



**CONTRACT
FOR
THE CONSTRUCTION OF**

Trinity River Waterwheel Initiative

City Project No. ENV22-07; Waterwheel

Mattie Parker
Mayor

David Cooke
City Manager

Cody Whittenburg
Director, Environmental Quality

Prepared for
The City of Fort Worth
Environmental Quality Division

2022



Texas Registered Engineering Firm F-290
6500 West Freeway, Suite 550
Fort Worth, TX 76116
817.887.8400



11/23/2022



City of Fort Worth

Standard Construction Specification Documents

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Technical Specifications listed below are included for this Project by reference and can be viewed/downloaded from the City's website at:

<http://fortworthtexas.gov/tpw/contractors/>

or

<https://apps.fortworthtexas.gov/ProjectResources/>

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34 71 13	Traffic Control	03/22/2021
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Technical Specifications listed below are TxDOT Specifications needed for the construction of specified work items. See TxDOT website for specifications

TxDOT Standard Specifications: Adopted by the Texas Department of Transportation November 1, 2014. Standard specifications are incorporated into the contract by reference.

Found Online at: <ftp://ftp.dot.state.tx.us/pub/txdot-info/des/spec-book-1114.pdf>

1. ITEM 360 CONCRETE PAVEMENT
2. ITEM 407 STEEL PILING
3. ITEM 416 DRILLED SHAFT FOUNDATIONS
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- GC-6.06.D Minority and Women Owned Business Enterprise Compliance
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END OF SECTION

SECTION 00 11 13
INVITATION TO BIDDERS

RECEIPT OF BIDS

Sealed bids for the construction of the Trinity River Waterwheel Initiative, Project No. ENV22-07; Waterwheel (“Project”) will be received by the City of Fort Worth Purchasing Office until 1:30 P.M. CST, Tuesday, November 29, 2022 as further described below:

City of Fort Worth
Purchasing Division
200 Texas Street
Fort Worth, Texas 76102

Bids will be accepted by: US Mail, Courier, FedEx or hand delivery at the address above;

Bids will be opened publicly and read aloud at 2:00 PM CST in the City Council Chambers.

GENERAL DESCRIPTION OF WORK

The major work will consist of the following: Work under this project includes installation of two Waterwheel Trash Interceptors at two locations on the Trinity River in Fort Worth, Texas as summarized below.

- A. Clear Fork Trinity River Site
 - 1. Supply and installation of three (3) mooring piles to secure the Waterwheel Trash Interceptor.
 - 2. Supply and installation of four (4) helical piles to secure of floating booms.
 - 3. Supply and installation of tether foundation and cables to Waterwheel.
 - 4. Supply and installation of approximately 200 feet of floating booms (contractor to verify length in the field).
 - 5. Supply and installation of the Waterwheel Trash Interceptor and connection to the mooring piles, tether foundation and floating booms.
 - 6. Supply and installation of all signs and waterway markers.
 - 7. Supply, installation and maintenance of erosion and sediment control for onshore work area(s) and turbidity curtains for work in the Trinity River.
- B. West Fork Trinity River Site
 - 1. Supply and installation of three (3) mooring piles to secure the Waterwheel Trash Interceptor.
 - 2. Supply and installation of four (4) helical piles secure of floating booms.
 - 3. Supply and installation of tether foundation and cables to Waterwheel.
 - 4. Supply and installation of approximately 300 feet of floating booms (contractor to verify length in the field).
 - 5. Supply and installation of the Waterwheel Trash Interceptor and connection to the mooring piles, tether foundation and floating booms.
 - 6. Supply and installation of all signs and waterway markers.
 - 7. Supply, installation and maintenance of erosion and sediment control for onshore work area(s) and turbidity curtains for work in the Trinity River.
- C. The Contractor shall acquire the Waterwheel Trash Interceptors and floating booms from Clearwater Mills, LLC, located at 4965 Mountain Road, Pasadena, MD 21122. No alternate or substitution will be accepted.

PREQUALIFICATION

Certain improvements included in this project may be required to be performed by a contractor or designated subcontractor who is pre-qualified by the City at the time of bid opening. The procedures for qualification and pre-qualification are outlined in the Section 3 of 00 21 13 – INSTRUCTIONS TO BIDDERS.

DOCUMENT EXAMINATION AND PROCUREMENTS

The Bidding and Contract Documents may be examined or obtained on-line by visiting the City of Fort Worth's Purchasing Division website at <http://www.fortworthtexas.gov/purchasing/> and clicking on the link to the advertised project folders on the City's electronic document management and collaboration system site. The Contract Documents may be downloaded, viewed, and printed by interested contractors and/or suppliers.

EXPRESSION OF INTEREST

To ensure potential bidders are kept up to date of any new information pertinent to this project, all interested parties are requested to email Expressions of Interest in this procurement to the City Project Manager and the Design Engineer. The email should include the company's name, contact person and that individual's email address and phone number. All Addenda will be distributed directly to those who have expressed an interest in the procurement and will also be posted in the City of Fort Worth's purchasing website at <http://fortworthtexas.gov/purchasing/>

PREBID CONFERENCE – In-person and Web Conference

A prebid conference will be held as discussed in Section 00 21 13 - INSTRUCTIONS TO BIDDERS at the following date, and time, as well as simultaneously **via a web conferencing application**:

DATE: October 1, 2022
TIME: 10:00am

Invitations with links to the web conferencing application will be distributed directly to those who have submitted an Expression of Interest.

If a prebid conference is held, the presentation and any questions and answers provided at the prebid conference will be issued as an Addendum to the call for bids. If a prebid conference is not being held, prospective bidders can e-mail questions or comments in accordance with Section 6 of the Instructions to Bidders referenced above to the project manager(s) at the e-mail addresses listed below. Emailed questions will suffice as "questions in writing." If necessary, Addenda will be issued pursuant to the Instructions to Bidders.

CITY'S RIGHT TO ACCEPT OR REJECT BIDS

City reserves the right to waive irregularities and to accept or reject any or all bids.

AWARD

City will award a contract to the Bidder presenting the lowest price, qualifications and competencies considered.

INQUIRIES

All inquiries relative to this procurement should be addressed to the following:

Attn: Eric Mason, City of Fort Worth
Email: eric.mason@fortworthtexas.gov

Phone: 817392.5456

ADVERTISEMENT DATES

September 1, 2022

September 15, 2022

END OF SECTION

SECTION 00 21 13
INSTRUCTIONS TO BIDDERS

1. Defined Terms

- 1.1. Capitalized terms used in these INSTRUCTIONS TO BIDDERS are defined in Section 00 72 00 - GENERAL CONDITIONS.
- 1.2. Certain additional terms used in these INSTRUCTIONS TO BIDDERS have the meanings indicated below which are applicable to both the singular and plural thereof.
 - 1.2.1. Bidder: Any person, firm, partnership, company, association, or corporation acting directly through a duly authorized representative, submitting a bid for performing the work contemplated under the Contract Documents.
 - 1.2.2. Nonresident Bidder: Any person, firm, partnership, company, association, or corporation acting directly through a duly authorized representative, submitting a bid for performing the work contemplated under the Contract Documents whose principal place of business is not in the State of Texas.
 - 1.2.3. Successful Bidder: The lowest responsible and responsive Bidder to whom City (on the basis of City's evaluation as hereinafter provided) makes an award.

2. Copies of Bidding Documents

- 2.1. Neither City nor Engineer shall assume any responsibility for errors or misinterpretations resulting from the Bidders use of incomplete sets of Bidding Documents.
- 2.2. City and Engineer in making copies of Bidding Documents available do so only for the purpose of obtaining Bids for the Work and do not authorize or confer a license or grant for any other use.

3. Prequalification of Bidders (Prime Contractors and Subcontractors) – Not Used

4. Examination of Bidding and Contract Documents, Other Related Data, and Site

- 4.1. Before submitting a Bid, each Bidder:
 - 4.1.1. Shall examine and carefully study the Contract Documents and other related data identified in the Bidding Documents (including "technical data" referred to in Paragraph 4.2. below). No information given by City or any representative of the City other than that contained in the Contract Documents and officially promulgated addenda thereto, shall be binding upon the City.
 - 4.1.2. Should visit the site to become familiar with and satisfy Bidder as to the general, local and site conditions that may affect cost, progress, performance or furnishing of the Work.

- 4.1.3. Shall consider federal, state and local Laws and Regulations that may affect cost, progress, performance or furnishing of the Work.
 - 4.1.4. Shall study all: (i) reports of explorations and tests of subsurface conditions at or contiguous to the Site and all drawings of physical conditions relating to existing surface or subsurface structures at the Site (except Underground Facilities) that have been identified in the Contract Documents as containing reliable "technical data" and (ii) reports and drawings of Hazardous Environmental Conditions, if any, at the Site that have been identified in the Contract Documents as containing reliable "technical data."
 - 4.1.5. Is advised that the Contract Documents on file with the City shall constitute all of the information which the City will furnish. All additional information and data which the City will supply after promulgation of the formal Contract Documents shall be issued in the form of written addenda and shall become part of the Contract Documents just as though such addenda were actually written into the original Contract Documents. No information given by the City other than that contained in the Contract Documents and officially promulgated addenda thereto, shall be binding upon the City.
 - 4.1.6. Should perform independent research, investigations, tests, borings, and such other means as may be necessary to gain a complete knowledge of the conditions which will be encountered during the construction of the project. For projects with restricted access, upon request, City may provide each Bidder access to the site to conduct such examinations, investigations, explorations, tests and studies as each Bidder deems necessary for submission of a Bid. Bidder must fill all holes and clean up and restore the site to its former conditions upon completion of such explorations, investigations, tests and studies.
 - 4.1.7. Shall determine the difficulties of the Work and all attending circumstances affecting the cost of doing the Work, time required for its completion, and obtain all information required to make a proposal. Bidders shall rely exclusively and solely upon their own estimates, investigation, research, tests, explorations, and other data which are necessary for full and complete information upon which the proposal is to be based. It is understood that the submission of a proposal or bid is prima-facie evidence that the Bidder has made the investigations, examinations and tests herein required.
 - 4.1.8. Shall promptly notify City of all conflicts, errors, ambiguities or discrepancies in or between the Contract Documents and such other related documents. The Contractor shall not take advantage of any gross error or omission in the Contract Documents, and the City shall be permitted to make such corrections or interpretations as may be deemed necessary for fulfillment of the intent of the Contract Documents.
- 4.2. Reference is made to Section 00 73 00 – Supplementary Conditions for identification of:

- 4.2.1. those reports of explorations and tests of subsurface conditions at or contiguous to the site which have been utilized by City in preparation of the Contract Documents. The logs of Soil Borings, if any, on the plans are for general information only. Neither the City nor the Engineer guarantee that the data shown is representative of conditions which actually exist.
 - 4.2.2. those drawings of physical conditions in or relating to existing surface and subsurface structures (except Underground Facilities) which are at or contiguous to the site that have been utilized by City in preparation of the Contract Documents.
 - 4.2.3. copies of such reports and drawings will be made available by City to any Bidder on request. Those reports and drawings may not be part of the Contract Documents, but the "technical data" contained therein upon which Bidder is entitled to rely as provided in Paragraph 4.02. of the General Conditions has been identified and established in Paragraph SC 4.02 of the Supplementary Conditions. Bidder is responsible for any interpretation or conclusion drawn from any "technical data" or any other data, interpretations, opinions or information.
 - 4.2.4. Standard insurance requirements, coverages and limits.
- 4.3. The submission of a Bid will constitute an incontrovertible representation by Bidder: (i) that Bidder has complied with every requirement of this Paragraph 4, (ii) that without exception the Bid is premised upon performing and furnishing the Work required by the Contract Documents and applying the specific means, methods, techniques, sequences or procedures of construction (if any) that may be shown or indicated or expressly required by the Contract Documents, (iii) that Bidder has given City written notice of all conflicts, errors, ambiguities and discrepancies in the Contract Documents and the written resolutions thereof by City are acceptable to Bidder, and when said conflicts, etc., have not been resolved through the interpretations by City as described in Paragraph 6., and (iv) that the Contract Documents are generally sufficient to indicate and convey understanding of all terms and conditions for performing and furnishing the Work.
 - 4.4. The provisions of this Paragraph 4, inclusive, do not apply to Asbestos, Polychlorinated biphenyls (PCBs), Petroleum, Hazardous Waste or Radioactive Material covered by Paragraph 4.06. of the General Conditions, unless specifically identified in the Contract Documents.

5. Availability of Lands for Work, Etc.

- 5.1. 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, construction equipment or storage of materials and equipment to be incorporated in the Work are to be obtained and paid for by Contractor. Easements for permanent structures or permanent changes in existing facilities are to be obtained and paid for by City unless otherwise provided in the Contract Documents.

- 5.2. Outstanding right-of-way, easements, and/or permits to be acquired by the City are listed in Paragraph SC 4.01 of the Supplementary Conditions. In the event the necessary right-of-way, easements, and/or permits are not obtained, the City reserves the right to cancel the award of contract at any time before the Bidder begins any construction work on the project.
- 5.3. The Bidder shall be prepared to commence construction without all executed right-of-way, easements, and/or permits, and shall submit a schedule to the City of how construction will proceed in the other areas of the project that do not require permits and/or easements.

6. Interpretations and Addenda

- 6.1. All questions about the meaning or intent of the Bidding Documents are to be directed to City in writing on or before 2 p.m., the Monday prior to the Bid opening. Questions received after this day may not be responded to. Interpretations or clarifications considered necessary by City in response to such questions will be issued by Addenda delivered to all parties recorded by City as having received the Bidding Documents. Only questions answered by formal written Addenda will be binding. Oral and other interpretations or clarifications will be without legal effect.

Address questions to:

City of Fort Worth
200 Texas Street
Fort Worth, TX 76102
Attn: Eric Mason, Environmental Quality
Email: eric.mason@fortworthtexas.gov
Phone: 817.392.5456

- 6.2. Addenda may also be issued to modify the Bidding Documents as deemed advisable by City.
- 6.3. Addenda or clarifications may be posted via the City's electronic document management and collaboration system at [<Insert Link to Documents>](#).
- 6.4. A prebid conference may be held at the time and place indicated in the Advertisement or INVITATION TO BIDDERS. Representatives of City will be present to discuss the Project. Bidders are encouraged to attend and participate in the conference. City will transmit to all prospective Bidders of record such Addenda as City considers necessary in response to questions arising at the conference. Oral statements may not be relied upon and will not be binding or legally effective.

7. Bid Security

- 7.1. Each Bid must be accompanied by a Bid Bond made payable to City in an amount of five (5) percent of Bidder's maximum Bid price, on the form attached or equivalent, issued by a surety meeting the requirements of Paragraph 5.01 of the General Conditions.

7.2. The Bid Bonds provided by a Bidder will be retained until the conditions of the Notice of Award have been satisfied. If the Successful Bidder fails to execute and return the Contract Documents within 14 days after the Notice of Award conveying same, City may consider Bidder to be in default, rescind the Notice of Award and act on the Bid Bond. Such action shall be City's exclusive remedy in the event Bidder is deemed to have defaulted.

8. Contract Times

The number of days within which, or the dates by which, Milestones are to be achieved in accordance with the General Requirements and the Work is to be completed and ready for Final Acceptance is set forth in the Agreement or incorporated therein by reference to the attached Bid Form.

9. Liquidated Damages

Provisions for liquidated damages are set forth in the Agreement.

10. Substitute and "Or-Equal" Items

The Contract, if awarded, will be on the basis of materials and equipment described in the Bidding Documents without consideration of possible substitute or "or-equal" items. Whenever it is indicated or specified in the Bidding Documents that a "substitute" or "or-equal" item of material or equipment may be furnished or used by Contractor if acceptable to City, application for such acceptance will not be considered by City until after the Effective Date of the Agreement. The procedure for submission of any such application by Contractor and consideration by City is set forth in Paragraphs 6.05A., 6.05B. and 6.05C. of the General Conditions and is supplemented in Section 01 25 00 of the General Requirements.

11. Subcontractors, Suppliers and Others

11.1. In accordance with the City's Business Equity Ordinance No.25165-10-2021 the City has goals for the participation of minority business and/or women business enterprises in City contracts \$100,000 or greater. See Section 00 45 40 for the M/WBE Project Goals and additional requirements. Failure to comply shall render the Bidder as non-responsive.

