify Central Operation Service (COS) immediately of the cancellation. Cancellation may be caused by bad weather, unforeseen delays by either party, preparation work taking longer than anticipated, etc.

PART 2 PRODUCTS - Not Used

PART 3 EXECUTION - Not Used

END OF SECTION

EXHIBIT A

PROCEDURE FOR VALVE ASSISTANCE

- NOTE:**
- 1. DO NOT OPERATE EXISTING WATER VALVES.**
 - 1. OPERATE ALL NEW WATER VALVES INSTALLED UNTIL ACCEPTED BY THE CITY.**
 - 2. UTILITY MAINTENANCE DIVISION TO WITNESS THE TESTING OF ALL NEW WATER VALVES PRIOR TO SCHEDULING SUBSTANTIAL COMPLETION INSPECTION.**

Telephone: (713) 837-0500 (24 Hrs.)

The following procedure will be used by Utility Maintenance Division personnel when completing a service request from individual City Inspectors for operation of existing water valves.

ROUTINE VALVE ASSISTANCE REQUEST (NON-EMERGENCY JOBS):

- Step 1. a.** The City Inspector shall schedule a work order planning meeting by calling the Central Operation Service (COS) at **(713) 837-0500** a minimum of 3 days in advance (excluding weekends, holidays, inclement weather days, and the day of the call) and providing the following information:

Location of Work (Street Intersection)	Project #
Project Description	Contractor (Company Name)
Job Superintendent's Name	Superintendent's Office #/Mobile #/Pager
# Contractor's Emergency Information	Name and Phone#/Mobile #/Pager #
City Inspector/Senior Inspector	Name, Phone#/Mobile #/Pager #
Date & Time assistance is requested	

- b.** The COS will create a work order for each wet connection, cut and plug, etc. which will be designated as a A Code 40" (Private Contractor).
- c.** The COS will give the City Inspector the work order number. This work order number must be used as a reference in all communications regarding this request for Valve Assistance.
- d.** The valve personnel must have the work order number on his/her route sheet. When the valve personnel arrive at the job site for the **WORK ORDER PLANNING MEETING** (between the City Inspector, Contractor, and the Utility Maintenance valve personnel), he/she should verify the street intersection and work order number with the City Inspector before beginning the **WORK ORDER PLANNING MEETING.**

- e. During the **WORK ORDER PLANNING MEETING** between the City Inspector, Contractor, and the Utility Maintenance valve personnel, the work to be performed will be outlined and **the actual date the work is to be performed will be mutually determined by the City Inspector and the Utility Maintenance Division valve personnel, based upon relevant factors such as preparatory work needed, customer requirements, etc.**
- f. The valve personnel will perform the work specifically outlined in the work order requested. Also, the Utility Maintenance Branch valve personnel will only operate the existing water valves. The City Inspector must contact COS and request a new work order for additional work.
- g. The valve personnel will contact the dispatcher and advise when the job is complete. Valve personnel will list all appropriate information on his/her Crew Activity Report.

Step 2. Should valve personnel not be able to keep an appointment to provide valve assistance, Utility Maintenance Branch will provide notification to the appropriate City Inspector by phone at least 24 hours prior, with that fact and rescheduling information, if available.

Step 3. The City Inspector will notify COS if the valve personnel have not arrived at the site within 30 minutes of the scheduled appointment. **If the Contractor is not ready when the valve operator arrives to provide valve assistance, the Contractor shall pay a penalty of \$50.00 per hour to the City.**

Step 4. The Contractor will not be due delay claims or downtime if Utility Maintenance Branch has notified the City Inspector that they will not be able to provide the valve assistance as scheduled.

Step 5. Test new valves installed in the presence of the City Inspector before the substantial completion inspection is scheduled. Place new valves in the open position at or before substantial completion.

Step 6. Construction Division will notify in writing to the Utility Maintenance Division 2 months before the warranty expires to report any problems they have with the new water lines. Construction Division will notify Contractor about the problems.

EMERGENCY REQUEST FOR VALVE ASSISTANCE PROCEDURE:

Step 1. The City Inspector will request emergency Valve Assistance due to a broken main/service, etc. by calling COS at **(713) 837-0500** provide the following information:

Location of Work (Street Intersection) Project #	
Project Description	Superintendent's Office #/Mobile #/Pager
# Contractor (Company Name)	Name and Phone#/Mobile #/Pager #
Job Superintendent's Name	Name, Phone#/Mobile #/Pager
# Contractor's Emergency Information	
City Inspector/Senior Inspector	
Date & Time assistance is requested	

Step 2. COS will create an emergency work order number and describe the work to be performed.

Step 3. COS will give the City Inspector the emergency work order number. Reference work order number in all communications regarding request for Valve Assistance.

Step 4. COS will contact the designated valve personnel and assign the emergency work order. The dispatcher will follow the standard COS procedures if this situation occurs after normal working hours.

Step 5. The valve personnel must have the emergency work order number on his/her route sheet. When the valve personnel arrive at the job site for the emergency work, he/she should verify the street intersection and the emergency work order number with the City Inspector prior to beginning the work requested for operating the existing water valves. The valve personnel will coordinate the verification of the street intersection and the work order number with City Inspector prior to performing the work.

Section 01733

PROCEDURE FOR NEW WATER LINE DISINFECTION

PART 1 GENERAL

1.01 SECTION INCLUDES

- A. Disinfection of new water lines is performed by Public Utility Division personnel.

1.02 MEASUREMENT AND PAYMENT

- A. No separate payment will be made for this item. Include the cost of disinfection and pressure testing of new water lines in Unit Price bid for water main construction.

1.03 PROCEDURE

- A. Perform activities listed in Exhibit A attached to this section.

1.04 SUBMITTALS

- A. A Request for Disinfection and Placement in Service: Submit as noted in 01330 - Submittal Procedures.

1.05 CANCELLATION

- A. The Contractor, Construction, and Public Utilities Division may cancel the agreed scheduled disinfection appointment at no extra cost to either party. The Contractor shall notify the City Inspector 24 hours in advance. The City Inspector shall notify COS immediately of the cancellation. Cancellation may be caused by bad weather, unforeseen delays by either party, preparation work taking longer than anticipated, etc.

PART 2 PRODUCTS - Not Used

PART 3 EXECUTION - Not Used

END OF SECTION

EXHIBIT A

REQUEST FOR NEW WATER LINE DISINFECTION

Water Production Telephone: (_____)

ONLY FAX REQUESTS FOR NEW WATER LINE DISINFECTION WILL BE ACCEPTED. FAX NO. (_____)

The following procedure will be used by the Water Production Branch, Systems Development Section when receiving requests from City Inspector for New Water Line Disinfection.

- a. Forms must be completed correctly and faxed a minimum of 3 days prior to the actual date work is to be performed (excluding weekends, holidays, inclement weather days, and the day fax is received).
- b. **All requests for disinfection will be addressed to _____.**

PHASE I - CHLORINATION OF NEW WATER LINES:

Step 1. The City Inspector will complete the 4 forms: Request for Disinfection and Placement in Service of Water Mains, Disinfection of Water Mains Exhibit, and Chlorination of Water Mains Checklist.

Step 2. The City Inspector will mark the water lines that have been disinfected on the construction drawings for his records.

Step 3. The City Inspector shall check for proper installation of blow-off and chlorination injection risers.

Step 4. The City Inspector shall notify _____ at (_____) _____, **Pager No. (_____) _____, Mobile Telephone No. (_____) _____**, if the chlorination crew has not arrived at the site within 30 minutes of the scheduled appointment. **If the Contractor is not ready when the chlorination crew arrives to disinfect the new water main, Contractor shall reimburse the City for mobilization in the amount of \$ _____ .00 for each request.**

Step 5. Contractor and Construction Division shall assist the chlorination crews to flush the dirt and debris out of the pipes **before** applying the chlorine.

Step 6. The chlorination crews shall inject chlorine solution into the pipe, confirming no less than a 25 ppm.

Step 7. The chlorine shall be left in the pipe for at least 24 hours.

Exhibit A
Revised 12/01/98

PHASE II - FINAL FLUSHING/BACTERIOLOGICAL SAMPLING:

- Step 8.** The chlorination crews shall flush chlorine out thoroughly until clear water is obtained from existing system. Crews shall collect samples from prescribed sample points, preferably every 1000 feet length of pipes, all dead ends, and blow-off, if any.
- Step 9.** The chlorination crews shall obtain sample results from the laboratory.
- Step 10.** If samples are good (**negative**), Water Production Branch shall send back the request form to the City Inspector with second part completed (**fax to Construction Division Inspector/Senior Inspector**). The original form shall be sent by interoffice mail.
- Step 11.** Water Production Branch shall advise the City Inspector when it is permissible to perform hydrostatic test.
- Step 12.** The Water Production Branch will receive the pressure test results performed by the Contractor from the City Inspector. **If the water line was opened, the City will re-chlorinate the water line at the Contractor's cost and obtain samples until found good.** The Water Production Branch will obtain the third part of the request form from the City Inspector.
- Step 13.** **If the samples are found to be POSITIVE more than twice**, re-chlorinate the water line.
- Step 14.** Send correspondence to Construction Division with any necessary charges.
- Step 15.** After the residual results are acceptable, the new water line is now ready to be **PLACED IN SERVICE**. Water Production Branch shall complete the fourth part of the Request for Disinfection and Placement in Service of Water Mains form and fax to the City Inspector. The original form will be sent by interoffice mail.

WATER MAINS PIPE-LAYING PRE/POST INSPECTION CHECKLIST (for water mains 30 inches in diameter and larger):

GFS/File No: _____ Exhibit: Location: _____

Inspector: _____ Contractor: _____
(Print name)

All questions must be answered A Yes prior to requesting disinfection of water mains.

	<u>Yes</u>	<u>No</u>
1. Installed and maintained trench safety and confined space safety systems according to provisions of OSHA 29CFR .	Q	Q
2. Confirmed that separation of gravity sanitary sewers, manholes, and force mains complies with minimum clearance specified.	Q	Q
3. Pipe trenches were free of water, which might impair pipe laying and cause contamination.	Q	Q
4. Covered or backfilled laid pipe and securely placed stoppers or bulkheads in all openings and in end of line when pipe-laying operations are interrupted and during nonworking hours.	Q	Q
5. Placed pipe along project site before installation where storm water or other water will not enter or pass through pipe.	Q	Q
6. Thoroughly cleaned and dried interior of pipe and fittings of foreign matter before installation. Kept interior clean until Work had been accepted. Kept joint contact surfaces clean until joining was completed.	Q	Q
7. Left no debris, tools, clothing, or other materials in pipe.	Q	Q
8. Inspected each pipe and fitting for defects before installation. Rejected defective or damaged pipe and fittings and removed from site.	Q	Q
9. Cleaned pipe interior, removed all debris, and inspected thoroughly after all pipe-laying operations.	Q	Q

Inspector: _____
(Signature)

Date: _____ / _____ / _____

DISINFECTION OF WATER MAINS CHECKLIST:

File No: _____ Exhibit: Location: _____

Inspector: _____ Contractor: _____
(Print name)

All questions must be answered A Yes prior to requesting disinfection of water mains.

	<u>Yes</u>	<u>No</u>
1. Construction is completed and the water mains have been laid as shown on the drawings. Water mains shown in Exhibit _____ are free of dirt and debris.	Q	Q
2. A chlorine riser has been installed at the beginning of the new main. It is located in a manner that it can be reached conveniently from a chlorination trailer. The corporation cock is turned on.	Q	Q
3. A water supply riser is installed on a <i>live</i> line within 20 feet of the chlorine riser. The corporation cock is turned on.	Q	Q
4. Blow-offs with minimum diameter of 2 inches or greater are installed at each end, and at every 1,000 feet of the new mains. The blow-offs are large enough for the size of pipe used and length of main laid. They are safely accessible. Handwheel valve is installed 3 feet above grade on each one of them. The corporation cocks are turned on.	Q	Q
5. Adequate drainage is provided for blow-offs and fire hydrants so that private property or other construction sites will not be flooded.	Q	Q
6. An operator can reach all valves with a valve key. Stacks, if used, are straight and clean. There is no dirt or debris covering the operating nuts. There are no large holes full of water or anything else to prevent an operator from reaching the valve.	Q	Q
7. Wet connection valve is installed and existing water supply is adequate for proper disinfection.	Q	Q

Inspector: _____
(Signature)

Date: _____ / _____ / _____

***HYDROSTATIC PRESSURE TEST FOR:**

Q Small-diameter (less than or equal to 20 inches), minimum test pressure 125 psi

Q Large-diameter (greater than 20 inches), minimum test pressure 150 psi

File No: _____ Exhibit: _____ Location: _____

Inspector: _____ Contractor: _____

(Print name)

SECTION TO BE TESTED				
ON (street name)	FROM (street name)	TO (street name)	TOTAL FOOTAGE (feet)	PIPE DIAMETER (inches)

Section 01740

RESTORATION OF SITE IMPROVEMENTS

PART 1 GENERAL

1.01 SECTION INCLUDES

- A. Restoration of site affected by Utility Work or Roadway Reconstruction and Widening. Section does not apply to roadway extension projects.

1.02 UNIT PRICES

- A. Measurement for restoration of project site for utilities disturbed by proposed construction is by linear foot. Site Restoration for utilities will be measured like particular utility as described in appropriate specification. No separate measurement will be made for branch pipe, valves and other associated work for utilities. Multiple utilities within same right-of-way will be paid on linear foot basis for only one utility.
- B. Measurement for restoration of project site disturbed along roadway reconstruction or widening project is by linear foot. Site restoration for roadway reconstruction or widening projects will be measured along the centerline of right-of-way. No separate payment will be made when more than one phase occurs within same right-of-way.
- C. Payment will be made at unit price for Site Restoration, regardless of size or type of pipe, method of construction, paved or unpaved areas or thickness and width of pavement. Payment for site restoration will be made when restoration is complete within right-of-way, including service connections. No partial payment will be made.
- D. Service Reconnections. Service reconnections are not considered restoration of site improvements and are not paid under this Section. Service reconnections are paid under Section 02426 - Sanitary Sewer Service Reconnections.

1.03 REFERENCES

- A. ANSI Z60.1. American Standard for Nursery Stock.