Business Equity Ordinance No.25165-10-2021, as amended (replacing Ordinance No. 24534-11-2020), codified at:
https://codelibrary.amlegal.com/codes/ftworth/latest/ftworth_tx/0-0-0-22593

11.2. No Contractor shall be required to employ any Subcontractor, Supplier, other person or organization against whom Contractor or City has reasonable objection.

12. Bid Form

12.1. The Bid Form is included with the Bidding Documents; additional copies may be obtained from the City.

- 12.2. All blanks on the Bid Form must be completed and the Bid Form signed in ink. Erasures or alterations shall be initialed in ink by the person signing the Bid Form. A Bid price shall be indicated for each Bid item, alternative, and unit price item listed therein. In the case of optional alternatives, the words "No Bid," "No Change," or "Not Applicable" may be entered. Bidder shall state the prices for which the Bidder proposes to do the work contemplated or furnish materials required. All entries shall be legible.
- 12.3. Bids by corporations shall be executed in the corporate name by the president or a vice-president or other corporate officer accompanied by evidence of authority to sign. The corporate seal shall be affixed. The corporate address and state of incorporation shall be shown below the signature.
- 12.4. Bids by partnerships shall be executed in the partnership name and signed by a partner, whose title must appear under the signature accompanied by evidence of authority to sign. The official address of the partnership shall be shown below the signature.
- 12.5. Bids by limited liability companies shall be executed in the name of the firm by a member and accompanied by evidence of authority to sign. The state of formation of the firm and the official address of the firm shall be shown.
- 12.6. Bids by individuals shall show the Bidder's name and official address.
- 12.7. Bids by joint ventures shall be executed by each joint venture in the manner indicated on the Bid Form. The official address of the joint venture shall be shown.
- 12.8. All names shall be typed or printed in ink below the signature.
- 12.9. The Bid shall contain an acknowledgement of receipt of all Addenda, the numbers of which shall be filled in on the Bid Form.
- 12.10. Postal and e-mail addresses and telephone number for communications regarding the Bid shall be shown.
- 12.11. Evidence of authority to conduct business as a Nonresident Bidder in the state of Texas shall be provided in accordance with Section 00 43 37 – Vendor Compliance to State Law Non Resident Bidder.

13. Submission of Bids

Bids shall be submitted on the prescribed Bid Form, provided with the Bidding Documents, at the time and place indicated in the Advertisement or INVITATION TO BIDDERS, addressed to Purchasing Manager of the City, and shall be enclosed in an opaque sealed envelope, marked with the City Project Number, Project title, the name and address of Bidder, and accompanied by the Bid security and other required documents. If the Bid is sent through the mail or other delivery system, the sealed envelope shall be enclosed in a separate envelope with the notation "BID ENCLOSED" on the face of it.

14. Withdrawal of Bids

- 14.1. Bids addressed to the Purchasing Manager and filed with the Purchasing Office may be withdrawn prior to the time set for bid opening. A request for withdrawal must be made in writing and delivered to the Purchasing Office to receive a time stamp prior to the opening of Bids. A timely withdrawn bid will be returned to the Bidder or, if the request is within one hour of bid opening, will not be read aloud and will thereafter be returned unopened.
- 14.2. In the event any Bid for which a withdrawal request has been timely filed has been inadvertently opened, said Bid and any record thereof will subsequently be marked “Withdrawn” and will be given no further consideration for the award of contract.

15. Opening of Bids

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 after the opening of Bids.

16. Bids to Remain Subject to Acceptance

All Bids will remain subject to acceptance for a minimum of 90 days or the time period specified for Notice of Award and execution and delivery of a complete Agreement by Successful Bidder. City may, at City's sole discretion, release any Bid and nullify the Bid security prior to that date.

17. Evaluation of Bids and Award of Contract

- 17.1. City reserves the right to reject any or all Bids, including without limitation the rights to reject any or all nonconforming, nonresponsive, unbalanced or conditional Bids and to reject the Bid of any Bidder if City believes that it would not be in the best interest of the Project to make an award to that Bidder. City reserves the right to waive informalities not involving price, contract time or changes in the Work and award a contract to such Bidder. Discrepancies between 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. Discrepancies between words and figures will be resolved in favor of the words.
 - 17.1.1. Any or all bids will be rejected if City has reason to believe that collusion exists among the Bidders, Bidder is an interested party to any litigation against City, City or Bidder may have a claim against the other or be engaged in litigation, Bidder is in arrears on any existing contract or has defaulted on a previous contract, Bidder has performed a prior contract in an unsatisfactory manner, or Bidder has uncompleted work which in the judgment of the City will prevent or hinder the prompt completion of additional work if awarded.

- 17.2. In addition to Bidder's relevant prequalification requirements, City may consider the qualifications and experience of Subcontractors, Suppliers, and other persons and organizations proposed for those portions of the Work where the identity of such Subcontractors, Suppliers, and other persons and organizations must be submitted as provided in the Contract Documents or upon the request of the City. City 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.
- 17.3. City may conduct such investigations as City 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 City's satisfaction within the prescribed time.
- 17.4. Contractor shall perform with his own organization, work of a value not less than 35% of the value embraced on the Contract, unless otherwise approved by the City.
- 17.5. If the Contract is to be awarded, it will be awarded to lowest responsible and responsive Bidder whose evaluation by City indicates that the award will be in the best interests of the City.
- 17.6. Pursuant to Texas Government Code Chapter 2252.001, the City will not award contract to a Nonresident Bidder unless the Nonresident Bidder's bid is lower than the lowest bid submitted by a responsible Texas Bidder by the same amount that a Texas resident bidder would be required to underbid a Nonresident Bidder to obtain a comparable contract in the state in which the nonresident's principal place of business is located.
- 17.7. A contract is not awarded until formal City Council authorization. If the Contract is to be awarded, City will award the Contract within 90 days after the day of the Bid opening unless extended in writing. No other act of City or others will constitute acceptance of a Bid. Upon the contract award, a Notice of Award will be issued by the City.
 - 17.7.1. **The contractor is required to fill out and sign the Certificate of Interested Parties Form 1295 and the form must be submitted to the Project Manager before the contract will be presented to the City Council. The form can be obtained at <https://www.ethics.state.tx.us/data/forms/1295/1295.pdf>**
- 17.8. Failure or refusal to comply with the requirements may result in rejection of Bid.

18. Signing of Agreement

- 18.1. When City issues a Notice of Award to the Successful Bidder, it will be accompanied by the required number of unsigned counterparts of the Project Manual. Within 14 days thereafter, Contractor shall sign and deliver the required number of counterparts of the Project Manual to City with the required Bonds, Certificates of Insurance, and all other required documentation.

18.2. City shall thereafter deliver one fully signed counterpart to Contractor.

END OF SECTION

SECTION 00 35 13
CONFLICT OF INTEREST STATEMENT

Each bidder, offeror or respondent to a City of Fort Worth procurement is required to complete a Conflict of Interest Questionnaire or certify that one is current and on file with the City Secretary's Office pursuant to state law.

If a member of the Fort Worth City Council, any one or more of the City Manager or Assistant City Managers, or an agent of the City who exercise discretion in the planning, recommending, selecting or contracting with a bidder, offeror or respondent is affiliated with your company, then a Local Government Officer Conflicts Disclosure Statement (CIS) may be required.

You are urged to consult with counsel regarding the applicability of these forms and Local Government Code Chapter 176 to your company.

The referenced forms may be downloaded from the links provided below.

[Form CIQ \(Conflict of Interest Questionnaire\) \(state.tx.us\)](http://state.tx.us)

<https://www.ethics.state.tx.us/data/forms/conflict/CIS.pdf>

- CIQ Form does not apply
- CIQ Form is on file with City Secretary
- CIQ Form is being provided to the City Secretary
- CIS Form does not apply
- CIS Form is on File with City Secretary
- CIS Form is being provided to the City Secretary

BIDDER:

By:

Signature: _____

Title:

END OF SECTION

SECTION 00 41 00
BID FORM

TO: The Purchasing Manager
c/o: The Purchasing Division
200 Texas Street
City of Fort Worth, Texas 76102

FOR: Trinity River Waterwheel Initiative

City Project No.: **ENV22-07; Waterwheel**

Units/Sections:

1. Enter Into Agreement

The undersigned Bidder proposes and agrees, if this Bid is accepted, to enter into an Agreement with City in the form included in the Bidding Documents to perform and furnish all Work as specified or indicated in the Contract Documents for the Bid Price and within the Contract Time indicated in this Bid and in accordance with the other terms and conditions of the Contract Documents.

2. BIDDER Acknowledgements and Certification

- 2.1. In submitting this Bid, Bidder accepts all of the terms and conditions of the INVITATION TO BIDDERS and INSTRUCTIONS TO BIDDERS, including without limitation those dealing with the disposition of Bid Bond.
- 2.2. Bidder is aware of all costs to provide the required insurance, will do so pending contract award, and will provide a valid insurance certificate meeting all requirements within 14 days of notification of award.
- 2.3. Bidder certifies that this Bid is genuine and not made in the interest of or on behalf of any undisclosed individual or entity and is not submitted in conformity with any collusive agreement or rules of any group, association, organization, or corporation.
- 2.4. Bidder has not directly or indirectly induced or solicited any other Bidder to submit a false or sham Bid.
- 2.5. Bidder has not solicited or induced any individual or entity to refrain from bidding.
- 2.6. Bidder has not engaged in corrupt, fraudulent, collusive, or coercive practices in competing for the Contract. For the purposes of this Paragraph:
 - a. "corrupt practice" means the offering, giving, receiving, or soliciting of any thing of value likely to influence the action of a public official in the bidding process.
 - b. "fraudulent practice" means an intentional misrepresentation of facts made (a) to influence the bidding process to the detriment of City (b) to establish Bid prices at artificial non-competitive levels, or (c) to deprive City of the benefits of free and open competition.
 - c. "collusive practice" means a scheme or arrangement between two or more Bidders, with or without the knowledge of City, a purpose of which is to establish Bid prices at artificial, non-competitive levels.

- d. "coercive practice" means harming or threatening to harm, directly or indirectly, persons or their property to influence their participation in the bidding process or affect the execution of the Contract.

3. Prequalification

The Bidder acknowledges that the following work types must be performed only by prequalified contractors and subcontractors:

- a. -
- b. -
- c. -
- d. -
- e. -
- f. -
- g. -
- h. -

4. Time of Completion

- 4.1. The Work will be complete for Final Acceptance within _____ days after the date when the the Contract Time commences to run as provided in Paragraph 2.03 of the General Conditions.
- 4.2. Bidder accepts the provisions of the Agreement as to liquidated damages in the event of failure to complete the Work {and/or achievement of Milestones} within the times specified in the Agreement.

5. Attached to this Bid

The following documents are attached to and made a part of this Bid:

- a. This Bid Form, Section 00 41 00
- b. Required Bid Bond, Section 00 43 13 issued by a surety meeting the requirements of Paragraph 5.01 of the General Conditions.
- c. Proposal Form, Section 00 42 43
- d. Vendor Compliance to State Law Non Resident Bidder, Section 00 43 37
- e. MWBE Forms (optional at time of bid)
- f. Prequalification Statement, Section 00 45 12
- g. Conflict of Interest Affidavit, Section 00 35 13
*If necessary, CIQ or CIS forms are to be provided directly to City Secretary
- h. Any additional documents that may be required by Section 12 of the Instructions to Bidders

6. Total Bid Amount

- 6.1. Bidder will complete the Work in accordance with the Contract Documents for the following bid amount. In the space provided below, please enter the total bid amount for this project. Only this figure will be read publicly by the City at the bid opening.
- 6.2. It is understood and agreed by the Bidder in signing this proposal that the total bid amount entered below is subject to verification and/or modification by multiplying the unit bid prices for each pay item by the respective estimated quantities shown in this proposal and then totaling all of the extended amounts.

6.3. Evaluation of Alternate Bid Items

Total Base Bid	\$0.00
Alternate Bid A - West Fork Only	\$0.00
Alternate Bid B - Clear Fork Only	\$0.00
Total Bid	\$0.00

7. Bid Submittal

This Bid is submitted on _____ by the entity named below.

Respectfully submitted,

By: _____
 (Signature)

(Printed Name)

Receipt is acknowledged of the following Addenda:	Initial
Addendum No. 1:	
Addendum No. 2:	
Addendum No. 3:	
Addendum No. 4:	

Title:

Company:

Corporate Seal:

Address:

State of Incorporation:

Email:

Phone:

END OF SECTION

SECTION 00 42 43
PROPOSAL FORM

UNIT PRICE BID

Bidder's Application

Project Item Information					Bidder's Proposal	
Unit 1 - Both Sites						
Bidlist Item No.	Description	Specification Section No.	Unit of Measure	Bid Quantity	Unit Price	Bid Value
1	Supply and Installation of Waterwheel Trash Interceptor - West Fork	Drawings	EA	1		\$0.00
2	Supply and Installation of Waterwheel Trash Interceptor - Clear Fork	Drawings	EA	1		\$0.00
3	Supply and Installation of approximately 200 feet of Floating Booms - Clear Fork	Drawings	EA	1		\$0.00
4	Supply and Installation of approximately 300 feet of Floating Booms - West Fork	Drawings	EA	1		\$0.00
5	Supply and Installation of Helical Piles - West Fork	Drawings	EA	4		\$0.00
6	Supply and Installation of Helical Piles - Clear Fork	Drawings	EA	4		\$0.00
7	Supply and Installation of Mooring Piles - West Fork	Drawings	EA	3		\$0.00
8	Supply and Installation of Mooring Piles - Clear Fork	Drawings	EA	3		\$0.00
9	Supply and Installation of Tether Foundation and Cables - West Fork	Drawings	EA	1		\$0.00
10	Supply and Installation of Tether Foundation and Cables - Clear Fork	Drawings	EA	1		\$0.00
11	Site Clearing - West Fork	31 10 00	LS	1		\$0.00
12	Site Clearing - Clear Fork	31 10 00	LS	1		\$0.00
13	Sodding - West Fork	32 92 13	SY	150		\$0.00
14	Sodding - Clear Fork	32 92 13	SY	200		\$0.00
15	Unclassified Excavation - West Fork	Drawings 31 23 16	CY	150		\$0.00
16	Unclassified Excavation - Clear Fork	Drawings 31 23 16	CY	250		\$0.00
17	Rirap - West Fork	31 37 00	CY	50		\$0.00
18	Rirap - Clear Fork	31 37 00	CY	50		\$0.00
19	Supply, installation, and maintenance of Erosion and Sediment Control and Turbidity Curtains - West Fork	Drawings, 31 25 00	EA	1		\$0.00

20	Supply, installation, and maintenance of Erosion and Sediment Control and Turbidity Curtains - Clear Fork	Drawings, 31 25 00	EA	1		\$0.00
21	Supply and Installation of Signage and Waterway Markers - West Fork	Drawings, 01 58 13	EA	1		\$0.00
22	Supply and Installation of Signage and Waterway Markers - Clear Fork	Drawings, 01 58 13	EA	1		\$0.00
Total Unit 1 -						\$0.00
Unit 2 - West Fork Site Only						
1	Supply and Installation of Waterwheel Trash Interceptor - West Fork	Drawings	EA	1		\$0.00
2	Supply and Installation of approximately 300 feet of Floating Booms	Drawings	EA	1		\$0.00
3	Supply and Installation of Helical Piles	Drawings	EA	4		\$0.00
4	Supply and Installation of Mooring Piles	Drawings	EA	3		\$0.00
5	Supply and Installation of Tether Foundation and Cables	Drawings	EA	1		\$0.00
6	Site Clearing	31 10 00	LS	1		\$0.00
7	Sodding	32 92 13	SY	150		\$0.00
8	Riprap	31 37 00	CY	50		\$0.00
9	Unclassified Excavation	Drawings 31 23 16	CY	150		\$0.00
10	Supply, installation, and maintenance of Erosion and Sediment Control and Turbidity Curtains	Drawings, 31 25 00	EA	1		\$0.00
11	Supply and Installation of Signage and Waterway Markers	Drawings, 01 58 13	EA	1		\$0.00
Total Unit 2 -						\$0.00
Unit 3 - Clear Fork Only						
1	Supply and Installation of Waterwheel Trash Interceptor - West Fork	Drawings	EA	1		\$0.00
2	Supply and Installation of approximately 200 feet of Floating Booms	Drawings	EA	1		\$0.00
3	Supply and Installation of Helical Piles	Drawings	EA	4		\$0.00
4	Supply and Installation of Mooring Piles	Drawings	EA	3		\$0.00
5	Supply and Installation of Tether Foundation and Cables	Drawings	EA	1		\$0.00
6	Site Clearing	31 10 00	LS	1		\$0.00
7	Sodding	32 92 13	SY	200		\$0.00

8	Rirap	31 37 00	CY	50		\$0.00
9	Supply, installation, and maintenance of Erosion and Sediment Control and Turbidity Curtains	Drawings, 31 25 00	EA	1		\$0.00
10	Supply and Installation of Signage and Waterway Markers	Drawings, 01 58 13	EA	1		\$0.00
11	Unclassified Excavation	Drawings 31 23 16	CY	250		\$0.00
Total Unit 3 -						\$0.00

* Total Unit 1: \$ \$0.00

*Total Unit 2: \$ \$0.00

*Total Unit 3: \$ \$0.00

*Note: The City Reserves the right to select either Total Unit 1, Total Unit 2 or Total Unit 3

END OF SECTION

SECTION 00 43 13
BID BOND

KNOW ALL BY THESE PRESENTS:

That we, _____, known as
"Bidder" herein and _____ a corporate surety
duly authorized to do business in the State of Texas, known as "Surety" herein, are held and firmly bound unto the City
of Fort Worth, a municipal corporation created pursuant to the laws of Texas, known as "City" herein, in the penal sum
of **five percent (5%) of Bidder's maximum bid price**, in lawful money of the United States, to be paid in Fort Worth,
Tarrant County, Texas for the payment of which sum well and truly to be made, we bind ourselves, our heirs, executors,
administrators, successors and assigns, jointly and severally, firmly by these presents.

WHEREAS, the Principal has submitted a bid or proposal to perform Work for the following project
designated as _____ Trinity River Waterwheel Initiative

NOW, THEREFORE, the condition of this obligation is such that if the City shall award
the Contract for the foregoing project to the Principal, and the Principal shall satisfy all requirements and conditions
required for the execution of the Contract and shall enter into the Contract in writing with the City in accordance with the
terms of such same, then this obligation shall be and become null and void. If, however, the Principal fails to execute
such Contract in accordance with the terms of same or fails to satisfy all requirements and conditions required for the
execution of the Contract, this bond shall become the property of the City, without recourse of the Principal and/or
Surety, not to exceed the penalty hereof, and shall be used to compensate City for the difference between Principal's
total bid amount and the next selected bidder's total bid amount.

PROVIDED FURTHER, that if any legal action be filed on this Bond, venue shall lie in Tarrant County,
Texas or the United States District Court for the Northern District of Texas, Fort Worth Division.

IN WITNESS WHEREOF, the Principal and the Surety have SIGNED and SEALED this instrument by
duly authorized agents and officers on this the _____ day of _____, 2022.

PRINCIPAL:

BY:

Signature

ATTEST:

Witness as to Principal

Name and Title

Address: _____

SURETY: _____

BY: _____
Signature

Name and Title

Address: _____

Witness as to Surety

Telephone Number: _____

Attach Power of Attorney (Surety) for Attorney-in-Fact

*Note: If signed by an officer of the Surety Company, there must be on file a certified extract from the by laws showing that this person has authority to sign such obligation. If Surety's physical address is different from its mailing address, both must be provided. The date of the bond shall not be prior to the date the Contract is awarded.

END OF SECTION

SECTION 00 43 37
VENDOR COMPLIANCE TO STATE LAW NON RESIDENT BIDDER

Texas Government Code Chapter 2252 was adopted for the award of contracts to nonresident bidders. This law provides that, in order to be awarded a contract as low bidder, nonresident bidders (out-of-state contractors whose corporate offices or principal place of business are outside the State of Texas) bid projects for construction, improvements, supplies or services in Texas at an amount lower than the lowest Texas resident bidder by the same amount that a Texas resident bidder would be required to underbid a nonresident bidder in order to obtain a comparable contract in the State which the nonresident's principal place of business is located.

The appropriate blanks in Section A must be filled out by all nonresident bidders in order for your bid to meet specifications. The failure of nonresident bidders to do so will automatically disqualify that bidder. Resident bidders must check the box in Section B.

A. Nonresident bidders in the State of _____, our principal place of business, are required to be _____ percent lower than resident bidders by State Law. A copy of the statute is attached.

Nonresident bidders in the State of _____, our principal place of business, are not required to underbid resident bidders.

B. The principal place of business of our company or our parent company or majority owner is in the State of Texas.

BIDDER:

By:

(Signature)

Title:

Date: _____

END OF SECTION

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SECTION 00 45 26

CONTRACTOR COMPLIANCE WITH WORKER'S COMPENSATION LAW

Pursuant to Texas Labor Code Section 406.096(a), as amended, Contractor certifies that it provides worker's compensation insurance coverage for all of its employees employed on City Project No. ENV22-07; Waterwheel. Contractor further certifies that, pursuant to Texas Labor Code, Section 406.096(b), as amended, it will provide to City its subcontractor's certificates of compliance with worker's compensation coverage.

CONTRACTOR:

Company By: _____
(Please Print)

Address Signature: _____

City/State/Zip Title: _____
(Please Print)

THE STATE OF TEXAS §
COUNTY OF TARRANT §

BEFORE ME, the undersigned authority, on this day personally appeared _____, known to me to be the person whose name is subscribed to the foregoing instrument, and acknowledged to me that he/she executed the same as the act and deed of _____ for the purposes and consideration therein expressed and in the capacity therein stated.

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

Notary Public in and for the State of Texas

END OF SECTION

1 **SECTION 00 45 40**
2 **Business Equity Goal**

3
4 **APPLICATION OF POLICY**

5 If the total dollar value of the contract is \$100,000 or more, then a Business Equity goal is applicable.

6 **A Business Equity Firm refers to certified Minority-, and/or Women-, owned Business Enterprises**
7 **(M/WBEs).**

8
9 **POLICY STATEMENT**

10 It is the policy of the City of Fort Worth to ensure the full and equitable participation of Business Equity
11 Firms when applicable, in the procurement of all goods and services. All requirements and regulations
12 stated in the City's Business Equity Ordinance No.25165-10-2021, (replacing Ordinance No. 24534-11-
13 2020 (codified at: https://codelibrary.amlegal.com/codes/ftworth/latest/ftworth_tx/0-0-0-22593) apply to
14 this bid.

15
16 **BUSINESS EQUITY PROJECT GOAL**

17 The City's Business Equity goal on this project is **16%** of the total bid value of the contract (*Base bid*
18 *applies to Parks and Community Services*).

19
20 **METHODS TO COMPLY WITH THE GOAL**

21 On City contracts where a Business Equity Goal is applied, offerors are required to comply with the City's
22 Business Equity Ordinance by meeting or exceeding the above stated goal or otherwise comply with the
23 ordinance through one of the following methods: **1. Commercially useful services performed by a**
24 **Business Equity prime contractor, 2. Business Equity subcontracting participation, 3. Combination**
25 **of Business Equity prime services and Business Equity subcontracting participation, 4. Business**
26 **Equity Joint Venture/Mentor-Protégé participation, 5. Good Faith Effort documentation, or 6.**
27 **Prime contractor Waiver documentation.**

28
29 **SUBMITTAL OF REQUIRED DOCUMENTATION**

30 Applicable documents (listed below) must be received by the Purchasing Division, OR the offeror shall
31 **EMAIL** the Business Equity documentation to the assigned City of Fort Worth Project Manager or
32 Department Designee. **Documents are to be received no later than 2:00 p.m., on the third City**
33 **business day after the bid opening date, exclusive of the bid opening date.**

34
35 The Offeror must submit one or more of the following documents:

- 36 1. **Utilization Form and Letter(s) of Intent**, if the goal is met or exceeded;
37 2. **Good Faith Effort Form and Utilization Form**, including supporting documentation, if
38 participation is less than stated goal, or no Business Equity participation is accomplished;
39 3. **Prime Contractor Waiver Form**, including supporting documentation, if the Offeror will perform
40 all subcontracting/supplier opportunities; or
41 4. **Joint Venture/Mentor-Protégé Form**, if goal is met or exceeded with a Joint Venture or Mentor-
42 Protégé participation.

43
44 **These forms can be found at:**

45 Business Equity Utilization Form and Letter of Intent

46 [https://apps.fortworthtexas.gov/ProjectResources/ResourcesP/60 - MWBE/Business Equity Utilization](https://apps.fortworthtexas.gov/ProjectResources/ResourcesP/60 - MWBE/Business Equity Utilization Form_DVIN 2022 220324.pdf)
47 [Form_DVIN 2022 220324.pdf](https://apps.fortworthtexas.gov/ProjectResources/ResourcesP/60 - MWBE/Business Equity Utilization Form_DVIN 2022 220324.pdf)

1 Letter of Intent

2 https://apps.fortworthtexas.gov/ProjectResources/ResourcesP/60 - MWBE/Letter of Intent_DVIN
3 [2021.pdf](https://apps.fortworthtexas.gov/ProjectResources/ResourcesP/60 - MWBE/Letter of Intent_DVIN)

4
5 Business Equity Good Faith Effort Form

6 <https://apps.fortworthtexas.gov/ProjectResources/ResourcesP/60 - MWBE/Good Faith Effort>
7 [Form_DVIN 2022.pdf](https://apps.fortworthtexas.gov/ProjectResources/ResourcesP/60 - MWBE/Good Faith Effort)

8
9 Business Equity Prime Contractor Waiver Form

10 <https://apps.fortworthtexas.gov/ProjectResources/ResourcesP/60 - MWBE/MWBE Prime Contractor>
11 [Waiver-220313.pdf](https://apps.fortworthtexas.gov/ProjectResources/ResourcesP/60 - MWBE/MWBE Prime Contractor)

12
13 Business Equity Joint Venture Form

14 <https://apps.fortworthtexas.gov/ProjectResources/ResourcesP/60 - MWBE/MWBE Joint>
15 [Venture_220225.pdf](https://apps.fortworthtexas.gov/ProjectResources/ResourcesP/60 - MWBE/MWBE Joint)

16
17
18 **FAILURE TO ACHIEVE THE GOAL OR OTHERWISE COMPLY WITH THE ORDINANCE WILL**
19 **RESULT IN THE BIDDER/OFFEROR BEING DECLARED NON-RESPONSIVE AND THE BID**
20 **REJECTED.**

21
22
23 **FAILURE TO SUBMIT THE REQUIRED BUSINESS EQUITY DOCUMENTATION OR OTHERWISE**
24 **COMPLY WITH THE ORDINANCE WILL RESULT IN THE BID BEING DECLARED NON-**
25 **RESPONSIVE, THE BID REJECTED AND MAY SUBJECT THE BIDDER/OFFEROR TO SANCTIONS**
26 **AS DESCRIBED IN SEC. 20-373 OF THE ORDINANCE.**

27
28 **For Questions, Please Contact The Business Equity Division of the Department of Diversity and**
29 **Inclusion at (817) 392-2674.**

30 **END OF SECTION**

31

SECTION 00 52 43
AGREEMENT

THIS AGREEMENT, authorized on _____, is made by and between the City of Fort Worth, a Texas home rule municipality, acting by and through its duly authorized City Manager, (“City”), and _____, authorized to do business in Texas, acting by and through its duly authorized representative, (“Contractor”). City and Contractor may jointly be referred to as Parties.

City and Contractor, in consideration of the mutual covenants hereinafter set forth, agree as follows:

Article 1. WORK

Contractor shall complete all Work as specified or indicated in the Contract Documents for the Project identified herein.

Article 2. PROJECT

The project for which the Work under the Contract Documents may be the whole or only a part is generally described as follows:

Project Name - Trinity River Waterwheel Initiative

Project Number - ENV22-07; Waterwheel

Article 3. CONTRACT PRICE

City agrees to pay Contractor for performance of the Work in accordance with the Contract Documents an amount, in current funds, of _____ Dollars (\$ _____). Contract price may be adjusted by change orders duly authorized by the Parties.

Article 4. CONTRACT TIME

4.1 Final Acceptance.

The Work shall be complete for Final Acceptance within _____ days after the date when the Contract Time commences to run, as provided in Paragraph 2.02 of the General Conditions, plus any extension thereof allowed in accordance with Article 12 of the General Conditions.

4.2 Liquidated Damages

Contractor recognizes that *time is of the essence* for completion of Milestones, if any, and to achieve Final Acceptance of the Work and City and the public will suffer from loss of use if the Work is not completed within the time(s) specified in Paragraph 4.1 above. The Contractor also recognizes the delays, expense and difficulties involved in proving in a legal proceeding, the actual loss suffered by the City if the Work is not completed on time. Accordingly, instead of requiring any such proof, Contractor agrees that as liquidated damages for delay (but not as a penalty), Contractor shall pay City _____ Dollars (\$ _____) for each day that expires after the time specified in Paragraph 4.1 for Final Acceptance until the City issues the Final Letter of Acceptance.

Article 5. CONTRACT DOCUMENTS

5.1 CONTENTS:

- A. The Contract Documents which comprise the entire agreement between City and Contractor concerning the Work consist of the following:
1. This Agreement.
 2. Attachments to this Agreement:
 - a. Bid Form
 - 1) Proposal Form
 - 2) Vendor Compliance to State Law Non-Resident Bidder
 - 3) Prequalification Statement
 - 4) State and Federal documents (*project specific*)
 - b. Current Prevailing Wage Rate Table
 - c. Insurance ACORD Form(s)
 - d. Payment Bond
 - e. Performance Bond
 - f. Maintenance Bond
 - g. Power of Attorney for the Bonds
 - h. Worker's Compensation Affidavit
 - i. MBE and/or SBE Utilization Form
 3. General Conditions.
 4. Supplementary Conditions.
 5. Specifications specifically made a part of the Contract Documents by attachment or, if not attached, as incorporated by reference and described in the Table of Contents of the Project's Contract Documents.
 6. Drawings.
 7. Addenda.
 8. Documentation submitted by Contractor prior to Notice of Award.
 9. The following which may be delivered or issued after the Effective Date of the Agreement and, if issued, become an incorporated part of the Contract Documents:
 - a. Notice to Proceed.
 - b. Field Orders.
 - c. Change Orders.
 - d. Letter of Final Acceptance.

Article 6. INDEMNIFICATION

- 6.1 Contractor covenants and agrees to indemnify, hold harmless and defend, at its own expense, the city, its officers, servants and employees, from and against any and all claims arising out of, or alleged to arise out of, the work and services to be performed by the contractor, its officers, agents, employees, subcontractors, licenses or invitees under this contract. This indemnification provision is specifically intended to operate and be effective even if it is alleged or proven that all or some of the damages being sought were caused, in whole or in part, by any act, omission or negligence of the city. This indemnity provision is intended to include, without limitation, indemnity for costs, expenses and legal fees incurred by the city in defending against such claims and causes of actions.**

- 6.2 Contractor covenants and agrees to indemnify and hold harmless, at its own expense, the city, its officers, servants and employees, from and against any and all loss, damage or destruction of property of the city, arising out of, or alleged to arise out of, the work and services to be performed by the contractor, its officers, agents, employees, subcontractors, licensees or invitees under this contract. This indemnification provision is specifically intended to operate and be effective even if it is alleged or proven that all or some of the damages being sought were caused, in whole or in part, by any act, omission or negligence of the city.**

Article 7. MISCELLANEOUS

7.1 Terms.

Terms used in this Agreement which are defined in Article 1 of the General Conditions will have the meanings indicated in the General Conditions.

7.2 Assignment of Contract.

This Agreement, including all of the Contract Documents may not be assigned by the Contractor without the advanced express written consent of the City.

7.3 Successors and Assigns.

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

7.4 Severability/Non-Waiver of Claims.

Any provision or part of the Contract Documents held to be unconstitutional, void or unenforceable by a court of competent jurisdiction shall be deemed stricken, and all remaining provisions shall continue to be valid and binding upon City and Contractor.

The failure of City or Contractor to insist upon the performance of any term or provision of this Agreement or to exercise any right granted herein shall not constitute a waiver of City's or Contractor's respective right to insist upon appropriate performance or to assert any such right on any future occasion.

7.5 Governing Law and Venue.

This Agreement, including all of the Contract Documents is performable in the State of Texas. Venue shall be Tarrant County, Texas, or the United States District Court for the Northern District of Texas, Fort Worth Division.