1.04 DEFINITIONS

- A. Site Restoration is replacement or reconstruction of site improvements to rights-of-way, easements, public property, and private property that are affected or altered by construction operations, with improvements restored to condition which is equal to, or better than, that which existed prior to construction operations.
- B. Site Improvement includes but is not limited to pavement, curb and gutter, esplanades, sidewalks, driveways, fences, lawns, irrigation systems and landscaping.
- C. Line Segment. Length of sewer from center line to centerline of manholes, in line junction structure and bends as designated on Drawings, and to end of stubs or termination of pipe.
- D. Minimum Trench Width. Allowable trench width for corresponding pipe outside diameter as defined in Section 02317 - Excavation and Backfill for Utilities.

1.05 SUBMITTALS

- A. Conform to requirements of Section 01330 - Submittal Procedures.
- B. Submit qualifications of nursery or landscaping firm to be used.

1.06 QUALITY ASSURANCE

- A. Have trees, landscape shrubs and plantings performed by qualified personnel.

1.07 SCHEDULING

- A. After paving or utility work is completed on line segment and segment is submitted on monthly estimate for payment, complete site restoration for that segment before next monthly estimate for payment is submitted, unless extended in writing by City Engineer.
- B. For utility work requiring testing or post-installation TV inspection, completion of segment is not considered to include testing or TV inspection. Schedule for completion of site restoration is not determined by completion of testing or TV inspection.

1.08 WARRANTY

- A. Provide two-week warranty on plants and grasses that die due to shock or damage

only.

- B. Replace plants that fail during warranty period according to specifications governing original plants.
- C. Provide written notification to homeowner stating that homeowner is responsible for watering replaced plants and grasses.
- D. Damage caused by natural hazards including hail, high winds or storm is not covered by warranty.
- E. Existing plant material required to be moved on site are covered under warranty.

PART 2 PRODUCTS

2.01 MATERIALS

- A. Pavement, Sidewalks and Driveways. Use materials as specified in Section 02951 - Pavement Repair and Resurfacing.
- B. Seeding and Sodding. Provide sod as specified in Section 02922 - Sodding. For areas to be seeded, conform to Section 02921 - Hydromulch Seeding.
- C. Trees, Shrubs and Plantings.
 - 1. Provide trees, shrubs and plants of quantity, size, genus, species and variety of those being replaced and conforming to recommendations and requirements of ANSI Z60.1.
 - 2. Use balled-and-burlapped nursery stock for tree replacement.
 - 3. Within availability of standard nursery stock, replace each removed tree with one of an equivalent species and size, but with not less than 2-1/2 inch diameter trunk, as measured 1-1/2 feet above natural ground.

PART 3 EXECUTION

3.01 COORDINATION

- A. For water main and sanitary sewer construction, complete site restoration within 45 days from date construction is successfully tested, unless extended in writing by City Engineer.

- B. For water main and sanitary sewer construction, site restoration associated with wet connections, cut and plugs, salvaging of fire hydrants and sewer reconnections which needs to occur after line is tested, can be restored after 45 days provided site is restored immediately after accomplishing such work. No payment will be made for such wet connections, cut and plugs, salvaging of fire hydrants and sewer reconnection work until site restoration is complete.
- C. Utility installation or roadway reconstruction and widening cannot exceed site restoration by more than 8,000 linear feet. Site restoration must proceed continuously and be sequentially completed in order of work progress. When utility work and reconstruction or widening work occurs within same limits of right-of-way, utility installation cannot exceed pavement improvements by more than 3,000 linear feet. No intermediate areas can be skipped or left to be completed at a future date, unless otherwise approved by City Engineer.
- D. Do not proceed with additional work if requirements in paragraphs 3.01A, B and C are not satisfied.
- E. Limit utility installation to maximum of two project site locations for projects involving multiple subdivisions or locations.
- F. When roadway reconstruction and widening is being completed in phases, complete restoration of site in previous phase before continuing to next phase, unless otherwise approved by City Engineer.

3.02 EXAMINATION

- A. Construction Site Photographs. Document conditions on and adjacent to construction site with construction photographs as specified Section 01321 - Construction Photographs.
- B. Make photographs of all areas where construction operations will be conducted including driveways and sidewalks within or adjacent to Work area.

3.03 PREPARATION

- A. Removing Pavements and Structures.
 - 1. Remove minimum pavement, curb and gutter, and other structures as required to perform Work. Perform removals in accordance with Section 02221 - Removing Existing Pavements and Structures.

2. Remove concrete and asphaltic concrete material using sawed joints in accordance with Section 02752 - Concrete Pavement Joints.
3. Remove curb and gutter a distance of 2 feet outside excavation, unless otherwise approved by City Engineer.

- B. Remove or relocate existing fencing, if required, for construction operations. Maintain integrity of private property owner=s fencing if needed for protection of children, pets or property. Notify property owner 72 hours in advance before removing fencing and coordinate security needs.

3.04 INSTALLATION

- A. Pavement, Sidewalk, and Driveway Restoration.

1. Replace pavement, curb and gutter, sidewalks, and driveways removed or damaged as result of construction operations. Reconstruct in accordance with Section 02951 - Pavement Repair and Resurfacing.
2. Where replacement sidewalks terminate at street curb radius, construct wheel chair ramp according to City of Tomball Standard Detail Drawing Wheel Chair Ramp Details.

- B. Seeding and Sodding.

1. Clean up construction debris and level area with bank sand so that resulting surface of new grass matches level of existing grass and maintains pre-construction drainage patterns. Level minor ruts or depressions caused by construction operations where grass is still viable by filling with bank sand.
2. Restore previously existing turfed areas with sod and fertilize in accordance with Section 02922 - Sodding. Sod to match existing turf.
3. Restore unpaved areas not requiring sodding with hydromulch methods conforming to Section 02921 - Hydromulch Seeding.

- C. Trees, Shrubbery and Plants.

1. Take extra care in removing and replanting trees, shrubbery and plants. Remove trees, shrubbery and plants, leaving soil around roots. Place trees, shrubbery and plants outside of excavation area.
2. Replace in kind any trees, shrubbery, and plants removed or damaged by

construction operations.

3. Have nursery or landscape firm make tree replacements using balled-and-burlapped nursery stock.

D. Fence Removal and Replacement.

1. Replace fencing removed or damaged to equal or better than what existed prior to construction, including concrete footings and mow strips. Provide new wood posts, top and bottom railing and panels. Metal fencing material not damaged by Work may be reused.
2. Remove and dispose of damaged or substandard material.

3.05 CLEANING

- A. Remove debris and trash to maintain clean and orderly site as described in General Conditions and Section 01576 - Waste Material Disposal.

3.06 MAINTENANCE

- A. Maintain shrubs, plantings, sodded areas and seeded areas through warranty period.
- B. Replace shrubs, plantings and seeded or sodded areas that fail to become established through warranty period.
- C. Maintain newly planted trees, shrubs and plantings as follows:
 1. Water as often as necessary to keep ground and backfill moist until plantings have become established.
 2. Repair or replace bracing as necessary.
 3. Prune as necessary.
 4. Treat plants in accordance with approved methods of horticultural practices where insects or disease affect plants after planting.
- D. Refer to Section 01562 - Tree and Plant Protection, Section 02921 - Hydromulch Seeding and Section 02922 - Sodding for additional maintenance requirements.

City of Tomball
Pine St. EST Rehabilitation
Project No. 2024-05

RESTORATION OF SITE IMPROVEMENTS

END OF
SECTION

Section 01770

CLOSEOUT PROCEDURES

PART 1 GENERAL

1.1 SECTION INCLUDES

- A. Substantial Completion Procedures.
- B. Closeout procedures for final submittals, operation and maintenance data, warranties, spare parts and maintenance materials.
- C. Texas Department of Licensing and Regulation (TDLR) inspection for ADA compliance.

1.2 SUBSTANTIAL COMPLETION

- A. Comply with Document 00700 - General Conditions regarding substantial completion when Contractor considers the Work, or portion thereof designated by City and Engineer, to be substantially complete.
- B. Insure the following items have been completed when included in the Work, prior to presenting a list of items to be inspected by Project Manager for issuance of a Certificate of Substantial Completion:
 - 1. Cutting, plugging, and abandoning of water, wastewater, and storm sewer lines, as required by specifications for each item;
 - 2. Construction of, and repairs to, pavement, driveways, sidewalks, and curbs and gutters;
 - 3. Sodding and hydromulch seeding, unless waived by City and Engineer in writing;
 - 4. General clean up including pavement markings, transfer of services, successful testing and landscape;
 - 5. Installation of all bid items included in Document 00405 and
 - 6. Any additional requirements in Section 01110 - Summary of Work.

- C. Assist Project Manager with inspection of Contractor's list of items and complete or correct the items, including items added by project Manager, within a time period of 30 days or as mutually agreed.
- D. Should Project Manager's inspection show failure of Contractor to comply with substantial completion requirements, including those items in Paragraph 1.02 B. of this specification, Contractor shall complete or correct the items, before requesting another inspection by Project Manager.

1.3 CLOSEOUT PROCEDURES

- A. Comply with Document 00700 - General Conditions regarding Final Completion and Final Payment when Work is complete and ready for City and Engineer's final inspection.
- B. Provide Project Record Documents in accordance with Section 01785 - Project Record Documents.
- C. Complete or correct items on punch list, with no new items added. Address new items during warranty period.
- D. City will occupy portions of Work as specified in other Sections.

1.4 FINAL CLEANING

- A. Execute final cleaning prior to final inspection.
- B. For facilities, clean interior and exterior glass and surfaces exposed to view; remove temporary labels, stains and foreign substances, polish transparent and glossy surfaces, vacuum carpeted and soft surfaces.
- C. Clean equipment and fixtures to sanitary condition.
- D. Clean or replace filters of operating equipment.
- E. Clean debris from roofs, gutters, down spouts, and drainage systems.
- F. Clean site; sweep paved areas, rake landscaped surfaces clean.
- G. Remove waste and surplus materials, rubbish, and temporary construction facilities from site following final test of utilities and completion of Work.

1.5 ADJUSTING

- A. Adjust operating equipment to ensure smooth and unhindered operation. Value of this testing and adjusting is 5 percent of Lump Sum Price in Schedule of Values for item being tested.

1.6 OPERATION AND MAINTENANCE DATA

- A. Submit operations and maintenance data as noted in Section 01330 - Submittal Procedures.
- B. Five percent of lump sum amount of each piece of equipment as indicated in Schedule of Unit Price Work or Schedule of Values shall be paid after required O&M data submissions are received and approved by City and Engineer.

1.7 WARRANTIES

- A. Provide one original and two copies of each warranty from subcontractors, suppliers, and manufacturers.
- B. Provide Table of Contents and assemble warranties in 3-ring/D binder with durable plastic cover.
- C. Submit warranties prior to final progress payment.
- D. Warranties shall commence in accordance with requirements in Document 00700 - General Conditions.

1.8 SPARE PARTS AND MAINTENANCE MATERIALS

- A. Provide products, spare parts, maintenance and extra materials in quantities specified in individual Specification sections.
- B. Deliver to location within City limits as directed by City and Engineer; obtain receipt prior to final Payment Application.

1.9 TEXAS DEPARTMENT OF LICENSING AND REGULATION (TDLR) INSPECTION

- A. Contact TDLR's Houston Regional Office, 5425 Polk Street, Houston, Texas, 77023, telephone 713-924-6303, fax 713-921-3106, to schedule an inspection for ADA compliance prior to final completion.
- B. Provide results of TDLR's inspection to City prior to final inspection.

1.10 FINAL PHOTOS

- A. Provide per Specification Section 01322 - Construction Photographs for Facility Projects.

1.11 PROJECT RECORD DOCUMENTS

- A. Provide per Specification Section 01785 - Project Record Documents.

PART 2 PRODUCTS - Not Used

PART 3 EXECUTION - Not Used

END OF SECTION

Section 01785

PROJECT RECORD DOCUMENTS

PART 1 GENERAL

1.1 SECTION INCLUDES

- A. Maintenance and Submittal of Record Documents and Samples.

1.2 MAINTENANCE OF DOCUMENTS AND SAMPLES

- A. Maintain one record copy of documents at site in accordance with Document 00700 - General Conditions.
- B. Store Record Documents and samples in field office when field office is required by Contract, or in secure location. Provide files, racks, and secure storage for Record Documents and samples.
- C. Label each document "PROJECT RECORD" in neat, large, printed letters.
- D. Maintain Record Documents in clean dry and legible condition. Do not use Record Documents for construction purposes.
- E. Keep Record Documents and Samples available for inspection by City and Engineer.
- F. Bring Record Documents to progress review meetings for viewing by City and Engineer.

1.3 RECORDING

- A. Record information concurrently with construction progress. Do not conceal Work until required information is recorded.
- B. Contract Drawings and Shop Drawings: Legibly mark each item to record actual construction, or "as built" conditions, including:
 - 1. Measured depths of elements of foundation in relation to finish first floor datum
 - 2. Measured horizontal locations and elevations of underground utilities and appurtenances, referenced to permanent surface improvements

3. Elevations of underground utilities referenced to City of Tomball bench mark utilized for Project
 4. Measured locations of internal utilities and appurtenances concealed in construction, referenced to visible and accessible features of construction
 5. Field changes of dimension and detail
 6. Changes made by modifications
 7. Details not on original Contract Drawings
 8. References to related shop drawings and modifications
- C. Record information with red felt-tip marking pen on set of blue line opaque drawings.
- D. For large diameter water mains, legibly mark specifications and addenda to record:
1. Manufacturer, trade name, catalog number and supplier of each product and item of equipment actually installed.
 2. Changes made by change order or field order.
 3. Other matters not originally specified.
- E. Legibly annotate shop drawings to record changes made after review.

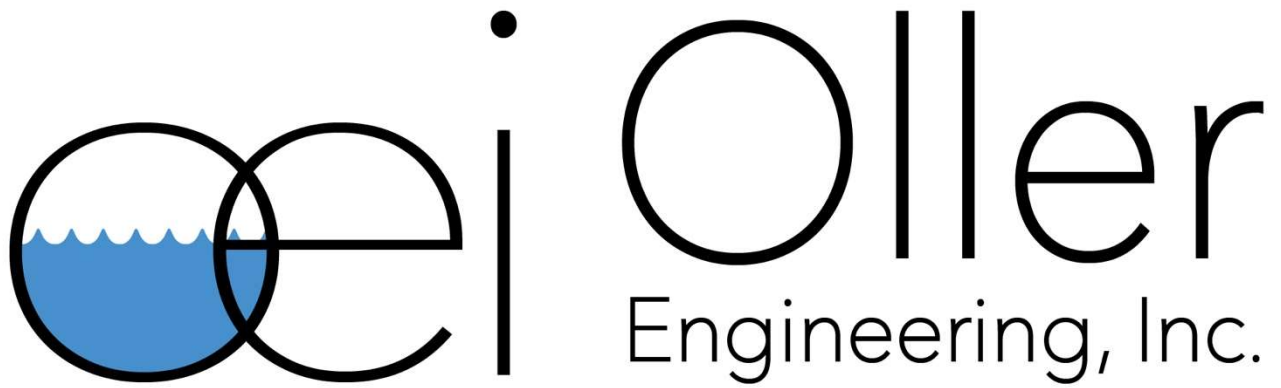
1.4 SUBMITTALS

- A. At Contract closeout, deliver Project Record Documents to City and Engineer.

PART 2 PRODUCTS - Not Used

PART 3 EXECUTION - Not Used

END OF SECTION



City of Tomball

Pine St. EST Rehabilitation

Material and Equipment Specifications

City of Tomball Job #2024-05

OEI Job #1030.23.05

October 2023



beyond engineering

Section 02501

DUCTILE IRON PIPE AND FITTINGS

PART 1 GENERAL

1.01 SECTION INCLUDES

- A. Ductile iron pipe and fittings for water lines, wastewater force mains, gravity sanitary sewers, and storm sewers.

1.02 MEASUREMENT AND PAYMENT

- A. Unit Prices.

- 1. No separate payment will be made for ductile iron pipe and fittings under this Section, with the exception of extra fittings in place. Include cost in unit prices for work as specified in the following Sections, as applicable:

- a. Section 02511 - Water lines

- 2. Refer to Section 01270 - Measurement and Payment for unit price procedures.

- B. Extra Ductile Iron Compact Fittings in Place shall be for additional fittings required to complete job. This is not to exclude extension of pipe across driveway or intersection for purpose of terminating line in more advantageous position. This determination shall be at discretion of City and Engineer. This bid item includes additional fittings as may be necessary to complete job in conformance with intent of Drawings.

- C. Stipulated Price (Lump Sum). If Contract is Stipulated Price Contract, payment for work in this Section is included in total Stipulated Price.

1.03 REFERENCES

- A. ANSI A 21.4 (AWWA C 104) - Standard for Cement-Mortar Lining for Ductile-Iron Pipe and Fittings, for Water.
- B. ANSI A 21.10 (AWWA C 110) - Standard for Ductile-Iron and Gray-Iron Fittings, 3-in. through 48-in.

- C. ANSI A 21.11 (AWWA C 111) - Standard for Rubber Gasket Joints for Ductile-Iron Pressure Pipe and Fittings.
- D. ANSI A 21.15 (AWWA C 115) - Standard for Flanged Ductile-Iron Pipe With Ductile-Iron or Gray-Iron Threaded Flanges.
- E. ANSI A21.16 (AWWA C 116) - Protective Fusion Bonded Epoxy Coating for the Interior and Exterior Surfaces of Ductile Iron and Grey iron Fittings for Water Supply Service.
- F. ANSI A 21.50 (AWWA C 150) - Standard for Thickness Design of Ductile-Iron Pipe.
- G. ANSI A 21.51 (AWWA C 151) - Standard for Ductile-Iron Pipe, Centrifugally Cast, for Water and Other Liquids.
- H. ANSI A 21.53 (AWWA C 153) - Standard for Ductile Iron Compact Fittings, 3 inches through 24 inches and 54 inches through 64 inches for Water Service.
- I. ASME B 16.1 - Cast Iron Pipe Flanges and Flanged Fittings.
- J. ASTM D 1248 - Standard Specification Polyethylene Plastics Molding and Extrusion Materials for Wire and Cable.
- K. ASTM F 477 - Elastomeric Seals (gaskets) for Joining Plastic Pipe.
- L. ASTM G 62 - Standard Test Methods for Holiday Detection in Pipeline Coatings.
- M. AWWA C 102 - American National Standard for Polyethylene Encasement for Ductile-Iron Pipe Systems.
- N. AWWA C 300 - Standard for Prestressed Concrete Pressure Pipe, Steel-Cylinder Type, for Water and other Liquids.
- O. AWWA C 600 - Standard for Installation of Ductile-Iron Water Mains and Their Appurtenances.
- P. SSPC-SP 6 - Steel Structures Painting Council, Commercial Blast Cleaning.
- Q. American Railway Engineering and Maintenance-of-Way Association (AREMA) Manual for Railway Engineering.
- R. American Association of State Highway Transportation Officials (AASHTO).

1.04 SUBMITTALS

- A. Conform to requirements of Section 01330 - Submittal Procedures.
- B. For pipes 24 inches and greater submit shop drawings signed and sealed by Professional Engineer registered in State of Texas showing the following:
 - 1. Manufacturer's pipe design calculations.
 - 2. Provide lay schedule of pictorial nature indicating alignment and grade, laying dimensions, fitting, flange, and special details, with plan and profile view of each pipe segment sketched, detailing pipe invert elevations, horizontal bends, restrained joints, and other critical features. Indicate station numbers for pipe and fittings corresponding to Drawings. **Do not start production of pipe and fittings prior to review and approval by City and Engineer.**
 - 3. Calculations and limits of thrust restraint.
 - 4. Class and length of joint.
- C. Submit manufacturer's certifications that ductile iron pipe and fittings meet provisions of this Section and have been hydrostatically tested at factory and meet requirements of ANSI A 21.51.
- D. Submit certifications that pipe joints have been tested and meet requirements of ANSI A 21.11.
- E. Submit affidavit of compliance in accordance with ANSI A21.16 for fittings with fusion bonded epoxy coatings or linings.

PART 2 PRODUCTS

2.01 DUCTILE IRON PIPE - NOT USED

2.02 JOINTS

- A. Joint Types: ANSI A 21.11 push-on; ANSI A 21.11 mechanical joint; or ANSI A 21.16 flanged end. Provide push-on joints unless otherwise indicated on the Drawings or required by these specifications. For bolted joints, conform to

requirements of AWWA C111; provide minimum 304 stainless steel for restraint joints.

- B. Where restrained joints for buried service are required by Drawings, provide one of the following, **or approved equal**:
 - 1. Super-Lock by Clow Corporation.
 - 2. Flex-Ring or Lok-Ring by American Cast Iron Pipe Company.
 - 3. TR-Flex or Field Lok by U.S. Pipe and Foundry Company.
 - 4. One Bolt by One Bolt, Inc. (4 to 12 inches)
 - 5. Sur-Grip by JCM Industries. (4 to 12 inches)
- C. Threaded or grooved-type joints which reduce pipe wall thickness below minimum required are not acceptable.
- D. Provide for restrained joints designed to meet test pressures required under Section 02515 - Hydrostatic Testing of Pipelines, as applicable. Provide restrained joints for test pressure or maximum surge pressure as specified, whichever is greater for water lines. **Do not use passive resistance of soil in determining minimum restraint lengths.**
- E. Bond rubber gasketed joints to provide electrical continuity along entire pipeline, except where insulating flanges are required by Drawings.
- F. Make curves and bends by deflecting joints. Do not exceed maximum deflection recommended by pipe manufacturer for pipe joints or restraint joints. **Submit details of other methods of providing curves and bends for consideration by City and Engineer.** When other methods are deemed satisfactory, **install at no additional cost to City.**

2.03 GASKETS:

- A. Furnish, when no contaminant is identified, plain rubber (SBR) gasket material in accordance with ANSI A21.11 or ASTM F 477 (One Bolt only); for flanged joints 1/8-inch-thick gasket in accordance with ANSI A 21.15.

2.04 FITTINGS

- A. Use fittings of same size as pipe. Reducers are not permitted to facilitate an off-size fitting. Reducing bushings are also prohibited. Make reductions in piping

Project No. 2024-05

size by reducing fittings. Line and coat fittings as specified for pipe they connect to.

- B. Push-on Fittings: ANSI A 21.10; ductile iron ANSI A 21.11 joints, gaskets, and lubricants; pressure rated at 250 psig.
- C. Flanged Fittings: ANSI 21.10; ductile iron ANSI A 21.11 joints, gaskets, and lubricants; pressure rated at 250 psig.
- D. Mechanical Joint Fittings: ANSI A 21.11; pressure rated at 250 psi.
- E. Ductile Iron Compact Fittings for Water lines: ANSI A 21.53; 4-inch through 12-inch diameter fusion bonded epoxy-lined or cement mortar lining.

2.05 COATINGS AND LININGS

- A. Water line Interiors: ANSI A21.4, cement lined with seal coat; ANSI A 21.16 fusion bonded epoxy coating for interior.
- B. Exterior:
 - 1. Water Lines
 - a. Tunnel, Casing or Auger Holes: Conform to requirements of ASTM D 16, ASTM D 1737, SSPC-PA 2, SSPC-PA 3, SSPC-PS Guide 17.00, SSPC-SP 1, SSPC-SP 10.
 - b. Direct Bury: Conform to requirements of ASTM D 16, ASTM D 1737, SSPC-PA 2, SSPC-PA 3, SSPC-PS Guide 17.00, SSPC-SP 1, SSPC-SP 10.
 - C. Polyethylene Wrap: For buried water lines not cathodically protected and sanitary sewers, including point repairs, provide polyethylene wrap unless otherwise specified or shown. Conform to requirements of Section 02528 - Polyethylene Wrap.
 - D. For flanged joints in buried service, provide petrolatum wrapping system, Denso, or equal, for the complete joint and alloy steel fasteners. Alternatively, provide bolts made of Type 304 stainless steel.

2.06 MANUFACTURERS

- A. Use pre-approved manufacturers listed in City of Tomball approved products.

PART 3 EXECUTION

3.01 INSTALLATION

- A. Conform to installation requirements of Sections 02511 - Water Lines, except as modified in this Section.
- B. Install in accordance with AWWA C 600 and manufacturer's recommendations.
- C. Install all ductile iron pipe in polyethylene wrap, unless cathodic protection is provided. **Do not use polyethylene wrap with a cathodic protection system.**
- D. Holiday Testing.
 - 1. Polyurethane: Conform to AWWA C 210, Section 5.3.3.1. Follow coating manufacturer's recommendation. Conduct inspection any time after coating has reached initial cure.
 - 2. Fusion Bonded Epoxy: Conform to requirements for new fittings in ANSI A 21.16.

3.02 FIELD REPAIR OF COATINGS

- A. Polyurethane
 - 1. Repair Procedure - Holidays:
 - a. Remove traces of oil, grease, dust, dirt, and other deleterious materials.
 - b. Roughen area to be patched by sanding with rough grade sandpaper (40 grit).
 - c. Apply one coat of repair material described above. Work repair material into scratched surface by brushing.
 - 2. Repair Procedure - Field Cuts or Large Damage:
 - a. Remove burrs from field cut ends or handling damage and smooth out edge of polyurethane coating.
 - b. Remove traces of oil, grease, dust, dirt, and other deleterious materials.

- c. Roughen area to be patched with rough grade sandpaper (40 grit). Feather edges and include overlap of 1 inch to 2 inches of roughened polyurethane in area to be patched.
 - d. Apply thick coat of repair material described above. Work repair material into scratched surface by brushing. Feather edges of repair material into prepared surface. Cover at least 1 inch of roughened area surrounding damage, or adjacent to field cut.
 3. Repair Procedure - Thermite Brazed Connection Bonds:
 - a. Remove polyurethane coating with power wire brush from area on metal surface, which is to receive thermite, brazed connection.
 - b. Grind metal surface to shiny metal with power grinder and coarse grit grinding wheel.
 - c. Apply thermite-brazed connection using equipment, charge and procedure recommended by manufacturer of thermite equipment.
 - d. After welded surface has cooled to temperature below 130 degrees F, apply protective coating repair material to weld, exposed pipe surface and damaged areas of polyurethane coating.
 - e. Do not cover or backfill freshly repaired areas of coating at thermite-brazed connection until repair material has completely cured. Allow material to cure in conformance with manufacturer's recommendations.**
- B. Fusion Bonded Epoxy: Conform to requirements for new fittings in ANSI A 21.16.

END OF SECTION

Section 02511

WATER LINES

PART 1 GENERAL

1.1 SECTION INCLUDES

- A. Installation of water lines.
- B. Specifications identify requirements for both small diameter water lines and large diameter water lines. When specifications for large diameter water lines differ from those for small diameter water lines, large diameter specifications will govern for large diameter pipe.

1.2 MEASUREMENT AND PAYMENT

- A. Unit Prices.
 - 1. Payment for water lines installed by bore or open-cut, augered with or without casing, aerial crossing, pipe offset section or within limits of Potentially Petroleum Contaminated Area (PPCA) is on linear foot basis for each size of pipe installed. Separate pay items are used for each type of installation.
 - 1. Mains: Measure along axis of pipe and include fittings and valves.
 - 2. Branch Pipe: Measure from axis of water line to end of branch.
 - 2. Payment for interconnection is on lump sum basis for each interconnection identified on Drawings. Payment will include tapping sleeve and valves piping, connections, and other related work necessary for construction as shown on Drawings or specified herein.
 - 3. Payment for removal of existing internal elliptical or dished head plug is on unit price basis for each internal elliptical or dished head plug removed. Payment will include deletion of plug, drainage or dewatering of water lines, repair of damaged linings, rechlorination and items incidental to operation.
 - 4. Payment for plug and clamp is on a unit price basis for each size of pipe.

5. Payment for drainline connection with service manhole is on unit price basis for each drainline shown on drawings. Payment includes valve, access manhole and connection.
 6. When directed by City and Engineer to install extra fittings as required to avoid unforeseen obstacles, payment will be based on the following:
 1. Each extra fitting requested by City and Engineer and delivered to jobsite will be paid according to unit price for "Extra Fittings in Place."
 2. Payment will include and be full compensation for items necessary for installation and operation of water line.
 7. Refer to Section 01270 - Measurement and Payment for unit price procedures.
- B. Stipulated Price (Lump Sum). If Contract is Stipulated Price Contract, payment for work in this Section is included in total Stipulated Price.