7.6 Authority to Sign.

Contractor shall attach evidence of authority to sign Agreement if signed by someone other than the duly authorized signatory of the Contractor.

7.7 Non-appropriation of Funds.

In the event no funds or insufficient funds are appropriated by City in any fiscal period for any payments due hereunder, City will notify Vendor of such occurrence and this Agreement shall terminate on the last day of the fiscal period for which appropriations were received without penalty or expense to City of any kind whatsoever, except as to the portions of the payments herein agreed upon for which funds have been appropriated.

7.8 Prohibition On Contracts With Companies Boycotting Israel.

Contractor, unless a sole proprietor, acknowledges that in accordance with Chapter 2271 of the Texas Government Code, if Contractor has 10 or more full time-employees and the contract value is \$100,000 or more, the City is prohibited from entering into a contract with a company for goods or services unless the contract contains a written verification from the company that it: (1) does not boycott Israel; and (2) will not boycott Israel during the term of the contract. The terms “boycott Israel” and “company” shall have the meanings ascribed to those terms in Section 808.001 of the Texas Government Code. **By signing this contract, Contractor certifies that Contractor’s signature provides written verification to the City that if Chapter 2271, Texas Government Code applies, Contractor: (1) does not boycott Israel; and (2) will not boycott Israel during the term of the contract.**

7.9 Prohibition on Boycotting Energy Companies.

Contractor acknowledges that in accordance with Chapter 2274 of the Texas Government Code-(as added by Acts 2021, 87th Leg., R.S., S.B. 13, § 2), the City is prohibited from entering into a contract for goods or services that has a value of \$100,000 or more, which will be paid wholly or partly from public funds of the City, with a company (with 10 or more full-time employees) unless the contract contains a written verification from the company that it: (1) does not boycott energy companies; and (2) will not boycott energy companies during the term of the contract. The terms “boycott energy company” and “company” have the meaning ascribed to those terms by Chapter 2274 of the Texas Government Code (as added by Acts 2021, 87th Leg., R.S., S.B. 13, § 2). **To the extent that Chapter 2274 of the Government Code is applicable to this Agreement, by signing this Agreement, Contractor certifies that Contractor’s signature provides written verification to the City that Contractor: (1) does not boycott energy companies; and (2) will not boycott energy companies during the term of this Agreement.**

7.10 Prohibition on Discrimination Against Firearm and Ammunition Industries.

Contractor acknowledges that except as otherwise provided by Chapter 2274 of the Texas Government Code (as added by Acts 2021, 87th Leg., R.S., S.B. 19, § 1), the City is prohibited from entering into a contract for goods or services that has a value of \$100,000 or more which will be paid wholly or partly from public funds of the City, with a company (with 10 or more full-time employees) unless the contract contains a written verification from the company that it: (1) does not have a practice, policy, guidance, or directive that discriminates against a firearm entity or firearm trade association; and (2) will not discriminate during the term of the contract against a firearm entity or firearm trade association. The terms “discriminate,” “firearm entity” and “firearm trade association” have the meaning ascribed to those terms by Chapter 2274 of the Texas Government Code (as added by Acts 2021, 87th Leg., R.S., S.B. 19, § 1). **To the extent that Chapter 2274 of the Government Code is applicable to this Agreement, by signing this Agreement, Contractor certifies that Contractor’s signature provides written verification to the City that Contractor: (1) does not have a practice, policy, guidance, or directive that discriminates against a firearm entity or firearm trade association; and (2) will not discriminate against a firearm entity or firearm trade association during the term of this Agreement.**

7.11 Immigration Nationality Act.

Contractor shall verify the identity and employment eligibility of its employees who perform work under this Agreement, including completing the Employment Eligibility Verification Form (I-9). Upon request by City, Contractor shall provide City with copies of all I-9 forms and supporting eligibility documentation for each employee who performs work under this Agreement. Contractor shall adhere to all Federal and State laws as well as establish appropriate procedures and controls so that no services will be performed by any Contractor employee who is not legally eligible to perform such services. **CONTRACTOR SHALL INDEMNIFY CITY AND HOLD CITY HARMLESS FROM ANY PENALTIES, LIABILITIES, OR LOSSES DUE TO VIOLATIONS OF THIS PARAGRAPH BY CONTRACTOR, CONTRACTOR'S EMPLOYEES, SUBCONTRACTORS, AGENTS, OR LICENSEES.** City, upon written notice to Contractor, shall have the right to immediately terminate this Agreement for violations of this provision by Contractor.

7.12 No Third-Party Beneficiaries.

This Agreement gives no rights or benefits to anyone other than the City and the Contractor and there are no third-party beneficiaries.

7.13 No Cause of Action Against Engineer.

Contractor, its subcontractors and equipment and materials suppliers on the PROJECT or their sureties, shall maintain no direct action against the Engineer, its officers, employees, and subcontractors, for any claim arising out of, in connection with, or resulting from the engineering services performed. Only the City will be the beneficiary of any undertaking by the Engineer. The presence or duties of the Engineer's personnel at a construction site, whether as on-site representatives or otherwise, do not make the Engineer or its personnel in any way responsible for those duties that belong to the City and/or the City's construction contractors or other entities, and do not relieve the construction contractors or any other entity of their obligations, duties, and responsibilities, including, but not limited to, all construction methods, means, techniques, sequences, and procedures necessary for coordinating and completing all portions of the construction work in accordance with the Contract Documents and any health or safety precautions required by such construction work. The Engineer and its personnel have no authority to exercise any control over any construction contractor or other entity or their employees in connection with their work or any health or safety precautions.

IN WITNESS WHEREOF, City and Contractor have each executed this Agreement to be effective as of the date subscribed by the City's designated Assistant City Manager ("Effective Date").

Contractor: City of Fort Worth

By: By:

Signature

Dana Burghdoff
Assistant City Manager

(Printed Name)

Date

Title

Attest:

Address

Jannette Goodall, City Secretary

City/State/Zip

(Seal)

Date

M&C: _____

Date: _____

Form 1295 No.: _____

Contract Compliance Manager:

By signing, I acknowledge that I am the person responsible for the monitoring and administration of this contract, including ensuring all performance and reporting requirements.

(NAME)

(Title)

Approved as to Form and Legality:

Douglas W. Black
Sr. Assistant City Attorney

APPROVAL RECOMMENDED:

William Johnson, Director
Transportation & Public Works Department

SECTION 00 61 13
PERFORMANCE BOND

THE STATE OF TEXAS
COUNTY OF TARRANT

§
§
§

KNOW ALL BY THESE PRESENTS:

That we, _____, known as
“Principal” herein and _____, a corporate
surety(sureties, if more than one) duly authorized to do business in the State of Texas, known as
“Surety” herein (whether one or more), are held and firmly bound unto the City of Fort Worth, a
municipal corporation created pursuant to the laws of Texas, known as “City” herein, in the penal
sum of, _____ Dollars
(\$ _____), lawful money of the United States, to be paid in Fort Worth,
Tarrant County, Texas for the payment of which sum well and truly to be made, we bind
ourselves, our heirs, executors, administrators, successors and assigns, jointly and severally,
firmly by these presents.

WHEREAS, the Principal has entered into a certain written contract with the City
awarded the ____ day of _____, 20____, which Contract is hereby referred to and
made a part hereof for all purposes as if fully set forth herein, to furnish all materials, equipment
labor and other accessories defined by law, in the prosecution of the Work, including any Change
Orders, as provided for in said Contract designated as Trinity River Waterwheel Initiative,
ENV22-07; Waterwheel.

NOW, THEREFORE, the condition of this obligation is such that if the said Principal
shall faithfully perform it obligations under the Contract and shall in all respects duly and
faithfully perform the Work, including Change Orders, under the Contract, according to the plans,
specifications, and contract documents therein referred to, and as well during any period of
extension of the Contract that may be granted on the part of the City, then this obligation shall be
and become null and void, otherwise to remain in full force and effect.

PROVIDED FURTHER, that if any legal action be filed on this Bond, venue shall lie in
Tarrant County, Texas or the United States District Court for the Northern District of Texas, Fort
Worth Division.

1 This bond is made and executed in compliance with the provisions of Chapter 2253 of the
2 Texas Government Code, as amended, and all liabilities on this bond shall be determined in
3 accordance with the provisions of said statute.

4 **IN WITNESS WHEREOF**, the Principal and the Surety have SIGNED and SEALED
5 this instrument by duly authorized agents and officers on this the _____ day of _____
6 _____, 20 ____.

7 PRINCIPAL:
8 _____
9 _____

10 BY: _____
11 Signature

12 ATTEST:
13 _____
14 (Principal) Secretary

15 _____
16 Name and Title
17 Address: _____
18 _____
19 _____

20 _____
21 Witness as to Principal

22 SURETY:
23 _____
24 _____

25 BY: _____
26 Signature

27 _____
28 Name and Title
29 Address: _____

30 _____
31 _____
32 _____

33 Telephone Number: _____
34 _____
35 _____

36 _____
37 Witness as to Surety

38 *Note: If signed by an officer of the Surety Company, there must be on file a certified extract
39 from the by-laws showing that this person has authority to sign such obligation. If
40 Surety's physical address is different from its mailing address, both must be provided.
41 The date of the bond shall not be prior to the date the Contract is awarded.
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SECTION 00 61 14
PAYMENT BOND

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4 **THE STATE OF TEXAS** §
5 § **KNOW ALL BY THESE PRESENTS:**
6 **COUNTY OF TARRANT** §
7

8 That we, _____, known as
9 “Principal” herein, and _____, a
10 corporate surety (sureties), duly authorized to do business in the State of Texas, known as
11 “Surety” herein (whether one or more), are held and firmly bound unto the City of Fort Worth, a
12 municipal corporation created pursuant to the laws of the State of Texas, known as “City” herein,
13 in the penal sum of _____ Dollars
14 (\$ _____), lawful money of the United States, to be paid in Fort Worth,
15 Tarrant County, Texas, for the payment of which sum well and truly be made, we bind ourselves,
16 our heirs, executors, administrators, successors and assigns, jointly and severally, firmly by these
17 presents:

18 **WHEREAS**, Principal has entered into a certain written Contract with City, awarded the
19 _____day of _____, 20____, which Contract is hereby referred to and
20 made a part hereof for all purposes as if fully set forth herein, to furnish all materials, equipment,
21 labor and other accessories as defined by law, in the prosecution of the Work as provided for in
22 said Contract and designated as Trinity River Waterwheel Initiative, ENV22-07; Waterwheel.

23 **NOW, THEREFORE**, THE CONDITION OF THIS OBLIGATION is such that if
24 Principal shall pay all monies owing to any (and all) payment bond beneficiary (as defined in
25 Chapter 2253 of the Texas Government Code, as amended) in the prosecution of the Work under
26 the Contract, then this obligation shall be and become null and void; otherwise to remain in full
27 force and effect.

28 This bond is made and executed in compliance with the provisions of Chapter 2253 of the
29 Texas Government Code, as amended, and all liabilities on this bond shall be determined in
30 accordance with the provisions of said statute.
31

1 **IN WITNESS WHEREOF**, the Principal and Surety have each SIGNED and SEALED
2 this instrument by duly authorized agents and officers on this the _____ day of
3 _____, 20____.

4

PRINCIPAL:

ATTEST:

BY: _____
Signature

(Principal) Secretary

Name and Title

Address: _____

Witness as to Principal

SURETY:

ATTEST:

BY: _____
Signature

(Surety) Secretary

Name and Title

Address: _____

Witness as to Surety

Telephone Number: _____

5

6 Note: If signed by an officer of the Surety, there must be on file a certified extract from the
7 bylaws showing that this person has authority to sign such obligation. If Surety's physical
8 address is different from its mailing address, both must be provided.

9

10 The date of the bond shall not be prior to the date the Contract is awarded.

11

END OF SECTION

12

1 **SECTION 00 61 19**
2 **MAINTENANCE BOND**

3
4 **THE STATE OF TEXAS** §
5 § **KNOW ALL BY THESE PRESENTS:**
6 **COUNTY OF TARRANT** §
7

8 That we _____, known as
9 “Principal” herein and _____, a corporate surety
10 (sureties, if more than one) duly authorized to do business in the State of Texas, known as
11 “Surety” herein (whether one or more), are held and firmly bound unto the City of Fort Worth, a
12 municipal corporation created pursuant to the laws of the State of Texas, known as “City” herein,
13 in the sum of _____ Dollars
14 (\$ _____), lawful money of the United States, to be paid in Fort Worth,
15 Tarrant County, Texas, for payment of which sum well and truly be made unto the City and its
16 successors, we bind ourselves, our heirs, executors, administrators, successors and assigns, jointly
17 and severally, firmly by these presents.
18

19 **WHEREAS**, the Principal has entered into a certain written contract with the City awarded
20 the ____ day of _____, 20____, which Contract is hereby
21 referred to and a made part hereof for all purposes as if fully set forth herein, to furnish all
22 materials, equipment labor and other accessories as defined by law, in the prosecution of the
23 Work, including any Work resulting from a duly authorized Change Order (collectively herein,
24 the “Work”) as provided for in said contract and designated as Trinity River Waterwheel
25 Initiative, ENV22-07; Waterwheel; and
26

27 **WHEREAS**, Principal binds itself to use such materials and to so construct the Work in
28 accordance with the plans, specifications and Contract Documents that the Work is and will
29 remain free from defects in materials or workmanship for and during the period of **two (2) years**
30 after the date of Final Acceptance of the Work by the City (“Maintenance Period”); and
31

32 **WHEREAS**, Principal binds itself to repair or reconstruct the Work in whole or in part
33 upon receiving notice from the City of the need therefor at any time within the Maintenance
34 Period.

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NOW THEREFORE, the condition of this obligation is such that if Principal shall remedy any defective Work, for which timely notice was provided by City, to a completion satisfactory to the City, then this obligation shall become null and void; otherwise to remain in full force and effect.

PROVIDED, HOWEVER, if Principal shall fail so to repair or reconstruct any timely noticed defective Work, it is agreed that the City may cause any and all such defective Work to be repaired and/or reconstructed with all associated costs thereof being borne by the Principal and the Surety under this Maintenance bond; and

PROVIDED FURTHER, that if any legal action be filed on this Bond, venue shall lie in Tarrant County, Texas or the United States District Court for the Northern District of Texas, Fort Worth Division; and

PROVIDED FURTHER, that this obligation shall be continuous in nature and successive recoveries may be had hereon for successive breaches.

1 **IN WITNESS WHEREOF**, the Principal and the Surety have each SIGNED and SEALED this
2 instrument by duly authorized agents and officers on this the _____ day of _____
3 _____, 20____.

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PRINCIPAL:

BY: _____
Signature

ATTEST:

(Principal) Secretary

Name and Title
Address: _____

Witness as to Principal

SURETY:

BY: _____
Signature

ATTEST:

(Surety) Secretary

Name and Title
Address: _____

Witness as to Surety

Telephone Number: _____

*Note: If signed by an officer of the Surety Company, there must be on file a certified extract from the by-laws showing that this person has authority to sign such obligation. If Surety's physical address is different from its mailing address, both must be provided. The date of the bond shall not be prior to the date the Contract is awarded.

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SECTION 00 61 25
CERTIFICATE OF INSURANCE

		CERTIFICATE OF LIABILITY INSURANCE		DATE (MM/DD/YYYY)			
<p>THIS CERTIFICATE IS ISSUED AS A MATTER OF INFORMATION ONLY AND CONFERS NO RIGHTS UPON THE CERTIFICATE HOLDER. THIS CERTIFICATE DOES NOT AFFIRMATIVELY OR NEGATIVELY AMEND, EXTEND OR ALTER THE COVERAGE AFFORDED BY THE POLICIES BELOW. THIS CERTIFICATE OF INSURANCE DOES NOT CONSTITUTE A CONTRACT BETWEEN THE ISSUING INSURER(S), AUTHORIZED REPRESENTATIVE OR PRODUCER, AND THE CERTIFICATE HOLDER.</p>							
<p>IMPORTANT: If the certificate holder is an ADDITIONAL INSURED, the policy(ies) must have ADDITIONAL INSURED provisions or be endorsed. If SUBROGATION IS WAIVED, subject to the terms and conditions of the policy, certain policies may require an endorsement. A statement on this certificate does not confer rights to the certificate holder in lieu of such endorsement(s).</p>							
PRODUCER Hiscox Inc. 520 Madison Avenue 32nd Floor New York, NY 10022		CONTACT NAME: PHONE (A/C, No, Ext): FAX (A/C, No): E-MAIL ADDRESS: INSURER(S) AFFORDING COVERAGE NAIC # INSURER A : Hiscox Insurance Company Inc INSURER B : INSURER C : INSURER D : INSURER E : INSURER F :					
INSURED							
COVERAGES		CERTIFICATE NUMBER:		REVISION NUMBER:			
<p>THIS IS TO CERTIFY THAT THE POLICIES OF INSURANCE LISTED BELOW HAVE BEEN ISSUED TO THE INSURED NAMED ABOVE FOR THE POLICY PERIOD INDICATED. NOTWITHSTANDING ANY REQUIREMENT, TERM OR CONDITION OF ANY CONTRACT OR OTHER DOCUMENT WITH RESPECT TO WHICH THIS CERTIFICATE MAY BE ISSUED OR MAY PERTAIN, THE INSURANCE AFFORDED BY THE POLICIES DESCRIBED HEREIN IS SUBJECT TO ALL THE TERMS, EXCLUSIONS AND CONDITIONS OF SUCH POLICIES. LIMITS SHOWN MAY HAVE BEEN REDUCED BY PAID CLAIMS.</p>							
INSR LTR	TYPE OF INSURANCE	ADDL INSD	SUBR WVD	POLICY NUMBER	POLICY EFF (MM/DD/YYYY)	POLICY EXP (MM/DD/YYYY)	LIMITS
	<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 OTHER:						EACH OCCURRENCE \$ 1,000,000 DAMAGE TO RENTED PREMISES (Ea occurrence) \$ 100,000 MED EXP (Any one person) \$ 5,000 PERSONAL & ADV INJURY \$ 1,000,000 GENERAL AGGREGATE \$ 2,000,000 PRODUCTS - COMP/OP AGG \$ 2,000,000 \$
	<input type="checkbox"/> AUTOMOBILE LIABILITY <input type="checkbox"/> ANY AUTO <input type="checkbox"/> OWNED AUTOS ONLY <input type="checkbox"/> SCHEDULED AUTOS <input type="checkbox"/> HIRED AUTOS ONLY <input type="checkbox"/> NON-OWNED AUTOS ONLY						COMBINED SINGLE LIMIT (Ea accident) \$ BODILY INJURY (Per person) \$ BODILY INJURY (Per accident) \$ PROPERTY DAMAGE (Per accident) \$ \$
	<input type="checkbox"/> UMBRELLA LIAB <input type="checkbox"/> OCCUR <input type="checkbox"/> EXCESS LIAB <input type="checkbox"/> CLAIMS-MADE DED RETENTION \$						EACH OCCURRENCE \$ AGGREGATE \$ \$
	<input type="checkbox"/> WORKERS COMPENSATION AND EMPLOYERS' LIABILITY ANY PROPRIETOR/PARTNER/EXECUTIVE OFFICER/MEMBER EXCLUDED? (Mandatory in NH) If yes, describe under DESCRIPTION OF OPERATIONS below						PER STATUTE OTH-ER E.L. EACH ACCIDENT \$ E.L. DISEASE - EA EMPLOYEE \$ E.L. DISEASE - POLICY LIMIT \$
DESCRIPTION OF OPERATIONS / LOCATIONS / VEHICLES (ACORD 101, Additional Remarks Schedule, may be attached if more space is required)							
CERTIFICATE HOLDER				CANCELLATION			
				SHOULD ANY OF THE ABOVE DESCRIBED POLICIES BE CANCELLED BEFORE THE EXPIRATION DATE THEREOF, NOTICE WILL BE DELIVERED IN ACCORDANCE WITH THE POLICY PROVISIONS.			
				AUTHORIZED REPRESENTATIVE			

ACORD 25 (2016/03)

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END OF SECTION

**STANDARD GENERAL CONDITIONS
OF THE CONSTRUCTION CONTRACT**

**STANDARD GENERAL CONDITIONS OF THE
CONSTRUCTION CONTRACT**

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ARTICLE 1 – DEFINITIONS AND TERMINOLOGY

1.01 *Defined Terms*

- A. Wherever used in these General Conditions or in other Contract Documents, the terms listed below have the meanings indicated which are applicable to both the singular and plural thereof, and words denoting gender shall include the masculine, feminine and neuter. Said terms are generally capitalized or written in italics, but not always. When used in a context consistent with the definition of a listed-defined term, the term shall have a meaning as defined below whether capitalized or italicized or otherwise. 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 which is evidence of the agreement between City and Contractor covering the Work.
 3. *Application for Payment*—The form acceptable to City which is to be used by Contractor during the course of the Work in requesting progress or final payments and which is to be accompanied by such supporting documentation as is required by the Contract Documents.
 4. *Asbestos*—Any material that contains more than one percent asbestos and is friable or is releasing asbestos fibers into the air above current action levels established by the United States Occupational Safety and Health Administration.
 5. *Award* – Authorization by the City Council for the City to enter into an Agreement.
 6. *Bid*—The offer or proposal of a Bidder submitted on the prescribed form setting forth the prices for the Work to be performed.
 7. *Bidder*—The individual or entity who submits a Bid directly to City.
 8. *Bidding Documents*—The Bidding Requirements and the proposed Contract Documents (including all Addenda).
 9. *Bidding Requirements*—The advertisement or Invitation to Bid, Instructions to Bidders, Bid security of acceptable form, if any, and the Bid Form with any supplements.
 10. *Business Day* – A business day is defined as a day that the City conducts normal business, generally Monday through Friday, except for federal or state holidays observed by the City.
 11. *Calendar Day* – A day consisting of 24 hours measured from midnight to the next midnight.

12. *Change Order*—A document, which is prepared and approved by the City, which is signed by Contractor and City and authorizes an addition, deletion, or revision in the Work or an adjustment in the Contract Price or the Contract Time, issued on or after the Effective Date of the Agreement.
13. *City*— The City of Fort Worth, Texas, a home-rule municipal corporation, authorized and chartered under the Texas State Statutes, acting by its governing body through its City Manager, his designee, or agents authorized under his behalf, each of which is required by Charter to perform specific duties with responsibility for final enforcement of the contracts involving the City of Fort Worth is by Charter vested in the City Manager and is the entity with whom Contractor has entered into the Agreement and for whom the Work is to be performed.
14. *City Attorney* – The officially appointed City Attorney of the City of Fort Worth, Texas, or his duly authorized representative.
15. *City Council* - The duly elected and qualified governing body of the City of Fort Worth, Texas.
16. *City Manager* – The officially appointed and authorized City Manager of the City of Fort Worth, Texas, or his duly authorized representative.
17. *Contract Claim*—A demand or assertion by City or Contractor seeking an adjustment of Contract Price or Contract Time, or both, or other relief with respect to the terms of the Contract. A demand for money or services by a third party is not a Contract Claim.
18. *Contract*—The entire and integrated written document between the City and Contractor concerning the Work. The Contract contains the Agreement and all Contract Documents and supersedes prior negotiations, representations, or agreements, whether written or oral.
19. *Contract Documents*—Those items so designated in the Agreement. All items listed in the Agreement are Contract Documents. Approved Submittals, other Contractor submittals, and the reports and drawings of subsurface and physical conditions are not Contract Documents.
20. *Contract Price*—The moneys payable by City to Contractor for completion of the Work in accordance with the Contract Documents as stated in the Agreement (subject to the provisions of Paragraph 11.03 in the case of Unit Price Work).
21. *Contract Time*—The number of days or the dates stated in the Agreement to: (i) achieve Milestones, if any and (ii) complete the Work so that it is ready for Final Acceptance.
22. *Contractor*—The individual or entity with whom City has entered into the Agreement.
23. *Cost of the Work*—See Paragraph 11.01 of these General Conditions for definition.

24. *Damage Claims* – A demand for money or services arising from the Project or Site from a third party, City or Contractor exclusive of a Contract Claim.
25. *Day or day* – A day, unless otherwise defined, shall mean a Calendar Day.
26. *Director of Aviation* – The officially appointed Director of the Aviation Department of the City of Fort Worth, Texas, or his duly appointed representative, assistant, or agents.
27. *Director of Parks and Community Services* – The officially appointed Director of the Parks and Community Services Department of the City of Fort Worth, Texas, or his duly appointed representative, assistant, or agents.
28. *Director of Planning and Development* – The officially appointed Director of the Planning and Development Department of the City of Fort Worth, Texas, or his duly appointed representative, assistant, or agents.
29. *Director of Transportation Public Works* – The officially appointed Director of the Transportation Public Works Department of the City of Fort Worth, Texas, or his duly appointed representative, assistant, or agents.
30. *Director of Water Department* – The officially appointed Director of the Water Department of the City of Fort Worth, Texas, or his duly appointed representative, assistant, or agents.
31. *Drawings*—That part of the Contract Documents prepared or approved by Engineer which graphically shows the scope, extent, and character of the Work to be performed by Contractor. Submittals are not Drawings as so defined.
32. *Effective Date of the Agreement*—The date indicated in the Agreement on which it becomes effective, but if no such date is indicated, it means the date on which the Agreement is signed and delivered by the last of the two parties to sign and deliver.
33. *Engineer*—The licensed professional engineer or engineering firm registered in the State of Texas performing professional services for the City.
34. *Extra Work* – Additional work made necessary by changes or alterations of the Contract Documents or of quantities or for other reasons for which no prices are provided in the Contract Documents. Extra work shall be part of the Work.
35. *Field Order* — A written order issued by City which requires changes in the Work but which does not involve a change in the Contract Price, Contract Time, or the intent of the Engineer. Field Orders are paid from Field Order Allowances incorporated into the Contract by funded work type at the time of award.
36. *Final Acceptance* – The written notice given by the City to the Contractor that the Work specified in the Contract Documents has been completed to the satisfaction of the City.

37. *Final Inspection* – Inspection carried out by the City to verify that the Contractor has completed the Work, and each and every part or appurtenance thereof, fully, entirely, and in conformance with the Contract Documents.
38. *General Requirements*—Sections of Division 1 of the Contract Documents.
39. *Hazardous Environmental Condition*—The presence at the Site of Asbestos, PCBs, Petroleum, Hazardous Waste, Radioactive Material, or other materials in such quantities or circumstances that may present a substantial danger to persons or property exposed thereto.
40. *Hazardous Waste*—Hazardous waste is defined as any solid waste listed as hazardous or possesses one or more hazardous characteristics as defined in the federal waste regulations, as amended from time to time.
41. *Laws and Regulations*—Any and all applicable laws, rules, regulations, ordinances, codes, and orders of any and all governmental bodies, agencies, authorities, and courts having jurisdiction.
42. *Liens*—Charges, security interests, or encumbrances upon Project funds, real property, or personal property.
43. *Major Item* – An Item of work included in the Contract Documents that has a total cost equal to or greater than 5% of the original Contract Price or \$25,000 whichever is less.
44. *Milestone*—A principal event specified in the Contract Documents relating to an intermediate Contract Time prior to Final Acceptance of the Work.
45. *Notice of Award*—The written notice by City to the Successful Bidder stating that upon timely compliance by the Successful Bidder with the conditions precedent listed therein, City will sign and deliver the Agreement.
46. *Notice to Proceed*—A written notice given by City to Contractor fixing the date on which the Contract Time will commence to run and on which Contractor shall start to perform the Work specified in Contract Documents.
47. *PCBs*—Polychlorinated biphenyls.
48. *Petroleum*—Petroleum, including crude oil or any fraction thereof which is liquid at standard conditions of temperature and pressure (60 degrees Fahrenheit and 14.7 pounds per square inch absolute), such as oil, petroleum, fuel oil, oil sludge, oil refuse, gasoline, kerosene, and oil mixed with other non-Hazardous Waste and crude oils.
49. *Plans* – See definition of Drawings.

50. *Project Schedule*—A schedule, prepared and maintained by Contractor, in accordance with the General Requirements, describing the sequence and duration of the activities comprising the Contractor’s plan to accomplish the Work within the Contract Time.
51. *Project*—The Work to be performed under the Contract Documents.
52. *Project Manager*—The authorized representative of the City who will be assigned to the Site.
53. *Public Meeting* – An announced meeting conducted by the City to facilitate public participation and to assist the public in gaining an informed view of the Project.
54. *Radioactive Material*—Source, special nuclear, or byproduct material as defined by the Atomic Energy Act of 1954 (42 USC Section 2011 et seq.) as amended from time to time.
55. *Regular Working Hours* – Hours beginning at 7:00 a.m. and ending at 6:00 p.m., Monday thru Friday (excluding legal holidays).
56. *Samples*—Physical examples of materials, equipment, or workmanship that are representative of some portion of the Work and which establish the standards by which such portion of the Work will be judged.
57. *Schedule of Submittals*—A schedule, prepared and maintained by Contractor, of required submittals and the time requirements to support scheduled performance of related construction activities.
58. *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.
59. *Site*—Lands or areas indicated in the Contract Documents as being furnished by City upon which the Work is to be performed, including rights-of-way, permits, and easements for access thereto, and such other lands furnished by City which are designated for the use of Contractor.
60. *Specifications*—That part of the Contract Documents consisting of written requirements for materials, equipment, systems, standards and workmanship as applied to the Work, and certain administrative requirements and procedural matters applicable thereto. Specifications may be specifically made a part of the Contract Documents by attachment or, if not attached, may be incorporated by reference as indicated in the Table of Contents (Division 00 00 00) of each Project.
61. *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 at the Site.

62. *Submittals*—All drawings, diagrams, illustrations, schedules, and other data or information which are specifically prepared or assembled by or for Contractor and submitted by Contractor to illustrate some portion of the Work.
63. *Substantial Completion* – The stage in the progress of the Project when the Work is sufficiently complete in accordance with the Contract Documents for Final Inspection.
64. *Successful Bidder*—The Bidder submitting the lowest and most responsive Bid to whom City makes an Award.
65. *Superintendent* – The representative of the Contractor who is available at all times and able to receive instructions from the City and to act for the Contractor.
66. *Supplementary Conditions*—That part of the Contract Documents which amends or supplements these General Conditions.
67. *Supplier*—A manufacturer, fabricator, supplier, distributor, materialman, 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 Subcontractor.
68. *Underground Facilities*—All underground pipelines, conduits, ducts, cables, wires, manholes, vaults, tanks, tunnels, or other such facilities or attachments, and any encasements containing such facilities, including but not limited to, those that convey electricity, gases, steam, liquid petroleum products, telephone or other communications, cable television, water, wastewater, storm water, other liquids or chemicals, or traffic or other control systems.
- 69 *Unit Price Work*—See Paragraph 11.03 of these General Conditions for definition.
70. *Weekend Working Hours* – Hours beginning at 9:00 a.m. and ending at 5:00 p.m., Saturday, Sunday or legal holiday, as approved in advance by the City.
71. *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 including any Change Order or Field Order, and furnishing, installing, and incorporating all materials and equipment into such construction, all as required by the Contract Documents.
72. *Working Day* – A working day is defined as a day, not including Saturdays, Sundays, or legal holidays authorized by the City for contract purposes, in which weather or other conditions not under the control of the Contractor will permit the performance of the principal unit of work underway for a continuous period of not less than 7 hours between 7 a.m. and 6 p.m.

1.02 Terminology

A. The words and terms discussed in Paragraph 1.02.B through E are not defined but, when used in the Bidding Requirements or Contract Documents, have the indicated meaning.

B. *Intent of Certain Terms or Adjectives:*

1. 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 judgment by City. 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 City 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).

C. Defective:

1. The word “defective,” when modifying the word “Work,” refers to Work that is unsatisfactory, faulty, or deficient in that it:
 - a. does not conform to the Contract Documents; or
 - b. does not meet the requirements of any applicable inspection, reference standard, test, or approval referred to in the Contract Documents; or
 - c. has been damaged prior to City’s written acceptance.

D. Furnish, Install, Perform, Provide:

1. The word “Furnish” or the word “Install” or the word “Perform” or the word “Provide” or the word “Supply,” or any combination or similar directive or usage thereof, shall mean furnishing and incorporating in the Work including all necessary labor, materials, equipment, and everything necessary to perform the Work indicated, unless specifically limited in the context used.

- E. 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 Copies of Documents

City shall furnish to Contractor one (1) original executed copy and one (1) electronic copy of the Contract Documents, and four (4) additional copies of the Drawings. Additional copies will be furnished upon request at the cost of reproduction.