1.3 REFERENCES

- A. ANSI A 21.11/AWWA C111 - Standard for Rubber-Gasket Joints for Ductile - Iron Pressure Pipe and Fittings.
- B. ANSI/NSF Standard 61 - Drinking Water System -Health Components.
- C. ASTM A 36 - Standard Specification for Carbon Structural Steel
- D. ASTM A 536 - Standard Specification for Ductile Iron Castings
- E. ASTM A 126 - Standard Specification for Gray Iron Castings for Valves, Flanges, and Pipe Fittings.
- F. ASTM B 21 - Standard Specification for Naval Brass Rod, Bar, and Shapes.
- G. ASTM B 98 - Standard Specification for Copper-Silicon Alloy Rod, Bar, and Shapes.
- H. ASTM B 301 - Standard Specification for Free-Cutting Copper Rod and Bar.
- I. ASTM B 584 - Standard Specification for Copper Alloy Sand Casting for

General Application.

- J. ASTM E 165 - Standard Test Method for Liquid Penetrant Examination.
- K. ASTM E 709 - Standard Guide for Magnetic Particle Examination.
- L. ASTM F 1674 - Standard Test Method for Joint Restraint Products for Use with PVC Pipe.
- M. AWWA C 206 - Standard for Field Welding of Steel Water Pipe.
- N. AWWA C 207 - Standard for Steel Pipe Flanges for Waterworks Service - Sizes 4 Inches through 144 Inches.

1.4 SUBMITTALS

- A. Conform to requirements of Section 01330 - Submittal Procedures.
- B. Conform to submittal requirements of applicable Section for type of pipe used.

PART 2 PRODUCTS

1.5 PIPE MATERIALS

- A. Install pipe materials which conform to following:
 - 1. Section 02501 - Ductile Iron Pipe and Fittings.
 - 2. Section 02506 - Polyvinyl Chloride Pipe.
- B. Conform to American National Standards Institute/National Sanitation Foundation (ANSI/NSF) Standard 61 and have certified by an organization accredited by ANSI.
- C. Type of pipe materials used are Contractor's option unless specifically identified on Drawings.
- D. Provide minimum of 3/8 inch inside joint recess between ends of pipe in straight pipe sections.

- 1.6 WELDED JOINT PROTECTION FITTING
 - A. Cylindrical Corrosion Barrier manufactured by CCB Int'l Inc., **or approved equal.**
 - B. O-rings: Conform to National Sanitary Foundation requirements.

- 1.7 RESTRAINED JOINTS
 - A. Ductile-Iron Pipe: See Section 02501 - Ductile Iron Pipe and Fittings.
 - B. PVC Pipe: See Section 02506 - Polyvinyl Chloride Pipe.
 - C. Prestressed Concrete Cylinder Pipe, Bar-Wrapped Pipe and Steel Pipe: Welded joints (see Paragraph 3.06D).
 - D. Restrained Joints where required on DIP and PVC pipe:
 - 1. Restraint devices: Manufacture of high strength ductile iron, ASTM A 536 up to 24 inches, and ASTM A 36 for sizes greater than 30 inches. Working pressure rating twice that of design test pressure.
 - 2. Bolts and connecting hardware: High strength low alloy material in accordance with ANSI A21.11/AWWA C111.

- 1.8 COUPLINGS AND APPURTENANCES FOR LARGE DIAMETER WATERLINE
 - A. Flexible (Dresser-type) Couplings.
 - 1. Install where shown on Drawings or where allowed by City and Engineer for Contractor's convenience. Use galvanized flexible couplings when installed on galvanized pipe, which is cement lined, or when underground. Provide gaskets manufactured from Neoprene or Buna-N.
 - 2. For steel pipe; sleeve-type flexible couplings, Dresser Style 38, Rockwell Type 411, or approved equal. Thickness of middle ring equal to or greater than thickness of pipe wall.
 - 3. Flanged adapter couplings for steel pipe; Dresser Style 128, Rockwell Type 913, or approved equal.
 - 4. Use Type 316 stainless steel bolts, nuts and washers where flexible

couplings are installed underground. Coat entire coupling with 20-mil of T.C. Mastic as manufactured by Tape Coat Company, Inc., Bitumastic 50 as manufacturer by The Carboline Company, or approved equal.

- B. Victaulic Joints. Make joint with Victaulic Style 77 coupling fitted with Grade H molded synthetic rubber gasket.
- C. Flap Valves: Provide on discharge of manhole drainline as shown on Drawings.
 - 1. Body and Flap: ASTM A 126-B cast iron.
 - 2. Seats: ASTM B 21-CA482 or ASTM B 301-CA145 bronze.
 - 3. Resilient Seat: Buna-N.
 - 4. Hinge Arms: ASTM B 584-CA865 high tensile bronze.
 - 5. Hinge pins: ASTM B 98-CA655 silicon bronze.
 - 6. Provide Rodney Hunt Series FV-AC, or approved equal.

PART 3 EXECUTION

1.9 PREPARATION

- A. Conform to applicable installation specifications for types of pipe used.
- B. Employ workmen who are skilled and experienced in laying pipe of type and joint configuration being furnished. Provide watertight pipe and pipe joints. Lay pipe with bell ends facing in direction of laying.
- C. Lay pipe to lines and grades shown on Drawings. Use adequate surveying methods and equipment; employ personnel competent in use of this equipment. Horizontal and vertical deviations from alignment as indicated on Drawings shall not exceed 0.10 feet. Measure and record "as-built" horizontal alignment and vertical grade at maximum of every 50 feet on record drawings.
- D. Confirm that nine feet minimum separation from gravity sanitary sewers and manholes or separation of four feet minimum from force mains as specified in this Section in all directions unless special design is provided on Drawings:
 - 1. Water line crossing above gravity sanitary sewer or force main with

no leaks: Minimum 2-foot vertical clearance.

- E. Where above clearances cannot be attained, and special design has not been provided on Drawings, obtain direction from City and Engineer before proceeding with construction.
- F. Inform City and Engineer if unmetered sprinkler or fire line connections exist which are not shown on Drawings. **Make transfer only after approval by City and Engineer.**
- G. Keep pipe trenches free of water, which might impair pipe-laying operations. Prevent pipe bells from coming in contact with sub grade. Grade pipe trenches to provide uniform support along bottom of pipe. Excavate for bell holes for proper sealing of pipe joints after bottom has been graded and in advance of placing pipe. Lay not more than nominal city block length of not more than 300 feet of pipe in trench ahead of backfilling operations. Cover or backfill laid pipe if pipe laying operations are interrupted and during non- working hours. Place backfill carefully and simultaneously on each side of pipe to avoid lateral displacement of pipe and damage to joints. If adjustment of pipe is required after it has been laid, remove and re-lay as new pipe.
- H. City of Tomball Utility Operations Division will handle, at no cost to Contractor, operations involving opening and closing valves for wet connections and for chlorination. Contractor is responsible for handling necessary installations and removal of chlorination and testing taps and risers.
- I. If asbestos-cement (A.C.) pipe is encountered, follow safety practices outlined in Asbestos-Cement Pipe Producers Association publication, "Recommended Work Practices for A/C Pipe". Strictly adhere to "recommended practices" contained in this publication and make them "mandatory practices" for this Project.
- J. For pipe diameters 36 inches and greater, clearly mark each section of pipe and fitting with unique designation on inside of pipe. Locate unique identifying mark minimum of five feet away from either end of each section of pipe. Provide one unique identifying mark in middle of each fitting. Place markings at consistent locations. Use permanent black paint and minimum letter height of 4 inches to mark designations.
- K. Laying Large diameter Water Line
 - 1. Lay not more than 50 feet of pipe in trench ahead of backfilling operations.

2. Dig trench proper width as shown. When Contractor's operations cause trench width below top of pipe to become 4 feet wider than specified, install higher class of pipe or improved bedding, as determined by City and Engineer. No additional payment will be made for higher class of pipe or improved bedding.
 3. Prevent damage to coating when placing backfill. Use backfill material free of large rocks or stones, or other material, which could damage coatings.
 4. Before assembling couplings, lightly coat pipe ends and outside of gaskets with cup grease or liquid vegetable soap to facilitate installation. Groove pipe to manufacturer's specifications.
 5. When installing water line below existing water line provide an approved repair clamp sized for existing water line on site.
 6. Prior to proceeding with critical tie-ins submit sequence of work based on findings from "critical location" effort.
- L. Contractor is responsible for assuring chosen manufacturer fulfills requirements for extra fittings and, therefore, is responsible for costs due to downtime if requirements are not met.
- M. **Do not remove plugs or clamps during months of peak water demands; June, July and August, unless otherwise approved by City and Engineer.**
- 1.10 HANDLING, CLEANING AND INSPECTION
- A. Handling:
1. Place pipe along project site where storm water or other water will not enter or pass through pipe.
 2. Load, transport, unload, and otherwise handle pipe and fittings to prevent damage of any kind. Handle and transport pipe with equipment designed, constructed and arranged to prevent damage to pipe, lining and coating. **Do not permit bare chains, hooks, metal bars, or narrow skids or cradles to come in contact with coatings. Where required, provide pipefittings with sufficient interior strutting or cross**

bracing to prevent deflection under their own weight.

3. Hoist pipe from trench side into trench by means of sling of smooth steel cable, canvas, leather, nylon or similar material.
 4. For large diameter water lines, handle pipe only by means of sling of canvas, leather, nylon, or similar material. Sling shall be minimum 36 inches in width. Do not tear or wrinkle tape layers.
 5. Use precautions to prevent injury to pipe, protective linings and coatings.
 1. Package stacked pipe on timbers. Place protective pads under banding straps at time of packaging.
 2. Pad fork trucks with carpet or other suitable material. Use nylon straps around pipe for lift when relocating pipe with crane or backhoe.
 3. Do not lift pipe using hooks at each end of pipe.
 4. Do not place debris, tools, clothing, or other materials on pipe.
 6. Repair damage to pipe or protective lining and coating before final acceptance.
 7. For cement mortar line and coated steel pipe and PCCP, permit no visible cracks longer than 6 inches, measured within 15 degrees of line parallel to pipe longitudinal axis of finished pipe, except:
 1. In surface laitance of centrifugally cast concrete.
 2. In sections of pipe with steel reinforcing collars or wrappers.
 3. Within 12 inches of pipe ends.
 8. Reject pipe with visible cracks (not meeting exceptions) and remove from project site.
- B. Cleaning: Thoroughly clean and dry interior of pipe and fittings of foreign matter before installation and keep interior clean until Work has been accepted. Keep joint contact surfaces clean until jointing is completed. **Do**

not place debris, tools, clothing, or other materials in pipe. After pipe laying and joining operations are completed, clean inside of pipe and remove debris.

- C. Inspection: Before installation, inspect each pipe and fitting for defects. **Reject defective, damaged or unsound pipe and fittings and remove them from site.**

1.11 EARTHWORK

- A. Conform to applicable provisions of Section 02317 - Excavation and Backfilling for Utilities.
- B. Bedding: Use bedding materials in conformance with Section 02320 - Utility Backfill Materials.
- C. Backfill: Use bank run sand or earth or native soil as specified in Section 02320 - Utility Backfill Materials. Backfill excavated areas in same day excavated. When not possible, cover excavated areas using steel plates on paved areas and other protective measures elsewhere.
- D. Place material in uniform layers of prescribed maximum loose thickness and wet or dry material to approximately optimum moisture content. Compact to prescribed density. Field density tests may be made at frequency determined by City and Engineer. **Water tamping is not allowed.**
- E. Pipe Embedment: Including 6-inch pipe bedding and backfill to 12 inches above top of pipe.

1.12 PIPE CUTTING

- A. Cut pipe 12 inches and smaller with standard wheel pipe cutters. Cut pipe larger than 12 inches in manner approved by City and Engineer. Make cuts smooth and at right angles to axis of pipe. Bevel plain end with heavy file or grinder to remove sharp edges.

1.13 PIPING INSTALLATION

- A. Do not lay pipe unless sub grade is free of water. Make adjustments of pipe to line and grade by scraping away sub grade or filling in with granular material. Wedging or blocking up bell will not be acceptable.

- B. Do not install pipe at greater depth than its design allows.

- C. Protection of Pipeline: Securely place stoppers or bulkheads in openings and in end of line when construction is stopped temporarily and at end of each day's work.

- D. Perform critical location to determine actual horizontal and vertical location of existing pipe and other utilities that may affect tie-in connection. **For large diameter water lines, submit to City and Engineer horizontal and vertical dimensions signed and sealed by Registered Professional Land Surveyor, prior to submitting portion of proposed water line lay schedule for tie-in.** Refer to Section 02317 - Excavation and Backfill for Utilities for additional requirements at critical locations.

- E. Perform following additional procedures when working on plant sites.
 - 1. Seventy-two hours prior to each plant shut down or connection, schedule coordination meeting with City and Engineer and Water Production personnel. At this meeting, present proposed sequencing of Work and verification of readiness to complete Work as required and within time permitted. **Do not proceed with Work until City and Engineer agrees key personnel, equipment and materials are on hand to complete Work.**

 - 2. Prior to fully excavating around existing piping, excavate as minimal as possible to confirm type and condition of existing joints. Verify size, type, and condition of pipe prior to ordering materials or fully mobilizing for Work.

 - 3. **Do not proceed with connections to existing piping and identified critical stages of work unless approved by City and Engineer and City's Water Production Division operator is present to observe.**

 - 4. **Coordinate with City's Water Production Division operators to obtain reduction in operating pressures prior to performing connections to existing piping.**

 - 5. Make connections to existing piping only when two valves are closed off between connection and source of water pressure. **Do not make connection relying solely on one valve, unless otherwise approved by City and Engineer.**

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6. Perform critical stages of Work identified on Drawings at night or during low water demand months as specified in Section 01110 - Summary of Work.
 7. Excavation equipment used on plant sites to have smooth bucket, no teeth or side cutters.
 8. Before each "dig" with mechanical excavator, probe ground to determine potential obstructions. Repeat procedure until existing pipe is located or excavation reaches desired elevation. Perform excavations within one foot to existing piping by hand methods.
 9. Provide adequate notice to pipe manufacturer's representative when connecting or modifying existing prestressed or pretension concrete cylinder pipe.
 10. Provide field surveyed (horizontal and vertical elevations) "as-builts" of new construction and existing underground utilities encountered. Submit in accordance with Section 01330 - Submittal Procedures.
 11. No night work or plant shut down will be scheduled to begin two working days before or after designated City Holidays.
- F. For tie-ins to existing water lines, provide necessary material on hand to facilitate connection prior to shutting down existing water line.

1.14 JOINTS AND JOINTING

- A. Rubber Gasketed Bell-and-Spigot Joints for Concrete Cylinder Pipe, Bar Wrapped Pipe PVC, Steel, and DIP:
1. After rubber gasket is placed in spigot groove of pipe, equalize rubber gasket cross section by inserting tool or bar recommended by manufacturer under rubber gasket and moving it around periphery of pipe spigot.
 2. Lubricate gaskets with nontoxic water-soluble lubricant before pipe units are joined.
 3. Fit pipe units together in manner to avoid twisting or otherwise displacing or damaging rubber gasket.
 4. After pipe sections are joined, check gaskets to ensure that no displacement of gasket has occurred. If displacement has occurred,

- remove pipe section and remake joint as for new pipe. Remove old gasket, inspect for damage, and replace, if necessary, before remaking joint.
5. Where preventing movement of 16-inch diameter or greater pipe is necessary due to thrust, use restrained joints.
 1. Include buoyancy conditions for soil unit weight when computing thrust restraint calculations.
 - 2. Do not include passive resistance of soil in thrust restraint calculations.**
 6. Provide means to prevent full engagement of spigot into bell as shown on Drawings. Means may consist of wedges or other types of stops as approved by City and Engineer.
- B. Flanged Joints where required on Concrete Cylinder Pipe, Bar Wrapped Pipe, Ductile Iron Pipe, or Steel Pipe: **NOT USED**
- C. Welded Joints (Concrete Cylinder Pipe, Bar Wrapped Pipe, Steel Pipe): **NOT USED**
- D. Harnessed Joints (Concrete Cylinder Pipe, Bar Wrapped Pipe): **NOT USED**
- E. Restrained Joints
1. Installation.
 - a. Install restrained joints mechanism in accordance with manufacturer=s recommendations.
 - b. Examine and clean mechanism; remove dirt, debris, and other foreign material.
 - c. Apply gasket and joint NSF 61 FDA food grade approved lubricant.
 - d. Verify gasket is evenly seated.
 - e. Do not over stab pipe into mechanism.
 2. For existing water lines and water lines less than 16 inches in diameter, restrain pipe joints with concrete thrust blocks or provide restrained joints.

3. Prevent any lateral movement of thrust restraints throughout pressure testing and operation. Place 2500 psi concrete conforming to Section 03315 - Concrete for Utility Construction, for blocking at each change in direction of existing water lines, to brace pipe against undisturbed trench walls. Finish placement of concrete blocking, made from Type I cement, 4 days prior to hydrostatic testing of pipeline. Test may be made 2 days after completion of blocking if Type II cement is used.
 4. Thrust restraint lengths shown on Drawings are minimum anticipated lengths. These lengths are based on deflections indicated and on use of prestressed concrete cylinder pipe. Adjustments in deflections or use of other pipe material may result in reduction or increase of thrust lengths. Perform calculations by pipe manufacturer to verify proposed thrust restraint lengths. Submit calculations for all pipe materials sealed by a registered Professional Engineer in State of Texas for review by City and Engineer. **Make adjustments in thrust restraint lengths at no additional cost to City.**
 5. Passive resistance of soil will not be permitted in calculation of thrust restraint.
 6. Use minimum 16-foot length of pipe in and out of joints made up of beveled pipe where restraint joint lengths are not identified on Drawings. Otherwise, provide restraint joints for a minimum length of 16 feet on each side of beveled joints.
- F. Joint Grout (Concrete Cylinder Pipe, Bar Wrapped Pipe, Steel Pipe): **NOT USED**
- G. Joint Testing: In addition to testing individual joints with feeler gauge approximately 1/2 inch wide and 0.015-inch thick, use other joint testing procedure approved or recommended by pipe manufacturer which will help ensure watertight installation prior to backfilling. **These tests shall be made at no additional cost to City.**
- H. Make curves and bends by deflecting joints or other method as recommended by manufacturer and approved by City and Engineer. Submit details of other methods of providing curves and bends, which exceed manufacturer's recommended deflection prior to installation.
1. Deflection of pipe joints shall not exceed maximum deflection recommended by pipe manufacturer, unless otherwise indicated on Drawings.

2. If deflection exceeds that specified but is less than 5 percent, repair entire deflected pipe section such that maximum deflection allowed is not exceeded.
 3. If deflection is equal to or exceeds 5 percent from that specified, remove entire portion of deflected pipe section and install new pipe.
 4. Replace, repair, or reapply coatings and linings as required.
 5. Assessment of deflection may be measured by City and Engineer at location along pipe. Arithmetical averages of deflection or similar average measurement methods will not be deemed as meeting intent of standard.
 6. When rubber gasketed pipe is laid on curve, join pipe in straight alignment and then deflect to curved alignment.
- I. Closures Sections and Approved Field Modifications to Steel, Concrete Cylinder Pipe, Bar Wrapped Pipe and Fittings:
1. Apply welded-wire fabric reinforcement to interior and exterior of exposed interior and exterior surfaces greater than 6 inches in diameter. Welded-wire fabric: minimum W1; maximum spacing 2 inches by 4 inches; 3/8 inch from surface of steel plate or middle third of lining or coating thickness for mortar thickness less than 3/4 inch.
 2. Fill exposed interior and exterior surfaces with non-shrink grout.
 3. For pipe diameters 36 inches and greater, perform field welds on interior and exterior of pipe.
 4. For large diameter water lines, provide minimum overlap of 4 inches of butt strap over adjacent piece on butt-strap closures.
- 1.15 CATHODIC PROTECTION APPURTENANCES
- A. Where identified on Drawings, modify pipe for cathodic protection as detailed on Drawings and specified. Unless otherwise noted, provide insulation kits at connections to existing water system or at locations to isolate one type of cathodic system from another type, between water line, access manhole piping and other major openings in water line, or as shown on Drawings.

- B. Bond joints for pipe installed in tunnel or open cut, except where insulating flanges are provided. Weld strap or clip between bell and spigot of each joint or as shown on Drawings. No additional bonding required where joints are welded for thrust restraint. **Repair coatings as specified by appropriate AWWA standard, as recommended by manufacturer, and as approved by City and Engineer.**
- C. Bonding Strap or Clip: Free of foreign material that may increase contact resistance between wire and strap or clip.

1.16 SECURING, SUPPORTING AND ANCHORING

- A. Support piping as shown on Drawings and as specified in this Section, to maintain line and grade and prevent transfer of stress to adjacent structures.
- B. Where shown on Drawings, anchor pipe fittings and bends installed on water line by welding consecutive joints of pipe together to distance each side of fitting. Restrained length, as shown on Drawings, assumes that installation of pipe and subsequent hydrostatic testing begin upstream and proceed downstream, with respect to normal flow of water in pipe. If installation and testing differ from this assumption, submit for approval, revised method of restraining pipe joints upstream and downstream of device used to test against (block valve, blind flange, or dished head plug).
- C. Use adequate temporary blocking of fittings when making connections to distribution system and during hydrostatic tests. Use sufficient anchorage and blocking to resist stresses and forces encountered while tapping existing water line.

1.17 POLYETHYLENE WRAP FOR DUCTILE IRON PIPE

- A. Double wrap pipe and appurtenances (except fire hydrants and fusion bond or polyurethane coated fittings) with 8-mil polyethylene film.
- B. Conform to requirements of Section 02528 - Polyethylene Wrap.

1.18 CLEANUP AND RESTORATION

- A. Provide cleanup and restoration crews to work closely behind pipe laying crews, and where necessary, during chlorination, testing, service transfers, abandonment of old water lines, backfill and surface restoration.

- B. Upon completion of section not exceeding 4000 feet per crew, chlorinate and pressure test. Begin transfer of services no later than 7 calendar days after successful completion of chlorination and pressure testing.
- C. After transfer of services, but no later than 21 calendar days after successful completion of chlorination and pressure testing, begin abandonment of old water lines, including resodding and placement of sidewalks and pavements.
- D. Do not begin construction of additional sections if above conditions are not met.
- E. For large diameter water lines, do not install more than 2000 feet of water line, without previous 2000 feet being cleaned up and site fully restored. Schedule paving crews so repaving work will not lag behind pipe laying work by more than 1000 feet. Failure to comply with this requirement will result in "Notice of Nonconformance".
- F. Complete site restoration within 30 days from date water line is successfully disinfected and hydrostatically tested, **unless extended in writing by City and Engineer.**
- G. For projects involving multiple subdivisions or locations, limit water line installation to maximum of two project site locations.

1.19 CLEANING PIPING SYSTEMS

- A. Remove construction debris or foreign material and thoroughly broom clean and flush piping systems. Provide temporary connections, equipment and labor for cleaning. **City must inspect water line for cleanliness prior to filling.**

1.20 DISINFECTION OF WATER LINES

- A. Conform to requirements of Section 02514 - Disinfection of Water Lines.

1.21 FIELD HYDROSTATIC TESTS

- A. Conform to requirements of Section 02515 - Hydrostatic Testing of Pipelines.

END OF SECTION

Section 02514

DISINFECTION OF WATER LINES

PART 1 GENERAL

1.01 SECTION INCLUDES

- A. Disinfection of potable water lines.

1.02 MEASUREMENT AND PAYMENT

- A. Unit Prices.

1. No separate payment will be made for disinfection of water lines under this Section. Include cost in unit price of water lines being disinfected.
2. Refer to Section 01270 - Measurement and Payment for unit price procedures.

- B. Adjusting Payment for Retesting.

1. Subsequent disinfection operations which may be necessary due to nonconforming or incomplete construction will be charged to Contractor. Charges will be deducted from retainage amounts when construction estimates are processed for final payment.
2. Total charge will consist of base charge of \$135.00 plus footage charge based on number of feet of specified diameter pipe in construction project. Footage charge is as follows:

Size of Pipe	Charge per Linear Foot
2-inch to 4-inch	\$0.03
6-inch	\$0.04
8-inch	\$0.05
10-inch to 12-inch	\$0.07
16-inch to 20-inch	\$0.09
24-inch to 30-inch	\$0.13
32-inch to 48-inch	\$0.16
54-inch	\$0.20
60-inch	\$0.22
66-inch	\$0.31
72-inch to 84-inch	\$0.40
90-inch to 96-inch	\$0.58
108-inch	\$0.75
120-inch or larger	\$1.00

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- C. Stipulated Price (Lump Sum). If Contract is Stipulated Price Contract, payment for work in this Section is included in total Stipulated Price.

1.03 REFERENCES

- A. AWWA C 651 - Standard for Disinfecting Water Mains.

PART 2 PRODUCTS - Not Used

PART 3 EXECUTION

3.01 CONDUCTING DISINFECTION

- A. Promptly disinfect water lines constructed before tests are conducted on water lines and before water lines are connected to City water distribution system.
- B. Water for disinfection and flushing will be furnished by City without charge.
- C. Unless otherwise provided in Contract Documents, City will conduct disinfection operations assisted by Contractor.
- D. Coordinate chlorination operations through City and Engineer.

3.02 PREPARATION

- A. Provide temporary blind flanges, cast-iron sleeves, plugs, necessary service taps, copper service leads, risers and jumpers of sizes, location and materials, and other items needed to facilitate disinfection of new water lines prior to connection to City water distribution system. Normally, each valved section of water line requires two each 3/4-inch taps. A 2-inch minimum blow-off is required for water lines up to and including 6-inch diameter.
- B. Use fire hydrants as blow-offs to flush newly constructed water lines 8-inch diameters and above. Where fire hydrants are not available on water lines, install temporary blow-off valves and remove promptly upon successful completion of disinfection and testing.
- C. Slowly fill each section of pipe with water in manner approved by City and Engineer. Average water velocity when filling pipeline should be less than one foot per second and shall not, under any circumstance, exceed 2 feet per second. Before beginning disinfection operations, expel air from pipeline.

- D. Backfill excavations immediately after installation of risers or blow-offs.
- E. Install blow-off valves at end of water line to facilitate flushing of dead-end water lines. Install permanent blow-off valves according to Drawings.

3.03 DISINFECTION BY CITY PERSONNEL

- A. Correct problems that may prevent disinfection operations prior to advising City and Engineer to perform disinfection work. When disinfection work cannot be performed due to covered up valves, missing valve stacks, inoperative fire hydrants or other nonconforming construction, charges will be levied against Contractor for each trip made by City personnel.
- B. Notify and coordinate with City and Engineer minimum of 72 hours before disinfection work is to be performed. Assist City personnel during disinfection operations.

3.04 DISINFECTION BY CONTRACTOR

- A. The following procedure will be used when disinfection by Contractor is required by Contract Documents:
 1. Use not less than 100 parts of chlorine per million parts of water.
 2. Introduce chlorinating material to water lines in accordance with AWWA C 651.
 3. After contact period of not less than 24 hours, flush system with clean water until residual chlorine is no greater than 1.0 parts per million parts of water.
 4. Open and close valves in lines being sterilized several times during contact period.
 5. If chemical compound is used for sterilizing agent, place in pipes as directed by City and Engineer.

3.03 BACTERIOLOGICAL TESTING

- A. After disinfection and flushing of water lines, bacteriological tests will be performed by City or testing laboratory in accordance with Section 01454 - Testing Laboratory Services. When test results indicate need for additional disinfection of water lines based upon Texas Department of Health requirements, assist City with additional disinfection operations.

3.06 COMPLETION

- A. Upon completion of disinfection and testing, remove risers except those approved for use in subsequent hydrostatic testing, and backfill excavation promptly.

END OF SECTION

Section 02521

GATE VALVES

PART 1 GENERAL

1.01 SECTION INCLUDES

- A. Gate valves.

1.02 MEASUREMENT AND PAYMENT

- A. Unit Prices.

1. No separate payment will be made for gate valves 20 inches in diameter and smaller under this Section. Include payment in unit price for water lines.
2. Payment for gate valves 24 inches to 36 inches in diameter is on a unit price basis. Unit price includes cost of required box for gate valves.
3. Payment for 2-inch blow-off valve with box is on a unit price basis for each installation.
4. Refer to Section 01270 - Measurement and Payment for unit price procedures.

- B. Stipulated Price (Lump Sum). If Contract is Stipulated Price Contract, payment for work in this Section is included in total Stipulated Price.