2.02 Commencement of Contract Time; Notice to Proceed

The Contract Time will commence to run on the day indicated in the Notice to Proceed. A Notice to Proceed may be given no earlier than 14 days after the Effective Date of the Agreement, unless agreed to by both parties in writing.

2.03 *Starting the Work*

Contractor shall start to perform the Work on the date when the Contract Time commences to run. No Work shall be done at the Site prior to the date on which the Contract Time commences to run.

2.04 *Before Starting Construction*

Baseline Schedules: Submit in accordance with the Contract Documents, and prior to starting the Work.

2.05 *Preconstruction Conference*

Before any Work at the Site is started, the Contractor shall attend a Preconstruction Conference as specified in the Contract Documents.

2.06 *Public Meeting*

Contractor may not mobilize any equipment, materials or resources to the Site prior to Contractor attending the Public Meeting as scheduled by the City.

2.07 *Initial Acceptance of Schedules*

No progress payment shall be made to Contractor until acceptable schedules are submitted to City in accordance with the Schedule Specification as provided in the Contract Documents.

ARTICLE 3 – CONTRACT DOCUMENTS: INTENT, AMENDING, REUSE

3.01 *Intent*

- A. The Contract Documents are complementary; what is required by one 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. Any labor, documentation, services, materials, or equipment that reasonably may be inferred from the Contract Documents or from prevailing custom or trade usage as being required to produce the indicated result will be provided whether or not specifically called for, at no additional cost to City.
- C. Clarifications and interpretations of the Contract Documents shall be issued by City.
- D. The Specifications may vary in form, format and style. Some Specification sections may be written in varying degrees of streamlined or declarative style and some sections may be relatively narrative by comparison. Omission of such words and phrases as “the Contractor shall,” “in conformity with,” “as shown,” or “as specified” are intentional in streamlined sections. Omitted words and phrases shall be supplied by inference. Similar types of provisions may appear in various parts of a section or articles within a part depending on the format of the

section. The Contractor shall not take advantage of any variation of form, format or style in making Contract Claims.

- E. The cross referencing of specification sections under the subparagraph heading “Related Sections include but are not necessarily limited to:” and elsewhere within each Specification section is provided as an aid and convenience to the Contractor. The Contractor shall not rely on the cross referencing provided and shall be responsible to coordinate the entire Work under the Contract Documents and provide a complete Project whether or not the cross referencing is provided in each section or whether or not the cross referencing is complete.

3.02 *Reference Standards*

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

1. Reference to standards, specifications, manuals, or codes of any technical society, organization, or association, or to Laws or Regulations, whether such reference be specific or by implication, shall mean the standard, specification, manual, code, or Laws or Regulations in effect at the time of opening of Bids (or on the Effective Date of the Agreement 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, or code, or any instruction of a Supplier, shall be effective to change the duties or responsibilities of City, Contractor, or any of their subcontractors, consultants, agents, or employees, from those set forth in the Contract Documents. No such provision or instruction shall be effective to assign to City, or any of its officers, directors, members, partners, employees, agents, consultants, or subcontractors, 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 Contract Documents.

3.03 *Reporting and Resolving Discrepancies*

A. *Reporting Discrepancies:*

1. *Contractor’s Review of Contract Documents Before Starting Work:* Before undertaking each part of the Work, Contractor shall carefully study and compare the Contract Documents and check and verify pertinent figures therein against all applicable field measurements and conditions. Contractor shall promptly report in writing to City any conflict, error, ambiguity, or discrepancy which Contractor discovers, or has actual knowledge of, and shall obtain a written interpretation or clarification from City before proceeding with any Work affected thereby.
2. *Contractor’s Review of Contract Documents During Performance of Work:* If, 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) any standard, specification, manual, or code, or (c) any instruction of any Supplier, then Contractor shall promptly report it to City in writing. Contractor shall not proceed with the Work affected thereby (except in an emergency as required by Paragraph

6.17.A) until an amendment or supplement to the Contract Documents has been issued by one of the methods indicated in Paragraph 3.04.

3. Contractor shall not be liable to City 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 Contract Documents shall take precedence in resolving any conflict, error, ambiguity, or discrepancy between the provisions of the Contract Documents and the provisions of any standard, specification, manual, or the instruction of any Supplier (whether or not specifically incorporated by reference in the Contract Documents).
2. In case of discrepancies, figured dimensions shall govern over scaled dimensions, Plans shall govern over Specifications, Supplementary Conditions shall govern over General Conditions and Specifications, and quantities shown on the Plans shall govern over those shown in the proposal.

3.04 *Amending and Supplementing Contract Documents*

- A. The Contract Documents may be amended to provide for additions, deletions, and revisions in the Work or to modify the terms and conditions thereof by a Change Order.
- B. The requirements of the Contract Documents may be supplemented, and minor variations and deviations in the Work not involving a change in Contract Price or Contract Time, may be authorized, by one or more of the following ways:
 1. A Field Order;
 2. City's review of a Submittal (subject to the provisions of Paragraph 6.18.C); or
 3. City's written interpretation or clarification.

3.05 *Reuse of Documents*

- A. Contractor and any Subcontractor or Supplier 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, including electronic media editions; or
 2. reuse any such Drawings, Specifications, other documents, or copies thereof on extensions of the Project or any other project without written consent of City and specific written verification or adaptation by Engineer.

- B. The prohibitions of this Paragraph 3.05 will survive final payment, or termination of the Contract. Nothing herein shall preclude Contractor from retaining copies of the Contract Documents for record purposes.

3.06 *Electronic Data*

- A. Unless otherwise stated in the Supplementary Conditions, the data furnished by City or Engineer to Contractor, or by Contractor to City or Engineer, that may be relied upon are limited to the printed copies included in the Contract Documents (also known as hard copies) and other Specifications referenced and located on the City's on-line electronic document management and collaboration system site. Files in electronic media format of text, data, graphics, or other types are furnished only for the convenience of the receiving party. Any conclusion or information obtained or derived from such electronic files will be at the user's sole risk. If there is a discrepancy between the electronic files and the hard copies, the hard copies govern.
- B. When transferring documents in electronic media format, the transferring party makes no representations as to long term compatibility, usability, or readability of documents resulting from the use of software application packages, operating systems, or computer hardware differing from those used by the data's creator.

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

4.01 *Availability of Lands*

- A. City shall furnish the Site. City shall notify Contractor 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. City will obtain in a timely manner and pay for easements for permanent structures or permanent changes in existing facilities.
 - 1. The City has obtained or anticipates acquisition of and/or access to right-of-way, and/or easements. Any outstanding right-of-way and/or easements are anticipated to be acquired in accordance with the schedule set forth in the Supplementary Conditions. The Project Schedule submitted by the Contractor in accordance with the Contract Documents must consider any outstanding right-of-way, and/or easements.
 - 2. The City has or anticipates removing and/or relocating utilities, and obstructions to the Site. Any outstanding removal or relocation of utilities or obstructions is anticipated in accordance with the schedule set forth in the Supplementary Conditions. The Project Schedule submitted by the Contractor in accordance with the Contract Documents must consider any outstanding utilities or obstructions to be removed, adjusted, and/or relocated by others.
- B. Upon reasonable written request, City shall furnish Contractor with a current statement of record legal title and legal description of the lands upon which the Work is to be performed.

C. Contractor shall provide for all additional lands and access thereto that may be required for construction facilities or storage of materials and equipment.

4.02 *Subsurface and Physical Conditions*

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

1. those reports known to City of explorations and tests of subsurface conditions at or contiguous to the Site; and
2. those drawings known to City of physical conditions relating to existing surface or subsurface structures at the Site (except Underground Facilities).

B. *Limited Reliance by Contractor on Technical Data Authorized:* Contractor may rely upon the accuracy of the “technical data” contained in such reports and drawings, but such reports and drawings are not Contract Documents. Such “technical data” is identified in the Supplementary Conditions. Contractor may not make any Contract Claim against City, 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; or
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.

4.03 *Differing Subsurface or Physical Conditions*

A. *Notice:* If Contractor believes that any subsurface or physical condition that is uncovered or revealed either:

1. is of such a nature as to establish that any “technical data” on which Contractor is entitled to rely as provided in Paragraph 4.02 is materially inaccurate; or
2. is of such a nature as to require a change in the Contract Documents; or
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 6.17.A), notify City in writing about such condition.

B. Possible Price and Time Adjustments

Contractor shall not be entitled to any adjustment in the Contract Price or Contract Time if:

1. Contractor knew of the existence of such conditions at the time Contractor made a final commitment to City with respect to Contract Price and Contract Time by the submission of a Bid or becoming bound under a negotiated contract; or
2. the existence of such condition could reasonably have been discovered or revealed as a result of the examination of the Contract Documents or the Site; or
3. Contractor failed to give the written notice as required by Paragraph 4.03.A.

4.04 *Underground Facilities*

A. Shown or Indicated: The information and data shown or indicated in the Contract Documents with respect to existing Underground Facilities at or contiguous to the Site is based on information and data furnished to City or Engineer by the owners of such Underground Facilities, including City, or by others. Unless it is otherwise expressly provided in the Supplementary Conditions:

1. City and Engineer shall not be responsible for the accuracy or completeness of any such information or data provided by others; and
2. the cost of all of the following will be included in the Contract Price, and Contractor shall have full responsibility for:
 - a. reviewing and checking all such information and data;
 - b. locating all Underground Facilities shown or indicated in the Contract Documents;
 - c. coordination and adjustment of the Work with the owners of such Underground Facilities, including City, during construction; and
 - d. the safety and protection of all such Underground Facilities and repairing any damage thereto resulting from the Work.

B. Not Shown or Indicated:

1. If an Underground Facility which conflicts with the Work is uncovered or revealed at or contiguous to the Site which was not shown or indicated, or not shown or indicated with reasonable accuracy in the Contract Documents, 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 6.17.A), identify the owner of such Underground Facility and give notice to that owner and to City. City will review the discovered Underground Facility and determine the extent, if any, to which a change may be required in the Contract Documents to reflect and document the consequences of the existence or location of the Underground Facility. Contractor shall be responsible for the safety and protection of such discovered Underground Facility.

2. If City concludes that a change in the Contract Documents is required, a Change Order may be issued to reflect and document such consequences.
3. Verification of existing utilities, structures, and service lines shall include notification of all utility companies a minimum of 48 hours in advance of construction including exploratory excavation if necessary.

4.05 *Reference Points*

- A. City shall provide engineering surveys to establish reference points for construction, which in City's judgment are necessary to enable Contractor to proceed with the Work. City will provide construction stakes or other customary method of marking to establish line and grades for roadway and utility construction, centerlines and benchmarks for bridgework. Contractor shall protect and preserve the established reference points and property monuments, and shall make no changes or relocations. Contractor shall report to City whenever any reference point or property monument is lost or destroyed or requires relocation because of necessary changes in grades or locations. The City shall be responsible for the replacement or relocation of reference points or property monuments not carelessly or willfully destroyed by the Contractor. The Contractor shall notify City in advance and with sufficient time to avoid delays.
- B. Whenever, in the opinion of the City, any reference point or monument has been carelessly or willfully destroyed, disturbed, or removed by the Contractor or any of his employees, the full cost for replacing such points plus 25% will be charged against the Contractor, and the full amount will be deducted from payment due the Contractor.

4.06 *Hazardous Environmental Condition at Site*

- A. *Reports and Drawings:* The Supplementary Conditions identify those reports and drawings known to City relating to Hazardous Environmental Conditions that have been identified at the Site.
- B. *Limited Reliance by Contractor on Technical Data Authorized:* Contractor may rely upon the accuracy of the "technical data" contained in such reports and drawings, but such reports and drawings are not Contract Documents. Such "technical data" is identified in the Supplementary Conditions. Contractor may not make any Contract Claim against City, 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; or
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 any Hazardous Environmental Condition uncovered or revealed at the Site which was not shown or indicated in Drawings or Specifications or identified in the Contract Documents to be within the scope of the Work. Contractor shall be responsible for a Hazardous Environmental Condition created with any materials brought to the Site by Contractor, Subcontractors, Suppliers, or anyone else for whom Contractor is responsible.
- D. If Contractor encounters a Hazardous Environmental Condition or if Contractor or anyone for whom Contractor is responsible creates a Hazardous Environmental Condition, Contractor shall immediately: (i) secure or otherwise isolate such condition; (ii) stop all Work in connection with such condition and in any area affected thereby (except in an emergency as required by Paragraph 6.17.A); and (iii) notify City (and promptly thereafter confirm such notice in writing). City may consider the necessity to retain a qualified expert to evaluate such condition or take corrective action, if any.
- E. Contractor shall not be required to resume Work in connection with such condition or in any affected area until after City has obtained any required permits related thereto and delivered written notice to Contractor: (i) specifying that such condition and any affected area is or has been rendered suitable for the resumption of Work; or (ii) specifying any special conditions under which such Work may be resumed.
- F. 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 City may order the portion of the Work that is in the area affected by such condition to be deleted from the Work. City may have such deleted portion of the Work performed by City’s own forces or others.
- G. *To the fullest extent permitted by Laws and Regulations, Contractor shall indemnify and hold harmless City, 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 a Hazardous Environmental Condition created by Contractor or by anyone for whom Contractor is responsible. Nothing in this Paragraph 4.06.G shall obligate Contractor to indemnify any individual or entity from and against the consequences of that individual’s or entity’s own negligence.*
- H. The provisions of Paragraphs 4.02, 4.03, and 4.04 do not apply to a Hazardous Environmental Condition uncovered or revealed at the Site.

ARTICLE 5 – BONDS AND INSURANCE

5.01 *Licensed Sureties and Insurers*

All bonds and insurance required by the Contract Documents to be purchased and maintained by Contractor shall be obtained from surety or insurance companies that are duly licensed or authorized in the State of Texas to issue bonds or insurance policies for the limits and coverages so required. Such surety and insurance companies shall also meet such additional requirements and qualifications as may be provided in the Supplementary Conditions.

5.02 *Performance, Payment, and Maintenance Bonds*

- A. Contractor shall furnish performance and payment bonds, in accordance with Texas Government Code Chapter 2253 or successor statute, each in an amount equal to the Contract Price as security for the faithful performance and payment of all of Contractor's obligations under the Contract Documents.
- B. Contractor shall furnish maintenance bonds in an amount equal to the Contract Price as security to protect the City against any defects in any portion of the Work described in the Contract Documents. Maintenance bonds shall remain in effect for two (2) years after the date of Final Acceptance by the City.
- C. All bonds shall be in the form prescribed by the Contract Documents except as provided otherwise by Laws or Regulations, and shall be executed by such sureties as are named in the list of "Companies Holding Certificates of Authority as Acceptable Sureties on Federal Bonds and as Acceptable Reinsuring Companies" as published in Circular 570 (amended) by the Financial Management Service, Surety Bond Branch, U.S. Department of the Treasury. All bonds signed by an agent or attorney-in-fact must be accompanied by a sealed and dated power of attorney which shall show that it is effective on the date the agent or attorney-in-fact signed each bond.
- D. If the surety on any bond furnished by Contractor is declared bankrupt or becomes insolvent or its right to do business is terminated in the State of Texas or it ceases to meet the requirements of Paragraph 5.02.C, Contractor shall promptly notify City and shall, within 30 days after the event giving rise to such notification, provide another bond and surety, both of which shall comply with the requirements of Paragraphs 5.01 and 5.02.C.

5.03 *Certificates of Insurance*

Contractor shall deliver to City, with copies to each additional insured and loss payee identified in the Supplementary Conditions, certificates of insurance (other evidence of insurance requested by City or any other additional insured) in at least the minimum amount as specified in the Supplementary Conditions which Contractor is required to purchase and maintain.

1. The certificate of insurance shall document the City, and all identified entities named in the Supplementary Conditions as "Additional Insured" on all liability policies.