1.03 REFERENCES

- A. ASTM A 307 - Standard Specification for Carbon Steel Bolts and Studs, 60,000 psi Tensile.
- B. ASTM B 62 - Standard Specification for Composition Bronze or Ounce Metal Casting.
- C. ASTM D 429 - Standard Test Methods for Rubber Property-Adhesion to Rigid Substrates.

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- D. ASTM B 763 - Standard Specification for Copper Alloy Sand Casting for Valve Application.
- E. AWWA C 500 - Standard for Metal-Seated Gate Valves for Water Supply Service.
- F. AWWA C 509 - Standard for Resilient-Seated Gate Valves for Water Supply Service.
- G. AWWA C 515- Standard for Reduced Wall, Resilient- Seated Gate Valves for Water Supply Service.
- H. AWWA C 550 - Standard for Protective Epoxy Interior Coatings for Valves and Hydrants.

1.04 SUBMITTALS

- A. Conform to requirements of Section 01330 - Submittal Procedures.
- B. Submit manufacturer's product data for proposed valves for approval.
- 4. Provide detailed drawings of gearing mechanism for 20-inch and larger gate valves.

1.05 QUALITY CONTROL

- A. Submit manufacturer's affidavit that gate valves are manufactured in the United States and conform to stated requirements of AWWA C 500, AWWA C 509, AWWA C 515, and this Section, and that they have been satisfactorily tested in the United States in accordance with AWWA C 500, AWWA C 509, and AWWA C 515.

PART 2 PRODUCTS

2.01 MATERIALS

- A. Gate Valves: AWWA C 500, AWWA C 509, AWWA C 515 and additional requirements of this Section. Direct bury valves and those in subsurface vaults open clockwise; aboveground and plant valves open counterclockwise.
- B. If type of valve is not indicated on Drawings, use gate valves as line valves for sizes 20-inches and smaller. When type of valve is indicated, no substitute is allowed.
- C. Gate Valves 1-1/2 Inches in Diameter and Smaller: 125 psig; bronze; rising-

stem; single- wedge; disc type; screwed ends; such as Crane No. 428, or approved equal.

- D. Coatings for Gate Valves 2 Inches and Larger: AWWA C 550; Indurall 3300 or approved equal, non-toxic, imparts no taste to water, functions as physical, chemical, and electrical barrier between base metal and surroundings, minimum 8-mil-thick, fusion-bonded epoxy. Prior to assembly of valve, apply protective coating to interior and exterior surfaces of body.
- E. Gate Valves 2 Inches in Diameter: Iron body, double gate, non-rising stem, 150-pound test, 2-inch square nut operating clockwise to open.
- F. Gate Valves 4 Inches to 12 Inches in Diameter: Non-directional, standard-wall resilient seated (AWWA C 509), parallel seat double disc (AWWA C 500), or reduced-wall resilient seated gate valves (AWWA C 515), 200 psig pressure rating, bronze mounting, push-on bell ends with rubber joint rings, and nut-operated unless otherwise specified. Provide standard-wall resilient seated valves manufactured by American Darling AFC-500, US Pipe Metroseal 200, or approved equal. Provide reduced-wall resilient seated valves manufactured by American Flow Control Series 2500 or approved equal. Provide double disc valves manufactured by American Darling 52, Clow F-6102, or approved equal. Comply with following requirements unless otherwise specified in Drawings:
 - 1. Design: Fully encapsulated rubber wedge or rubber seat ring mechanically attached with minimum 304 stainless-steel fasteners or screws; threaded connection isolated from water by compressed rubber around opening.
 - 2. Body: Cast or ductile iron, flange bonnet and stuffing box together with ASTM A 307 Grade B bolts. Manufacturer's initials, pressure rating, and year manufactured shall be cast in body.
 - 3. Bronze: Valve components in waterway to contain no more than 15 percent zinc and not more than 2 percent aluminum.
 - 4. Stems: ASTM B 763 bronze, alloy number 995 minimum yield strength of 40,000 psi; minimum elongation in 2-inches of 12 percent, non-rising.
 - 5. O-rings: For AWWA C 500, Section 3.12.2. For AWWA C 509, Sections 2.2.6 and 4.8.2. For AWWA C 515, Section 4.2.2.5.
 - 6. Stem Seals Consist of three O-rings, two above and one below thrust collar

- with anti- friction washer located above thrust collar for operating torque.
7. Stem Nut: Independent or integrally cast of ASTM B 62 bronze.
 8. Resilient Wedge: Molded, synthetic rubber, vulcanized and bonded to cast or ductile iron wedge or attached with 304 stainless steel screws tested to meet or exceed ASTM D 429 Method B; seat against epoxy-coated surface in valve body.
 9. Bolts: AWWA C 500 Section 3.4, AWWA C 509 Section 4.4 or AWWA C 515 Section 4.4.4; stainless steel; cadmium plated, or zinc coated.
- G. Gate Valves 14 to 24 inches in Diameter: AWWA C 500; parallel seat double disc, or AWWA C 515; reduced-wall, resilient seated gate valves; push-on bell ends with rubber rings and nut- operated unless otherwise specified. Provide reduced-wall resilient seated valves with 250 psig pressure rating and manufactured by American Flow Control Series 2500, **or approved equal**. Provide double disc valves with 150 psig pressure rating and manufactured by American Darling 52, Clow F-6102, **or approved equal**. Comply with following requirements unless otherwise specified on Drawings:
1. Body: Cast iron or ductile iron; flange together bonnet and stuffing box with ASTM A 307 Grade B bolts. Cast following into valve body manufacturers initials, pressure rating, and year manufactured. When horizontally mounted, equip valves greater in diameter than 12 inches with rollers, tracks, and scrapers.
 2. O-rings: For AWWA C 500, Section 3.12.2. For AWWA C 515, Section 4.2.2.5.
 3. Stems: ASTM B 763 bronze, alloy number 995 minimum yield strength of 40,000 psi; minimum elongation in 2-inches of 12 percent, non-rising.
 4. Stem Nut: Machined from ASTM B 62 bronze rod with integral forged thrust collar machined to size; non-rising.
 5. Stem Seals: Consist of three O-rings, two above and one below thrust collar with anti- friction washer located above thrust collar for operating torque.
 6. Bolts: AWWA C 500 Section 3.4 or AWWA C 515 Section 4.4.4; stainless steel; cadmium plated, or zinc coated.
 7. Discs: Cast iron with bronze disc rings securely peened into machined dovetailed grooves.

8. Wedging Device: Solid bronze or cast-iron, bronze-mounted wedges. Thin plates or shapes integrally cast into cast-iron surfaces are acceptable. Other moving surfaces integral to wedging action shall be bronze monel or nickel alloy-to-iron.
 9. Bronze Mounting: Built as integral unit mounted over, or supported on, cast-iron base and of sufficient dimensions to be structurally sound and adequate for imposed forces.
 10. Gear Cases: Cast iron; furnished on 18-inch and larger valves and of extended type with steel side plates, lubricated, gear case enclosed with oil seal or O-rings at shaft openings.
 11. Stuffing Boxes: Located on top of bonnet and outside gear case.
- H. Gate Valves 20 Inches and Larger: Provide AWWA C 515; reduced-wall, resilient seated gate valves. Furnish with spur or bevel gearing.
1. Mount valves horizontally if proper ground clearance cannot be achieved by normal vertical installation. For horizontally mounted gate valves, provide bevel operation gear mounted vertically for above ground operation.
 2. Provide resilient wedge type valves rated for 250 p.s.i.g.
 3. Use valve body, bonnet, wedge, and operator nut constructed of ductile iron. Fully encapsulate exterior of ductile iron wedge with rubber.
 4. Ensure wedge is symmetrical and seals equally well with flow in either direction.
 5. Provide ductile iron operator nut with four flats at stem connection to apply even input torque to the stem.
 6. Provide high strength bronze stem and nut.
 7. Provide pressure O-rings as gaskets.
 8. Provide stem sealed by three O-rings. Top two O-rings are to be replaceable with valve fully open at full rated working pressure.
 9. Provide thrust washers to the thrust collar for easy valve operation.

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- I. Valves 4 Inches through 12 Inches for Installation in Vertical Pipe Lines: Double disc, square bottom.
- J. Valves 14 Inches and Larger for Installation in Horizontal Pipe Lines: Equipped with bronze shoes and slides.
- K. Gate Valves Installed at Greater than 4-foot Depth: Provide non-rising, extension stem having coupling sufficient to attach securely to operating nut of valve. Upper end of extension stem shall terminate in square wrench nut no deeper than 4 feet from finished grade. Support extension stem with an arm attached to wall of manhole or structure that loosely holds extension stem and allows rotation in the axial direction only.
- L. Gate Valves in Factory Mutual (Fire Service) Type Meter Installations: Conform to provisions of this specification; outside screw and yoke valves; carry label of Underwriters' Laboratories, Inc.; flanged, Class 125; clockwise to close.
- M. Gate Valves for Tapping Steel Pipe: Provide double disc gate valve. Resilient wedge gate valve not permitted unless otherwise approved by City and Engineer.
- N. Provide flanged joints when valve is connected to steel or PCCP.

PART 3 EXECUTION

3.01 INSTALLATION

- A. Earthwork. Conform to applicable provisions of Section 02317 - Excavation and Backfilling for Utilities.
- B. Operation. Do not use valves for throttling without prior approval of manufacturer.

3.02 SETTING VALVES AND VALVE BOXES

- A. Remove foreign matter from within valves prior to installation. Inspect valves in open and closed positions to verify that parts are in satisfactory working condition.
- B. Install valves and valve boxes where shown on Drawings. Set valves plumb and as detailed. Center valve boxes on valves. Carefully tamp earth around each valve box for minimum radius of 4 feet, or to undisturbed trench face when less than 4 feet. Install valves completely closed when placed in water line.

- C. For pipe section of each riser, use only 6- inch, ductile iron Class 51, or DR18 PVC pipe cut to proper length. Riser must be installed to allow complete access for operation of valve. Assemble and brace box in vertical position as indicated on Drawings.

3.03 DISINFECTION AND TESTING

- A. Assist City and City Inspector with disinfection of valves and appurtenances as required by Section 02514 - Disinfection of Water Lines and test as required by Section 02515 - Hydrostatic Testing of Pipelines.
- B. Double-Disc Gate Valves: **NOT USED**
- C. Solid-Wedge Gate Valves: Apply hydrostatic pressure equal to twice rated working pressure of valve with both ends bulkhead and gate open. Valve shall show no leakage through metal, flanged joints, or stem seals. Test at rated working pressure, applied through bulkheads alternately to each side of closed gate with opposite side open for inspection. Valve shall show no leakage through metal, flanged joints, or stem-seals. **Do not exceed leakage rate of 1 oz/hr/inch of nominal valve size.**
- D. Repair or replace valves which exceed leakage rate.

3.04 PAINTING OF VALVES

- A. Paint valves in vaults, stations, and above ground using ACRO Paint No. 2215, or approved equal.

END OF SECTION

PART 1 GENERAL

1.1 Scope

- A. The work of this section includes the coating of all interior and exterior surfaces, and installation of safety climb device.

1.2 Related works specified elsewhere (if applicable)

- A. Coating and painting of all interior and exterior surfaces is specified herein.

1.3 Reference Specifications and Standards

- A. Without limiting the general aspects of other requirements of these specifications, all surface preparation, coating and painting of interior and exterior surfaces and inspection shall conform to the applicable requirements of the Steel Structures Painting Council, NACE International, ASTM (American Society for Testing and Materials), AWWA and the manufacturer's printed instructions.
- B. The Engineer's decision shall be final as the interpretation and/or conflict between any of the referenced specifications and standards contained herein.

1.4 Contractor Quality Control Requirements and Documentation

- A. The Contractor shall have five years practical experience and successful history in the application of specified product to surfaces of steel water tanks. Upon request, he shall substantiate this requirement by furnishing a list of references and job completions.
- B. The Contractor shall submit with his bid a written statement by the coatings manufacturer stating that the Contractor is familiar with the materials specified and has workers capable of performing the work specified herein.
- C. The personnel performing the work shall be knowledgeable and have the required experience and skill to adequately perform the work for this project, in accordance with SSPC-PA1, "Shop, Field and Maintenance Painting".

1.5 Quality Assurance

- A. General: Quality assurance procedures and practices shall be utilized to monitor all phases of surface preparation, application and inspection throughout the duration of the project. Procedures or practices not specifically defined herein may be utilized provided they meet recognized and accepted professional standards and are approved by the Engineer.
- B. Surface Preparation: Surface preparation will be based upon comparison with: "Pictorial Surface Preparation Standards for Painting Steel Surfaces: SSPC-VIS 1", ASTM Designation D2200095, "Standard Methods of Evaluating Degree of Rusting on Painted Surfaces", ASTM D 4417, Method A and/or Method C or NACE Standard RP0287, and ASTM Designation D610 "Visual Standard for Surfaces of New Steel Air blast Cleaned with Sand Abrasive". In all cases, the written standard shall take precedence over the visual standard. In addition, NACE Standard RP0178, along with the Visual Comparator, shall be used to verify the surface preparation of welds.
- C. Application: No coating or paint shall be applied when:
- (1) the surrounding air temperature or the temperature of the surface to be coated or painted is below the minimum surface temperature for the products specified herein.
 - (2) rain, snow, fog or mist is present
 - (3) the temperature is less than 50° F
 - (4) the air temperature is expected to drop below the minimum temperature for the products specified within six hours after application of coating. Dewpoint shall be measured by use of an instrument such as a Sling Psychrometer in conjunction with U.S. Department of Commerce Weather Bureau Psychometric Tables.

If any of the above conditions are prevalent, coating or painting shall be delayed or postponed until conditions are favorable. The day's coating or painting shall be completed in time to permit the film sufficient drying time prior to damage by atmosphere conditions. The Contractor is required to take necessary precautions to control paint drifting. The Owner will not be

responsible for any damage caused by drifting paint.

- D. Inspection Devices: The contractor shall furnish, until final acceptance of coating and painting is accepted, inspection devices in good working condition for measurement of dry film thickness of coating and paint. The Contractor shall also furnish U.S. Department of Commerce, National Bureau of Standards certified thickness calibration plates and/or plastic shims, depending upon the thickness gauge used, to test the accuracy of dry film thickness gauges and certified instrumentation to test the accuracy of holiday detectors. Dry film gauges and holiday detectors shall be made available for the Engineer's use at all times until final acceptance of application. Holiday detection devices shall be operated in the presence of the Engineer.
- E. Inspection: Inspection for this project shall consist of "hold point" inspections. The Engineer or his representative shall inspect the surface prior to application of coating materials, and between subsequent coats of material. Final inspection shall take place after all coatings are applied. Contractor will insure that sufficient rigging is in place so that the Engineer or his representative shall be able to conduct the required inspections.
- F. Warranty Inspection: Warranty inspection shall be conducted during the eleventh month following acceptance of all coating and painting work. All defective work shall be repaired in accordance with this specification and to the satisfaction of the Engineer and/or Owner.