2. The Contractor's general liability insurance shall include a, "per project" or "per location", endorsement, which shall be identified in the certificate of insurance provided to the City.
3. The certificate shall be signed by an agent authorized to bind coverage on behalf of the insured, be complete in its entirety, and show complete insurance carrier names as listed in the current A.M. Best Property & Casualty Guide
4. The insurers for all policies must be licensed and/or approved to do business in the State of Texas. Except for workers' compensation, all insurers must have a minimum rating of A-: VII in the current A. M. Best Key Rating Guide or have reasonably equivalent financial strength and solvency to the satisfaction of Risk Management. If the rating is below that required, written approval of City is required.
5. All applicable policies shall include a Waiver of Subrogation (Rights of Recovery) in favor of the City. In addition, the Contractor agrees to waive all rights of subrogation against the Engineer (if applicable), and each additional insured identified in the Supplementary Conditions
6. Failure of the City to demand such certificates or other evidence of full compliance with the insurance requirements or failure of the City to identify a deficiency from evidence that is provided shall not be construed as a waiver of Contractor's obligation to maintain such lines of insurance coverage.
7. If insurance policies are not written for specified coverage limits, an Umbrella or Excess Liability insurance for any differences is required. Excess Liability shall follow form of the primary coverage.
8. Unless otherwise stated, all required insurance shall be written on the "occurrence basis". If coverage is underwritten on a claims-made basis, the retroactive date shall be coincident with or prior to the date of the effective date of the agreement and the certificate of insurance shall state that the coverage is claims-made and the retroactive date. The insurance coverage shall be maintained for the duration of the Contract and for three (3) years following Final Acceptance provided under the Contract Documents or for the warranty period, whichever is longer. An annual certificate of insurance submitted to the City shall evidence such insurance coverage.
9. Policies shall have no exclusions by endorsements, which, neither nullify or amend, the required lines of coverage, nor decrease the limits of said coverage unless such endorsements are approved in writing by the City. In the event a Contract has been bid or executed and the exclusions are determined to be unacceptable or the City desires additional insurance coverage, and the City desires the contractor/engineer to obtain such coverage, the contract price shall be adjusted by the cost of the premium for such additional coverage plus 10%.
10. Any self-insured retention (SIR), in excess of \$25,000.00, affecting required insurance coverage shall be approved by the City in regards to asset value and stockholders' equity. In

lieu of traditional insurance, alternative coverage maintained through insurance pools or risk retention groups, must also be approved by City.

11. Any deductible in excess of \$5,000.00, for any policy that does not provide coverage on a first-dollar basis, must be acceptable to and approved by the City.
12. City, at its sole discretion, reserves the right to review the insurance requirements and to make reasonable adjustments to insurance coverage's and their limits when deemed necessary and prudent by the City based upon changes in statutory law, court decision or the claims history of the industry as well as of the contracting party to the City. The City shall be required to provide prior notice of 90 days, and the insurance adjustments shall be incorporated into the Work by Change Order.
13. City shall be entitled, upon written request and without expense, to receive copies of policies and endorsements thereto and may make any reasonable requests for deletion or revision or modifications of particular policy terms, conditions, limitations, or exclusions necessary to conform the policy and endorsements to the requirements of the Contract. Deletions, revisions, or modifications shall not be required where policy provisions are established by law or regulations binding upon either party or the underwriter on any such policies.
14. City shall not be responsible for the direct payment of insurance premium costs for Contractor's insurance.

5.04 *Contractor's Insurance*

- A. *Workers Compensation and Employers' Liability.* Contractor shall purchase and maintain such insurance coverage with limits consistent with statutory benefits outlined in the Texas Workers' Compensation Act (Texas Labor Code, Ch. 406, as amended), and minimum limits for Employers' Liability as is appropriate for the Work being performed and as will provide protection from claims set forth below which may arise out of or result from Contractor's performance of the Work and Contractor's other obligations under the Contract Documents, whether it is to be performed 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:
 1. claims under workers' compensation, disability benefits, and other similar employee benefit acts;
 2. claims for damages because of bodily injury, occupational sickness or disease, or death of Contractor's employees.
- B. *Commercial General Liability.* Coverage shall include but not be limited to covering liability (bodily injury or property damage) arising from: premises/operations, independent contractors, products/completed operations, personal injury, and liability under an insured contract. Insurance shall be provided on an occurrence basis, and as comprehensive as the current Insurance Services Office (ISO) policy. This insurance shall apply as primary insurance with respect to any other

insurance or self-insurance programs afforded to the City. The Commercial General Liability policy, shall have no exclusions by endorsements that would alter or nullify premises/operations, products/completed operations, contractual, personal injury, or advertising injury, which are normally contained with the policy, unless the City approves such exclusions in writing.

For construction projects that present a substantial completed operation exposure, the City may require the contractor to maintain completed operations coverage for a minimum of no less than three (3) years following the completion of the project (if identified in the Supplementary Conditions).

- C. *Automobile Liability.* A commercial business auto policy shall provide coverage on “any auto”, defined as autos owned, hired and non-owned and provide indemnity for claims for damages because bodily injury or death of any person and or property damage arising out of the work, maintenance or use of any motor vehicle by the 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.
- D. *Railroad Protective Liability.* If any of the work or any warranty work is within the limits of railroad right-of-way, the Contractor shall comply with the requirements identified in the Supplementary Conditions.
- E. *Notification of Policy Cancellation:* Contractor shall immediately notify City upon cancellation or other loss of insurance coverage. Contractor shall stop work until replacement insurance has been procured. There shall be no time credit for days not worked pursuant to this section.

5.05 *Acceptance of Bonds and Insurance; Option to Replace*

If City has any objection to the coverage afforded by or other provisions of the bonds or insurance required to be purchased and maintained by the Contractor in accordance with Article 5 on the basis of non-conformance with the Contract Documents, the City shall so notify the Contractor in writing within 10 Business Days after receipt of the certificates (or other evidence requested). Contractor shall provide to the City such additional information in respect of insurance provided as the City may reasonably request. If Contractor does not purchase or maintain all of the bonds and insurance required by the Contract Documents, the City shall notify the Contractor in writing of such failure prior to the start of the Work, or of such failure to maintain prior to any change in the required coverage.

ARTICLE 6 – CONTRACTOR’S RESPONSIBILITIES

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

B. At all times during the progress of the Work, Contractor shall assign a competent, English-speaking, Superintendent who shall not be replaced without written notice to City. The Superintendent will be Contractor's representative at the Site and shall have authority to act on behalf of Contractor. All communication given to or received from the Superintendent shall be binding on Contractor.

C. Contractor shall notify the City 24 hours prior to moving areas during the sequence of construction.

6.02 *Labor; Working Hours*

A. Contractor shall provide competent, suitably qualified personnel to perform construction as required by the Contract Documents. Contractor shall at all times maintain good discipline and order at the Site.

B. 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 shall be performed during Regular Working Hours. Contractor will not permit the performance of Work beyond Regular Working Hours or for Weekend Working Hours without City's written consent (which will not be unreasonably withheld). Written request (by letter or electronic communication) to perform Work:

1. for beyond Regular Working Hours request must be made by noon at least two (2) Business Days prior
2. for Weekend Working Hours request must be made by noon of the preceding Thursday
3. for legal holidays request must be made by noon two Business Days prior to the legal holiday.

6.03 *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, Contractor required testing, start-up, and completion of the Work.

B. All materials and equipment incorporated into the Work shall be as specified or, if not specified, shall be of good quality and new, except as otherwise provided in the Contract Documents. All special warranties and guarantees required by the Specifications shall expressly run to the benefit of City. If required by City, 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 to be incorporated into the Work shall 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.
- D. All items of standard equipment to be incorporated into the Work shall be the latest model at the time of bid, unless otherwise specified.

6.04 *Project Schedule*

- A. Contractor shall adhere to the Project Schedule established in accordance with Paragraph 2.07 and the General Requirements as it may be adjusted from time to time as provided below.
 - 1. Contractor shall submit to City for acceptance (to the extent indicated in Paragraph 2.07 and the General Requirements) proposed adjustments in the Project Schedule that will not result in changing the Contract Time. Such adjustments will comply with any provisions of the General Requirements applicable thereto.
 - 2. Contractor shall submit to City a monthly Project Schedule with a monthly progress payment for the duration of the Contract in accordance with the schedule specification 01 32 16.
 - 3. Proposed adjustments in the Project Schedule that will change the Contract Time shall be submitted in accordance with the requirements of Article 12. Adjustments in Contract Time may only be made by a Change Order.

6.05 *Substitutes and "Or-Equals"*

- A. Whenever an item of material or equipment is specified or described in the Contract Documents by using the name of a proprietary item or the name of a particular Supplier, the specification or description 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 or no substitution is permitted, other items of material or equipment of other Suppliers may be submitted to City for review under the circumstances described below.
 - 1. *"Or-Equal" Items:* If in City's sole discretion an item of material or equipment proposed by Contractor is functionally equal to that named and sufficiently similar so that no change in related Work will be required, it may be considered by City as an "or-equal" item, in which case review and approval of the proposed item may, in City's sole discretion, be accomplished without compliance with some or all of the requirements for approval of proposed substitute items. For the purposes of this Paragraph 6.05.A.1, a proposed item of material or equipment will be considered functionally equal to an item so named if:
 - a. the City determines that:
 - 1) it is at least equal in materials of construction, quality, durability, appearance, strength, and design characteristics;

- 2) it 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; and
 - 3) it has a proven record of performance and availability of responsive service; and
- b. Contractor certifies that, if approved and incorporated into the Work:
- 1) there will be no increase in cost to the City or increase in Contract Time; and
 - 2) it will conform substantially to the detailed requirements of the item named in the Contract Documents.

2. *Substitute Items:*

- a. If in City's sole discretion an item of material or equipment proposed by Contractor does not qualify as an "or-equal" item under Paragraph 6.05.A.1, it may be submitted as a proposed substitute item.
- b. Contractor shall submit sufficient information as provided below to allow City to determine if the item of material or equipment proposed is essentially equivalent to that named and an acceptable substitute therefor. Requests for review of proposed substitute items of material or equipment will not be accepted by City from anyone other than Contractor.
- c. Contractor shall make written application to City for review of a proposed substitute item of material or equipment that Contractor seeks to furnish or use. The application shall comply with Section 01 25 00 and:
 - 1) shall certify that the proposed substitute item will:
 - a) perform adequately the functions and achieve the results called for by the general design;
 - b) be similar in substance to that specified;
 - c) be suited to the same use as that specified; and
 - 2) will state:
 - a) the extent, if any, to which the use of the proposed substitute item will prejudice Contractor's achievement of final completion on time;
 - b) 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 City for other work on the Project) to adapt the design to the proposed substitute item;

- c) whether incorporation or use of the proposed substitute item in connection with the Work is subject to payment of any license fee or royalty; and
- 3) will identify:
 - a) all variations of the proposed substitute item from that specified;
 - b) available engineering, sales, maintenance, repair, and replacement services; and
- 4) shall contain an itemized estimate of all costs or credits that will result directly or indirectly from use of such substitute item, including costs of redesign and Damage Claims of other contractors affected by any resulting change.

- B. *Substitute Construction Methods or Procedures:* If a specific means, method, technique, sequence, or procedure of construction is expressly required by the Contract Documents, Contractor may furnish or utilize a substitute means, method, technique, sequence, or procedure of construction approved by City. Contractor shall submit sufficient information to allow City, in City's sole discretion, to determine that the substitute proposed is equivalent to that expressly called for by the Contract Documents. Contractor shall make written application to City for review in the same manner as those provided in Paragraph 6.05.A.2.
- C. *City's Evaluation:* City will be allowed a reasonable time within which to evaluate each proposal or submittal made pursuant to Paragraphs 6.05.A and 6.05.B. City may require Contractor to furnish additional data about the proposed substitute. City will be the sole judge of acceptability. No "or-equal" or substitute will be ordered, installed or utilized until City's review is complete, which will be evidenced by a Change Order in the case of a substitute and an accepted Submittal for an "or-equal." City will advise Contractor in writing of its determination.
- D. *Special Guarantee:* City may require Contractor to furnish at Contractor's expense a special performance guarantee, warranty, or other surety with respect to any substitute. *Contractor shall indemnify and hold harmless City and anyone directly or indirectly employed by them from and against any and all claims, damages, losses and expenses (including attorneys fees) arising out of the use of substituted materials or equipment.*
- E. *City's Cost Reimbursement:* City will record City's costs in evaluating a substitute proposed or submitted by Contractor pursuant to Paragraphs 6.05.A.2 and 6.05.B. Whether or not City approves a substitute so proposed or submitted by Contractor, Contractor may be required to reimburse City for evaluating each such proposed substitute. Contractor may also be required to reimburse City for the charges for making changes in the Contract Documents (or in the provisions of any other direct contract with City) resulting from the acceptance of each proposed substitute.
- F. *Contractor's Expense:* Contractor shall provide all data in support of any proposed substitute or "or-equal" at Contractor's expense.

G. *City Substitute Reimbursement*: Costs (savings or charges) attributable to acceptance of a substitute shall be incorporated to the Contract by Change Order.

H. *Time Extensions*: No additional time will be granted for substitutions.

6.06 *Concerning Subcontractors, Suppliers, and Others*

A. Contractor shall perform with his own organization, work of a value not less than 35% of the value embraced on the Contract, unless otherwise approved by the City.

B. Contractor shall not employ any Subcontractor, Supplier, or other individual or entity, whether initially or as a replacement, against whom City may have reasonable objection. Contractor shall not be required to employ any Subcontractor, Supplier, or other individual or entity to furnish or perform any of the Work against whom Contractor has reasonable objection (excluding those acceptable to City as indicated in Paragraph 6.06.C).

C. The City may from time to time require the use of certain Subcontractors, Suppliers, or other individuals or entities on the project, and will provide such requirements in the Supplementary Conditions.

D. *Minority Business Enterprise Compliance*: It is City policy to ensure the full and equitable participation by Minority Business Enterprises (MBE) in the procurement of goods and services on a contractual basis. If the Contract Documents provide for a MBE goal, Contractor is required to comply with the intent of the City's MBE Ordinance (as amended) by the following:

1. Contractor shall, upon request by City, provide complete and accurate information regarding actual work performed by a MBE on the Contract and payment therefor.
2. Contractor will not make additions, deletions, or substitutions of accepted MBE without written consent of the City. Any unjustified change or deletion shall be a material breach of Contract and may result in debarment in accordance with the procedures outlined in the Ordinance.
3. Contractor shall, upon request by City, allow an audit and/or examination of any books, records, or files in the possession of the Contractor that will substantiate the actual work performed by an MBE. Material misrepresentation of any nature will be grounds for termination of the Contract in accordance with Paragraph 15.02.A. Any such misrepresentation may be grounds for disqualification of Contractor to bid on future contracts with the City for a period of not less than three years.

E. Contractor shall be fully responsible to City for all acts and omissions of the Subcontractors, Suppliers, and other individuals or entities performing or furnishing any of the Work just as Contractor is responsible for Contractor's own acts and omissions. Nothing in the Contract Documents:

1. shall create for the benefit of any such Subcontractor, Supplier, or other individual or entity any contractual relationship between City and any such Subcontractor, Supplier or other individual or entity; nor
 2. shall create any obligation on the part of City to pay or to see to the payment of any moneys due any such Subcontractor, Supplier, or other individual or entity except as may otherwise be required by Laws and Regulations.
- F. Contractor shall be solely responsible for scheduling and coordinating the Work of Subcontractors, Suppliers, and other individuals or entities performing or furnishing any of the Work under a direct or indirect contract with Contractor.
- G. All Subcontractors, Suppliers, and such other individuals or entities performing or furnishing any of the Work shall communicate with City through Contractor.
- H. All Work performed for Contractor by a Subcontractor or Supplier will be pursuant to an appropriate agreement between Contractor and the Subcontractor or Supplier which specifically binds the Subcontractor or Supplier to the applicable terms and conditions of the Contract Documents for the benefit of City.

6.07 *Wage Rates*

- A. *Duty to pay Prevailing Wage Rates.* The Contractor shall comply with all requirements of Chapter 2258, Texas Government Code (as amended), including the payment of not less than the rates determined by the City Council of the City of Fort Worth to be the prevailing wage rates in accordance with Chapter 2258. Such prevailing wage rates are included in these Contract Documents.
- B. *Penalty for Violation.* A Contractor or any Subcontractor who does not pay the prevailing wage shall, upon demand made by the City, pay to the City \$60 for each worker employed for each calendar day or part of the day that the worker is paid less than the prevailing wage rates stipulated in these contract documents. This penalty shall be retained by the City to offset its administrative costs, pursuant to Texas Government Code 2258.023.
- C. *Complaints of Violations and City Determination of Good Cause.* On receipt of information, including a complaint by a worker, concerning an alleged violation of 2258.023, Texas Government Code, by a Contractor or Subcontractor, the City shall make an initial determination, before the 31st day after the date the City receives the information, as to whether good cause exists to believe that the violation occurred. The City shall notify in writing the Contractor or Subcontractor and any affected worker of its initial determination. Upon the City's determination that there is good cause to believe the Contractor or Subcontractor has violated Chapter 2258, the City shall retain the full amounts claimed by the claimant or claimants as the difference between wages paid and wages due under the prevailing wage rates, such amounts being subtracted from successive progress payments pending a final determination of the violation.