1.6 Safety and Health Requirements

- A. General: In accordance with requirements set forth by regulatory agencies applicable to the construction industry and manufacturer's printed instructions and appropriate technical bulletins and manuals, the Contractor shall provide and require use of personal protective lifesaving equipment for persons working on or about the project site.
- B. Head and Face Protection & Respiratory Devices: Equipment shall include protective helmets which shall be worn by all persons while in the vicinity of the work. In addition, workers engaged in or near the work during sandblasting shall wear eye and face

protection devices and air purifying half-mask or mouthpiece respirators with appropriate filters. Barrier creams shall be used on any exposed areas of the skin.

- C. Ventilation: Where ventilation is used to control hazardous exposure, all equipment shall be explosion-proof. Ventilation shall reduce the concentration of air contaminants to a degree a hazard does not exist. Air circulation and exhausting of solvent vapors shall be continued until coatings have fully cured.
- D. Sound Levels: Whenever the occupational noise exposure exceeds maximum allowable sound levels, the Contractor shall provide and require the use of approved ear protection devices.
- E. Illumination: Adequate illumination shall be provided while work is in progress, including explosion-proof lights and electrical equipment. Whenever required by the Engineer, the Contractor shall provide additional illumination and necessary supports to cover all areas to be inspected. The level of illumination for inspection purposes shall be determined by the inspector.
- F. Temporary Ladders and Scaffolding: All temporary ladders and scaffolding harnesses and safety devices shall conform to applicable safety requirements. They shall be erected where requested by the Engineer to facilitate inspection and be moved by the Contractor to locations requested by the Engineer.

1.07 Product Delivery, Storage & Handling

- A. All materials shall be brought to the jobsite in original sealed containers. They shall not be used until the Engineer has inspected the contents and obtained data from information on containers or label. Materials exceeding storage life recommended by the manufacturer shall be rejected.
- B. All coatings and paints shall be stored in enclosed structures to protect them from weather and excessive heat or cold. Flammable coatings and paints must be stored to conform with City, County, State and Federal safety codes for flammable coating or paint materials. At all times coatings and paints shall be protected from freezing.

PART 2 PRODUCTS/MATERIALS

2.1 Acceptable Manufacturers

- A. Materials specified are those that have been evaluated for the specific service. Products of the TNEMEC Company, Inc. are listed to establish a standard of quality. Equivalent materials of other manufacturer's may be submitted on written approval of the Engineer. As part of the proof of equality, the Engineer will require at the cost of the Contractor, certified test reports from a nationally known, reputable and independent testing laboratory conducting comparative tests as directed by the Engineer between the product specified and the requested substitution.
- B. Requests for substitution shall include manufacturer's literature for each product giving name, product number, generic type, descriptive information, solids by volume, recommended dry film thickness and certified lab test reports showing results to equal the performance criteria of the products specified herein. In addition, a list of five projects shall be submitted in which each product has been used and rendered satisfactory service.
- C. All requests for product substitution shall be made at least 10 days prior to the bid date. No consideration shall be given to substitute products beyond this 10-day advance.
- D. Any material savings shall be passed to the owner in the form of a contract dollar reduction.
- E. Manufacturer's color charts shall be submitted to the Engineer at least 14 days prior to coating and/or paint application. General Contractor and Painting Contractor shall coordinate work so as to allow sufficient time (normally seven to ten days) for paint to be delivered to the job site. The colors to be used for the tank, logo background and logo lettering shall be selected by the Engineer.

2.2 General Requirements

- A. All materials shall be lead-free as defined by the Consumer Product Safety Act, Part 1303.

- B. All zinc dust pigment contained in any zinc-rich material shall meet the requirements of ASTM D 520 Type II as regards zinc content and purity.

2.3 Material Preparation

- A. Mix and thin materials according to manufacturer's latest printed instructions.
- B. Do not use materials beyond manufacturer's recommended shelf life.
- C. Do not use mixed materials beyond manufacturer's recommended pot life.

2.4 Tank Interior Coating Systems

A. Zinc/Epoxy System:

1. Surface Preparation Prior to Sandblasting: Weld flux and spatter shall be removed by power tool cleaning. Sharp projections shall be ground to a smooth contour. All welds shall be ground smooth as per NACE Standard RP178, Designation.
2. Surface Preparation: SSPC-SP10/NACE 2 Near-White Metal Blast Cleaning. A minimum angular profile of 2.0 to 2.5 mils as per ASTM D 4417, Method C or NACE Standard RP0287 is required.
3. Coating System

Prime Coat: TNEMEC Series 91-H2O Hydro-Zinc applied at 2.5 to 3.5 dry mils. Thin only with approved thinner, Tenemec 41-2 or 41-3 Thinner.

Stripe Coat: TNEMEC Series L140 Pota-Pox Plus - 15BL Tank White sprayed at 4.0 - 6.0 dry mils. Thin only with approved thinner, Tenemec 41-4 thinner.

Intermediate

Coat: TNEMEC Series L140 Pota-Pox Plus - 15BL Tank White applied at 4.0 to 6.0 mils. Thin only

with approved thinner 49.

Finish Coat: TNEMEC Series L140 Pota-Pox Plus - 15BL Tank White applied at 4.0 to 6.0 mils. Thin only with approved thinner 49.

Total dry film thickness shall be a minimum of 14.5 mils.

2.5 Tank Exterior Coating Systems

A. Zinc/Epoxy System:

1. Surface Preparation Prior to Abrasive Blast Cleaning: Weld flux and spatter shall be removed by power tool cleaning. Sharp projections shall be ground to a smooth contour. All welds shall be ground to a smooth contour as per NACE Standard SP0178, Designation D.

2. Surface Preparation: SSPC-SP10/NACE 2 Near-White Metal Blast Cleaning. A minimum angular profile of 2.0 to 2.5 mils as per ASTM D 4417, Method C or NACE Standard RP0287 is required.

3. Coating System:

Prime Coat: Tnemec Series 91-H2O Hydro-Zinc applied at 2.5 to 3.5 dry mils. Thin only with approved thinner, Tnemec 41-2 or 41-3 Thinner.

Stripe Coat: Tnemec Series N69-1255 Beige at 4.0 to 6.0 dry mils. Thin only with approved thinner, Tnemec 41-4 Thinner.

Intermediate

Coat: Tnemec Series 1095-00WH White Endura-Shield applied at 2.0 to 3.0 dry mils. Thin only with approved thinner, Tnemec 41-104 Thinner.

Finish Coat: Tnemec Series 700-15BL Tank White Hydroflon applied at 2.0 to 3.0 dry mils. Thin only with approved thinner, Tnemec

41-634 Thinner.

Total dry film thickness shall be a minimum of 10.5 mils.

Area to receive exterior coating shall be the exterior of the tank and pedestal along with the inside of the pedestal, access ladder and base.

For cold weather applications, Series 44-710 Urethane Accelerator may be added to Series 91-H₂O. For cold weather applications, use Series N69F instead of Series N69.

PART 3 EXECUTION

3.1 General

- A. All surface preparation, coating and painting shall conform to applicable standards of the Steel Structures Painting Council, NACE International and the manufacturer's printed instructions. Materials applied to the surface prior to the approval of the Engineer shall be removed and re-applied to the satisfaction of the Engineer at the expense of the contractor.
- B. All work shall be performed by skilled craftsmen qualified to perform the required work in a manner comparable with the best standards of practice. Continuity of personnel shall be coordinated with the Engineer.
- C. The Contractor shall provide a supervisor at the work site during cleaning and application operations. The supervisor shall have the authority to sign all change orders, coordinate work and make decisions pertaining to the fulfillment of the contract.
- D. Dust, dirt, oil, grease or any foreign matter that will affect the adhesion or durability of the coating or paint must be removed by washing with clean rags dipped in an approved cleaning solvent and wiped dry with clean rags.

- E. Coating and painting systems include surface preparation, prime coating and finish coatings. Unless otherwise approved in writing by the Engineer, prime coating shall be field applied. Where prime coatings are shop applied, the Contractor shall instruct suppliers to provide the prime coat compatible with the specified finish coat. Any off-site work which does not conform to this specification, is subjected to damage during transportation, construction or installation shall be thoroughly cleaned and touched-up in the field as directed by the Engineer. The Contractor shall use repair procedures which insure the complete protection of all adjacent primer. The specified repair method and equipment may include wire brushing, hand or power tool cleaning, or dry air blast cleaning. In order to prevent injury to surrounding painted surfaces, blast cleaning may require use of lower air pressure, smaller nozzle and/or abrasive blast particles, or shorter blast nozzle distances from surface shielding and masking. If damage is too extensive or uneconomical to touch-up, the entire item shall be blasted and then coated or painted as directed by the Engineer.
- F. The Contractor's coating and painting equipment shall be designed for application of materials specified and shall be maintained in first class working condition. Compressors shall have suitable traps and filters to remove water and oils from the air. Contractor's equipment shall be subject to approval of the Engineer.
- G. Application of the first coat shall follow immediately after surface preparation and cleaning, if applicable, before rust bloom occurs or the same day, whichever is less. Any cleaned areas not receiving first coat within this period shall be re-cleaned prior to application of first coat.
- H. Prior to assembly, all surfaces made inaccessible after assembly shall be prepared as specified herein and shall receive the coating or paint system specified.

3.2 Surface Preparation

- A. The latest revision of the following surface preparation specifications of the Steel Structures Painting Council (SSPC) shall form a part of this specification. The summaries listed below are for

informational purposes; consult the actual SSPC specification for full detail.

1. Solvent Cleaning (SSPC-SP1): Removal of oil, grease, soil and other contaminants by use of solvents, emulsions, cleaning compounds, steam cleaning or similar materials and methods which involve a solvent or cleaning action.
 2. Hand Tool Cleaning (SSPC-SP2): Removal of loose rust, loose mil scale and other detrimental foreign matter to a degree specified by hand chipping, scraping, sanding and wirebrushing.
 3. Power Tool Cleaning (SSPC-SP3): Removal of loose rust, loose mil scale and other detrimental foreign matter by power wirebrushing, power impact tools or power sanders.
 4. White Metal Blast Cleaning (SSPC-SP5/NACE No. 1): Air blast cleaning to a gray-white uniform metallic color until each element of surface area is free of all visible residues.
 5. Commercial Blast Cleaning (SSPC-SP6 NACE No. 3): Air blast cleaning until at least two-thirds of each element of surface area is free of all visible residues.
 6. Brush-Off Blast Cleaning (SSPC-SP7 NACE No. 4): Air blast cleaning to remove loose rust, loose mil scale and other detrimental foreign matter to a degree specified.
 7. Near-White Metal Blast Cleaning (SSPC-SP10 NACE No. 2): Air blast cleaning until at least 95% of each element of surface area is free of all visible residues.
 8. Power Tool Cleaning to Bare Metal (SSPC-SP11): Differs from SSPC-SP3 in that it requires more thorough cleaning and a surface profile not less than 1 mil.
- B. Slag, weld metal accumulation and spatters not removed by the Fabricator, Erector or Installer shall be removed by chipping and/or grinding. All sharp edges shall be peened, ground or otherwise blunted as required by the Engineer. All grinding and finishing of welds, edges, etc. shall be performed prior to solvent

cleaning and abrasive blasting. Welds shall be prepared as per NACE Standard RP0178 for all interior and exterior surfaces:

1. Butt Welds: Shall be ground smooth and free of all defects, designation "D".
 2. Lap Welds: Shall be ground smooth and blended, designation "C", excepting that visual imperfections and ripples are allowable.
 3. Fillet Welded Tee Joint: Shall be ground smooth and blended, designation "D".
- C. Field blast cleaning for all surfaces shall be by dry method unless otherwise directed. Blast nozzles shall be venturi-type nozzles with a minimum pressure at the nozzle of 90 psi.
- D. Particle size of abrasives used in blast cleaning shall be that which will produce a 1.5 - 2.5 mil (37.5 microns - 65.0 microns) surface profile or in accordance with recommendation of the manufacturer of the specified coating or paint system to be applied.
- E. Abrasive used in blast cleaning operations shall be new, washed, graded and free of contaminants that would interfere with adhesion of coating or paint and shall not be reused unless specifically approved in writing by the Engineer.
- F. During blast cleaning operations, caution shall be exercised to insure that existing coatings or paint are not exposed to abrasion from blast cleaning.
- G. The Contractor shall keep the area of his work and the surrounding environment in a clean condition. He shall not permit blasting materials to accumulate as to constitute a nuisance or hazard to the accomplishment of the work, the operation of the existing facilities or to the surrounding environment.
- H. Blast cleaned surfaces shall be cleaned prior to application of specified coatings or paint. All surfaces shall be free of dust, dirt and other residue resulting from the abrasive blasting operation.

No coatings or paint shall be applied over damp or moist surfaces.

- I. All welds shall be neutralized with a suitable chemical compatible with the specified coating or paint.
- J. Specific Surface Preparation: Surface preparation for the specific system shall be noted in Section 2.4.

3.3 NON-VISIBLE CONTAMINANTS

- A. Surface shall be checked in three locations for the presence of chlorides, free iron and sulfates. New tanks shall be tested prior to abrasive blasting, tanks being rehabilitated shall be tested prior to blasting. If blisters are present in existing tank, testing shall also be performed after abrasive blasting. These tests are an Iron Test (Fe^{2+}), Chloride Test and Sulfate Test. Testing shall be carried out as per SSPC Technology Guide 15 "Field Methods for Retrieval and Analysis of Soluble Salts on Steel and Other Nonporous Substrates". The maximum limits for these contaminants shall be:
 1. The maximum level of chlorides is 30 milligrams per square meter or 3 micrograms per square centimeter.
 2. The maximum level of sulfates is 100 milligrams per square meter or 10 micrograms per square centimeter.
 3. The maximum level of ferrous ions (Fe^{2+}) is 50 milligrams per square meter or 5 micrograms per square centimeter.
 4. Contamination levels above these limits will require washing and retesting in accordance with Item 2 (below) until the surface is under the allowable limits.
- B. If testing shows amounts present in the test solution to be greater than the limits listed herein, the Contractor shall clean the surface of the entire tank interior with a 5,000 psi water blast with fine entrained abrasive until the levels in the test solutions are below the maximum acceptable level. Alternate cleaning methods may be allowed with prior approval of the Engineer. Surface shall be reblasted as specified in 2.04 at no additional cost to the Owner.

- C. Contractor shall provide a written statement from paint manufacturer stating that the maximum acceptable levels are not less than those listed herein. Results of the testing shall be provided to the Owner before any coatings are applied.
- D. The following test kits are approved for use on this project:
 - a. Chlor*Rid Chor*Test Kit
 - b. KTA SCAT Test Kit
 - c. Test kits from other vendors shall be submitted to the Engineer for prior approval before use.
- E. When exterior coats are to be applied on subsequent days, or when the shroud is dropped between coats, the previously-applied coat of paint shall be thoroughly pressure-washed to remove any fallout and/or salt that may have settled on the surface.
- F. Within 50 miles of the coast, all exterior surfaces scheduled to be coated shall be rinsed immediately prior to the installation of coating with clean, potable water.
- G. Interior and exterior of tank shall be pressure washed prior to sand blasting.

3.4 APPLICATION, GENERAL

- A. Coating and paint application shall conform to the requirements of the Society for Protective Coatings Paint Application Specification SSPC-PA1, latest revision, for "Shop, Field and Maintenance Painting".
- B. Thinning shall be permitted only as recommended by the manufacturer and approved by the Engineer, and utilizing the thinners stated in Sections 2.04, 2.05 and 2.06.
- C. Each application of coating or paint shall be applied evenly, free of brush marks, sags, runs, with no evidence of poor workmanship. Care shall be exercised to avoid lapping on glass or hardware. Coatings and paints shall be sharply cut to lines. Finished surfaces shall be free from defects or blemishes.

- D. Contractor shall provide dehumidification for interior coating.
- E. Protective coverings or drop cloths shall be used to protect floors, fixtures and equipment. Care shall be exercised to prevent coatings or paints from being spattered onto surfaces which are not to be coated or painted. Report to the Engineer surfaces from which materials cannot be satisfactorily removed.
- G. When two coats of coating or paint are specified, where possible, the first coat shall contain sufficient approved color additive to act as an indicator of coverage or the two coats must be of contrasting color.
- G. Film thickness per coat as specified in Sections 2.04, 2.05 and 2.06 are the minimum required. If roller application is deemed necessary, the Contractor shall apply additional coats as to achieve the specified thickness.
- H. All material shall be as specified.

3.5 Application-General

- A. Coating and paint application shall conform to the requirements of the Steel Structure Painting Council Paint Application Specification SSPC-PA1, latest revision, for "Shop, Field and Maintenance Painting".
- B. Thinning shall be permitted only as recommended by the manufacturer and approved by the Engineer, and utilizing the thinners stated in Section 2.4.
- C. Each application of coating or paint shall be applied evenly, free of brush marks, sags, runs, with no evidence of poor workmanship. Care shall be exercised to avoid lapping on glass or hardware. Coatings and paints shall be sharply cut to lines. Finished surfaces shall be free from defects or blemishes.
- D. Protective coverings or drop cloths shall be used to protect floors, fixtures, and equipment. Care shall be exercised to prevent coatings or paints from being spattered onto surfaces which are not to be coated or painted. Report to the Engineer surfaces from

which materials cannot be satisfactorily removed.

- E. When two coats of coating or paint are specified, where possible, the first coat shall contain sufficient approved color additive to act as an indicator of coverage or the two coats must be of contrasting color.
- F. Film thickness per coat as specified in Section 2.4 are the minimum required. If roller application is deemed necessary, the Contractor shall apply additional coats as to achieve the specified thickness.
- G. All material shall be as specified.
- H. Tank exterior shall be washed daily prior to coating for the removal of airborne contaminants.

3.6 Coating Systems Application

- A. After completion of surface preparation as specified for the specific system, materials shall be applied as noted in Section 2.4.

3.7 Clean up

- A. Upon completion of the work, all staging, scaffolding and containers shall be removed from the site or destroyed in a manner approved by the Engineer. Coating or paint spots or oil stains upon adjacent surfaces shall be removed and the job site cleaned. All damage to surfaces resulting from the work of this section shall be cleaned, repaired and refinished to the satisfaction of the Engineer at no cost to the Owner.

3.8 Guarantee

The Contract shall guarantee the paint and painting for a period of one (1) year from the date of acceptance of the project by the Owner. This guarantee shall be filed with the Owner before final payment will be made to the Contractor. If any materials and/or workmanship prove to be defective within one year, they shall be replaced or repaired by the Contractor within thirty (30) days of written notice of

the defect.

4.0 Containment System

- A. All surfaces to be abrasive blast cleaned shall be shrouded. The shrouding shall remain in place until the painting operation is complete. During the daily blasting and coating process, the containment shall remain raised to its highest point to prevent any emission releases. The shroud shall enclose or surround the area being blasted to minimize the atmospheric entrainment of fine particulates and direct that material to a confined area for disposal. The shroud shall have overlapping seams to prevent leakage of particulates, shall extend a minimum of 15 feet (15') above the area being blasted, and shall have a shade factor of 95 percent (95%) and a control factor of 95 percent (95%) of particles 100 grit or greater.
- B. Containment plans must be designed by a licensed professional structural engineer and sealed. Plan must be submitted and approved by the Engineer before starting work.

5.0 Cathodic Protection

6.0 Contractor's Warranty

A. First-Anniversary Inspection

The first anniversary inspection shall be performed 30 days prior to the anniversary date as stated on the Acceptance Letter by the Engineer. The inspection may be performed by dive inspection, remote underwater cameras or a physical inspection as determined by the Owner. The City shall be responsible for preparing the tank and coordinating with their tank inspection Team to perform the inspection. The life of the coating system maybe extended as determined by the annual tank inspection based on the conditions identified in the inspection process.

END OF SECTION

PART 1 GENERAL

1.1 General

The work covered by this section of the specification includes all fencing at the project site. The Contractor shall furnish all materials, labor, superintendence, tools, equipment and incidentals necessary to accomplish this construction in accordance with the drawings and these specifications. All materials covered by these specifications shall be of domestic origin.

Shop drawings shall be submitted showing complete details of the proposed installation.

1.2 Measurement and Payment

Chain-link fence will be measured and paid for by the linear foot. Measurement will be along the top of the fence from center to center of end posts, including the length occupied by gates openings.

PART 2 PRODUCTS/MATERIALS

2.1 Wire Fabric

The base metal of the fabric shall be a good commercial quality of steel wire. The wire shall be woven throughout in the form of uniform square mesh. The fabric shall be knuckled at the bottom and twisted and barbed at the top. The fabric shall be 72 inches high except where otherwise shown on the drawings. The wire shall be No. 9 gauge with 2-inch mesh. The entire fabric shall be zinc coated in accordance with zinc-coated Steel Chain-Link Fence Fabric, ASTM designation A 392.

2.2 Posts, Top Rails, Gates, Braces and Fittings

Posts, top rails, gates and braces may be rolled, formed or tubular in section and shall be in accordance with ASTM Designation F 669. Fittings and appurtenances shall be in accordance with Fence Fittings, ASTM Designation F 626. End, corner and pull posts shall be 2.875" O.D. pipe

5.79 lbs. per ft., or 2.5" square, 5.70 lbs. per foot, or formed steel 3.5" by 3.5", 5.10 lbs per foot. Intermediate line posts for 6 ft. fabric shall be 2.375" O.D. pipe, 3.65 lbs. per foot, or H-section weighing at least 4.10 lbs. per foot or forged steel heavy "C" section 1.625" by 1.25", weight not less than 1.35 lbs. per foot. Weight of the zinc-coating shall be not less than 1.8 oz. per square foot. All rails, braces and fittings not galvanized shall be painted with an approved anti-corrosive paint.

2.3 Barbed Wire

Barbed wire shall be two strand twisted 12-1/2 AWS gauge galvanized steel wire with three point barbs of No. 14 AWS gauge galvanized steel wire and conforming to Zinc-Coated (Galvanized) Steel Barbed Wire, ASTM Designation A 121, Class 1.

2.4 Gates

All new gates shall be of the single leaf cantilever type or single swing type. General construction of all gates shall be as indicated on the drawings, or of similar construction as approved by the Engineer. Every gate shall be provided with a locking device suitable for pad locking. Latches for gates shall be of the fork type. Gates shall have barbed wire top when installed in fencing with barbed wire top.

2.5 Barbed Wire Fencing

Barbed wire fencing shall have red welded metal pasture gates installed as shown on the plans. Gates shall be swung from a 3-inch schedule 40 steel post set 3 feet deep and concreted in. Both the swing post and receiving post shall be set for the appropriate opening as shown on the plans.

Tee Posts shall be set on 10 foot intervals around the wells as shown on the plans. All barbed wire fencing shall be five strand barbed wire with steel corner posts with cross bracing in each corner, see Typical Detail for Corner Posts on plans. All runs shall be tight but care shall be taken to NOT over tighten the wire causing excess stress on the corner posts.

2.6 Concrete

Concrete around posts shall be adequate to maintain the posts truly plumb under the stresses imposed and shall have a 28-day compressive strength of not less than 2,500 psi.

PART 3 EXECUTION/CONSTRUCTION METHODS

3.1 General

The fence shall be constructed as specified herein, and all work shall be performed in a workman like manner satisfactory to the Engineer. The finished fence shall be plumb, taut, true to line and ground contour, and complete in every detail.

3.2 Clearing Fence Line

The site of the fence shall be sufficiently cleared of obstructions, and surface irregularities shall be graded so that the fence will conform to the general contour of the ground. The fence line shall be cleared to a minimum width of 2 feet on each side of the centerline of the fence. This clearing shall consist of the removal of all stumps, brush, rocks, trees, or other obstructions which will interfere with proper construction of the fence. Stumps within the cleared area of the fence line shall be grubbed or excavated. The bottom of the fence shall be placed a uniform distance of 2-inches above the ground.

The work shall include the handling and disposal of all material cleared, excavated, or removed, regardless of the type, character, composition, or condition of such material encountered.

3.3 Installing Posts

All posts shall be spaced not more that 10 feet apart. Terminal (end, corner, pull, and brace) and gate posts shall be set 36 inches in concrete bases. The top of the concrete bases shall be slightly above grade, trowel finished, and sloped to drain away from the posts. Holes of full depth and size for the concrete bases for posts shall be dug to the size and depth as

specified. All post settings shall be done carefully so that all posts shall be vertical and in true alignment and rigidly secured in position. Diameter of the holes shall be not less than 9-inches nor 3 times the diameter of the post.

On terminal (end, corner, pull, and brace) and gate posts, the post tops and brace rail clamps around the posts shall be placed before setting the posts in concrete bases. In setting the gate posts, great care must be taken to make sure that gate posts are set the exact distance apart as required by the gates furnished. A line drawn across from the top of one gate post to the other must be level, regardless of the grade at the ground line. If the ground is not level, the upgrade gate post shall be set first to better align proper height for the downgrade gate post. The concrete bases for end, corner, pull, brace, and gate posts shall be placed first and allowed to cure for 14 days. The concrete bases for line posts shall be allowed to cure for 7 days. Stretcher bar bands and truss bands as specified shall be spread and slipped on end, corner, pull, brace, and gate posts as the next operation. Posts tops are then inserted on all posts. No extra compensation shall be made for rock excavation. Rock excavation shall not be grounds for extension of time.

3.4 Installing Top Rails

To start the installation, a length of top rail shall be run through the first couple of post tops; a rail clamp shall be assembled on the end, corner, or gate post, as the case may be. The end of the rail already placed shall be butted into the clamp and fastened. The top rail shall be installed along the run of the fence and the various sections joined with sleeve couplings. At not more than every 100 feet an expansion coupling shall be placed to take care of expansion and contraction of the rail. The rail shall be clamped in the end, corner, or gate post at the end of the run of the installation of top rail.

3.5 Installing Braces

All horizontal braces shall be attached together with truss rods at all terminal (end, corner, and pull) and gate posts to the brace posts.

3.6 Corner Posts

Corner posts shall be placed at each horizontal angle point. Corner posts shall have braces and truss rods as specified.

3.7 Installing Fabric

The fabric shall be unrolled on the outside of the fence line with the bottom edge of the fabric against the posts. The various rolls shall be spliced by bringing the ends close together and weaving in a picket in such a way that it will engage both off the roll ends and catch with each twist each separate mesh of the end pickets of both rolls of fabric. The fabric shall be raised and tied loosely to the top rail with a temporary tie wire at intervals of about 20 feet. The fabric shall be installed by a method approved by the Engineer. One method used in given below.

- A. At end, corner, or gate posts, the stretcher bar shall be slipped through the end picket of the fabric and the stretcher bar bands at the same time. Then the bolts in the stretcher bar bands shall be tightened. Additional rolls of fabric shall be spliced and placed as the erection progresses along the fence.
- B. In long sections, the fence shall be stretched at intervals of about 100 feet. After the stretching is complete, the fabric shall be tied to the top rails with No. 9-gauge galvanized wire clips securely clinched at the back of the rail. The fastenings shall be spaced not more than 24 inches on centers for the top rail.
- C. The fabric shall be attached to the line posts with No. 9-gauge galvanized wire clips securely clinched to the back of the line posts. The fastenings shall be spaced not more than 14 inches on centers for line posts. The topmost clip shall be placed on the line posts as near the top of the fabric as possible and the lowest clip as near the bottom of the fabric as possible.
- D. At terminal (end, corner, and pull) and gate posts the fabric shall be fastened with stretcher bars and bands. The fastenings shall be spaced not more than 14 inches on centers for terminal (end, corner, and pull) and

gate posts. The topmost band shall be placed on these posts as near the top of the fabric as possible and the lowest band as near the bottom of the fabric as possible.

3.8 Installing Gates

All gates shall be hung on gate fittings as shown on the drawings. Gates shall be erected to slide or swing in the direction indicated and shall be provided with gate stops. All hardware shall be thoroughly secured, properly adjusted, and left in perfect working order. Supports and diagonal braces in gates shall be adjusted so that the gates will hang level.

END OF SECTION