- D. *Arbitration Required if Violation Not Resolved.* An issue relating to an alleged violation of Section 2258.023, Texas Government Code, including a penalty owed to the City or an affected worker, shall be submitted to binding arbitration in accordance with the Texas General Arbitration Act (Article 224 et seq., Revised Statutes) if the Contractor or Subcontractor and any affected worker does not resolve the issue by agreement before the 15th day after the date the City makes its initial determination pursuant to Paragraph C above. If the persons required to arbitrate under this section do not agree on an arbitrator before the 11th day after the date that arbitration is required, a district court shall appoint an arbitrator on the petition of any of the persons. The City is not a party in the arbitration. The decision and award of the arbitrator is final and binding on all parties and may be enforced in any court of competent jurisdiction.
- E. *Records to be Maintained.* The Contractor and each Subcontractor shall, for a period of three (3) years following the date of acceptance of the work, maintain records that show (i) the name and occupation of each worker employed by the Contractor in the construction of the Work provided for in this Contract; and (ii) the actual per diem wages paid to each worker. The records shall be open at all reasonable hours for inspection by the City. The provisions of Paragraph 6.23, Right to Audit, shall pertain to this inspection.
- F. *Progress Payments.* With each progress payment or payroll period, whichever is less, the Contractor shall submit an affidavit stating that the Contractor has complied with the requirements of Chapter 2258, Texas Government Code.
- G. *Posting of Wage Rates.* The Contractor shall post prevailing wage rates in a conspicuous place at all times.
- H. *Subcontractor Compliance.* The Contractor shall include in its subcontracts and/or shall otherwise require all of its Subcontractors to comply with Paragraphs A through G above.

6.08 *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 a particular 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 City, 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 shall be disclosed by City in the Contract Documents. Failure of the City to disclose such information does not relieve the Contractor from its obligations to pay for the use of said fees or royalties to others.
- B. *To the fullest extent permitted by Laws and Regulations, Contractor shall indemnify and hold harmless City, 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.

6.09 *Permits and Utilities*

- A. *Contractor obtained permits and licenses.* Contractor shall obtain and pay for all construction permits and licenses except those provided for in the Supplementary Conditions or Contract Documents. City 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 opening of Bids, or, if there are no Bids, on the Effective Date of the Agreement, except for permits provided by the City as specified in 6.09.B. City shall pay all charges of utility owners for connections for providing permanent service to the Work.
- B. *City obtained permits and licenses.* City will obtain and pay for all permits and licenses as provided for in the Supplementary Conditions or Contract Documents. It will be the Contractor's responsibility to carry out the provisions of the permit. If the Contractor initiates changes to the Contract and the City approves the changes, the Contractor is responsible for obtaining clearances and coordinating with the appropriate regulatory agency. The City will not reimburse the Contractor for any cost associated with these requirements of any City acquired permit. The following are permits the City will obtain if required:
1. Texas Department of Transportation Permits
 2. U.S. Army Corps of Engineers Permits
 3. Texas Commission on Environmental Quality Permits
 4. Railroad Company Permits
- C. *Outstanding permits and licenses.* The City anticipates acquisition of and/or access to permits and licenses. Any outstanding permits and licenses are anticipated to be acquired in accordance with the schedule set forth in the Supplementary Conditions. The Project Schedule submitted by the Contractor in accordance with the Contract Documents must consider any outstanding permits and licenses.

6.10 *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. Except where otherwise expressly required by applicable Laws and Regulations, the City shall not be responsible for monitoring Contractor's compliance with any Laws or Regulations.
- B. If Contractor performs any Work knowing or having reason to know that it is contrary to Laws or Regulations, Contractor shall bear 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. However, it shall not be Contractor's responsibility to make certain that the Specifications and Drawings are in accordance with Laws and Regulations, but this shall not relieve Contractor of Contractor's obligations under Paragraph 3.02.

- C. Changes in Laws or Regulations not known at the time of opening of Bids having an effect on the cost or time of performance of the Work may be the subject of an adjustment in Contract Price or Contract Time.

6.11 *Taxes*

A. On a contract awarded by the City, an organization which qualifies for exemption pursuant to Texas Tax Code, Subchapter H, Sections 151.301-335 (as amended), the Contractor may purchase, rent or lease all materials, supplies and equipment used or consumed in the performance of this contract by issuing to his supplier an exemption certificate in lieu of the tax, said exemption certificate to comply with State Comptroller's Ruling .007. Any such exemption certificate issued to the Contractor in lieu of the tax shall be subject to and shall comply with the provision of State Comptroller's Ruling .011, and any other applicable rulings pertaining to the Texas Tax Code, Subchapter H.

B. Texas Tax permits and information may be obtained from:

1. Comptroller of Public Accounts
Sales Tax Division
Capitol Station
Austin, TX 78711; or
2. <http://www.window.state.tx.us/taxinfo/taxforms/93-forms.html>

6.12 *Use of Site and Other Areas*

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

1. Contractor shall confine construction equipment, the storage of materials and equipment, and the operations of workers to the Site and other areas permitted by Laws and Regulations, and shall not unreasonably encumber the Site and other areas with construction equipment or other materials or equipment. Contractor shall assume full responsibility for any damage to any such land or area, or to the owner or occupant thereof, or of any adjacent land or areas resulting from the performance of the Work.
2. At any time when, in the judgment of the City, the Contractor has obstructed or closed or is carrying on operations in a portion of a street, right-of-way, or easement greater than is necessary for proper execution of the Work, the City may require the Contractor to finish the section on which operations are in progress before work is commenced on any additional area of the Site.

3. Should any Damage Claim be made by any such owner or occupant because of the performance of the Work, Contractor shall promptly attempt to resolve the Damage Claim.
 4. *Pursuant to Paragraph 6.21, Contractor shall indemnify and hold harmless City, from and against all claims, costs, losses, and damages arising out of or relating to any claim or action, legal or equitable, brought by any such owner or occupant against City.*
- B. *Removal of Debris During Performance of the Work:* During the progress of the Work Contractor shall keep the Site and other areas free from accumulations of waste materials, rubbish, and other debris. Removal and disposal of such waste materials, rubbish, and other debris shall conform to applicable Laws and Regulations.
 - C. *Site Maintenance Cleaning:* 24 hours after written notice is given to the Contractor that the clean-up on the job site is proceeding in a manner unsatisfactory to the City, if the Contractor fails to correct the unsatisfactory procedure, the City may take such direct action as the City deems appropriate to correct the clean-up deficiencies cited to the Contractor in the written notice (by letter or electronic communication), and the costs of such direct action, plus 25 % of such costs, shall be deducted from the monies due or to become due to the Contractor.
 - D. *Final Site Cleaning:* Prior to Final Acceptance of the Work Contractor shall clean the Site and the Work and make it ready for utilization by City or adjacent property owner. At the completion of the Work Contractor shall remove from the Site all tools, appliances, construction equipment and machinery, and surplus materials and shall restore to original condition or better all property disturbed by the Work.
 - E. *Loading 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 property to stresses or pressures that will endanger it.

6.13 *Record Documents*

- A. Contractor shall maintain in a safe place at the Site or in a place designated by the Contractor and approved by the City, one (1) record copy of all Drawings, Specifications, Addenda, Change Orders, Field Orders, and written interpretations and clarifications in good order and annotated to show changes made during construction. These record documents together with all approved Samples and a counterpart of all accepted Submittals will be available to City for reference. Upon completion of the Work, these record documents, any operation and maintenance manuals, and Submittals will be delivered to City prior to Final Inspection. Contractor shall include accurate locations for buried and imbedded items.

6.14 *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. 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, utilities, and Underground Facilities not designated for removal, relocation, or replacement in the course of construction.
- B. 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. Contractor shall notify owners of adjacent property and of Underground Facilities and other utility owners when prosecution of the Work may affect them, and shall cooperate with them in the protection, removal, relocation, and replacement of their property.
- C. Contractor shall comply with the applicable requirements of City's safety programs, if any.
- D. Contractor shall inform City of the specific requirements of Contractor's safety program, if any, with which City's employees and representatives must comply while at the Site.
- E. All damage, injury, or loss to any property referred to in Paragraph 6.14.A.2 or 6.14.A.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.
- F. Contractor's duties and responsibilities for safety and for protection of the Work shall continue until such time as all the Work is completed and City has accepted the Work.

6.15 *Safety Representative*

Contractor shall inform City in writing of Contractor's designated safety representative at the Site.

6.16 *Hazard Communication Programs*

Contractor shall be responsible for coordinating any exchange of material safety data sheets or other hazard communication information required to be made available to or exchanged between or among employers in accordance with Laws or Regulations.

6.17 *Emergencies and/or Rectification*

- 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 threatened damage, injury, or loss. Contractor shall give City prompt written notice if Contractor believes that any significant

changes in the Work or variations from the Contract Documents have been caused thereby or are required as a result thereof. If City determines that a change in the Contract Documents is required because of the action taken by Contractor in response to such an emergency, a Change Order may be issued.

- B. Should the Contractor fail to respond to a request from the City to rectify any discrepancies, omissions, or correction necessary to conform with the requirements of the Contract Documents, the City shall give the Contractor written notice that such work or changes are to be performed. The written notice shall direct attention to the discrepant condition and request the Contractor to take remedial action to correct the condition. In the event the Contractor does not take positive steps to fulfill this written request, or does not show just cause for not taking the proper action, within 24 hours, the City may take such remedial action with City forces or by contract. The City shall deduct an amount equal to the entire costs for such remedial action, plus 25%, from any funds due or become due the Contractor on the Project.

6.18 *Submittals*

- A. Contractor shall submit required Submittals to City for review and acceptance in accordance with the accepted Schedule of Submittals (as required by Paragraph 2.07). Each submittal will be identified as City may require.
1. Submit number of copies specified in the General Requirements.
 2. Data shown on the Submittals will be complete with respect to quantities, dimensions, specified performance and design criteria, materials, and similar data to show City the services, materials, and equipment Contractor proposes to provide and to enable City to review the information for the limited purposes required by Paragraph 6.18.C.
 3. Submittals submitted as herein provided by Contractor and reviewed by City for conformance with the design concept shall be executed in conformity with the Contract Documents unless otherwise required by City.
 4. When Submittals are submitted for the purpose of showing the installation in greater detail, their review shall not excuse Contractor from requirements shown on the Drawings and Specifications.
 5. For-Information-Only submittals upon which the City is not expected to conduct review or take responsive action may be so identified in the Contract Documents.
 6. Submit required number of Samples specified in the Specifications.
 7. Clearly identify each Sample as to material, Supplier, pertinent data such as catalog numbers, the use for which intended and other data as City may require to enable City to review the submittal for the limited purposes required by Paragraph 6.18.C.

B. Where a Submittal is required by the Contract Documents or the Schedule of Submittals, any related Work performed prior to City's review and acceptance of the pertinent submittal will be at the sole expense and responsibility of Contractor.

C. *City's Review:*

1. City will provide timely review of required Submittals in accordance with the Schedule of Submittals acceptable to City. City's review and acceptance will be only to determine if the items covered by the submittals will, after installation or incorporation in the Work, conform to the information given in 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. City's review and acceptance will not extend to means, methods, techniques, sequences, or procedures of construction (except where a particular means, method, technique, sequence, or procedure of construction is specifically and expressly called for by the Contract Documents) or to safety precautions or programs incident thereto. The review and acceptance of a separate item as such will not indicate approval of the assembly in which the item functions.
3. City's review and acceptance shall not relieve Contractor from responsibility for any variation from the requirements of the Contract Documents unless Contractor has complied with the requirements of Section 01 33 00 and City has given written acceptance of each such variation by specific written notation thereof incorporated in or accompanying the Submittal. City's review and acceptance shall not relieve Contractor from responsibility for complying with the requirements of the Contract Documents.

6.19 *Continuing the Work*

Except as otherwise provided, Contractor shall carry on the Work and adhere to the Project Schedule during all disputes or disagreements with City. No Work shall be delayed or postponed pending resolution of any disputes or disagreements, except as City and Contractor may otherwise agree in writing.

6.20 *Contractor's General Warranty and Guarantee*

- A. Contractor warrants and guarantees to City that all Work will be in accordance with the Contract Documents and will not be defective. City and its officers, directors, members, partners, employees, agents, consultants, and subcontractors shall be entitled to rely on representation of Contractor's warranty and guarantee.
- B. Contractor's warranty and guarantee hereunder excludes defects or damage caused by:
 1. abuse, modification, or improper 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.
- C. Contractor's obligation to perform and complete the Work in accordance with the Contract Documents shall be absolute. None of the following will constitute an acceptance of Work that is not in accordance with the Contract Documents or a release of Contractor's obligation to perform the Work in accordance with the Contract Documents:
1. observations by City;
 2. recommendation or payment by City of any progress or final payment;
 3. the issuance of a certificate of Final Acceptance by City or any payment related thereto by City;
 4. use or occupancy of the Work or any part thereof by City;
 5. any review and acceptance of a Submittal by City;
 6. any inspection, test, or approval by others; or
 7. any correction of defective Work by City.
- D. The Contractor shall remedy any defects or damages in the Work and pay for any damage to other work or property resulting therefrom which shall appear within a period of two (2) years from the date of Final Acceptance of the Work unless a longer period is specified and shall furnish a good and sufficient maintenance bond, complying with the requirements of Article 5.02.B. The City will give notice of observed defects with reasonable promptness.

6.21 Indemnification

- A. **Contractor covenants and agrees to indemnify, hold harmless and defend, at its own expense, the City, its officers, servants and employees, from and against any and all claims arising out of, or alleged to arise out of, the work and services to be performed by the Contractor, its officers, agents, employees, subcontractors, licenses or invitees under this Contract. THIS INDEMNIFICATION PROVISION IS SPECIFICALLY INTENDED TO OPERATE AND BE EFFECTIVE EVEN IF IT IS ALLEGED OR PROVEN THAT ALL OR SOME OF THE DAMAGES BEING SOUGHT WERE CAUSED, IN WHOLE OR IN PART, BY ANY ACT, OMISSION OR NEGLIGENCE OF THE CITY. This indemnity provision is intended to include, without limitation, indemnity for costs, expenses and legal fees incurred by the City in defending against such claims and causes of actions.**
- B. **Contractor covenants and agrees to indemnify and hold harmless, at its own expense, the City, its officers, servants and employees, from and against any and all loss, damage or destruction of property of the City, arising out of, or alleged to arise out of, the work and services to be performed by the Contractor, its officers, agents, employees, subcontractors, licensees or invitees under this Contract. THIS INDEMNIFICATION PROVISION IS**

SPECIFICALLY INTENDED TO OPERATE AND BE EFFECTIVE EVEN IF IT IS ALLEGED OR PROVEN THAT ALL OR SOME OF THE DAMAGES BEING SOUGHT WERE CAUSED, IN WHOLE OR IN PART, BY ANY ACT, OMISSION OR NEGLIGENCE OF THE CITY.

6.22 *Delegation of Professional Design Services*

- A. Contractor will not be required to provide professional design services unless such services are specifically required by the Contract Documents for a portion of the Work or unless such services are required to carry out Contractor's responsibilities for construction means, methods, techniques, sequences and procedures.
- B. If professional design services or certifications by a design professional related to systems, materials or equipment are specifically required of Contractor by the Contract Documents, City will specify all performance and design criteria that such services must satisfy. Contractor shall cause such services or certifications to be provided by a properly licensed professional, whose signature and seal shall appear on all drawings, calculations, specifications, certifications, and Submittals prepared by such professional. Submittals related to the Work designed or certified by such professional, if prepared by others, shall bear such professional's written approval when submitted to City.
- C. City shall be entitled to rely upon the adequacy, accuracy and completeness of the services, certifications or approvals performed by such design professionals, provided City has specified to Contractor performance and design criteria that such services must satisfy.
- D. Pursuant to this Paragraph 6.22, City's review and acceptance of design calculations and design drawings will be only for the limited purpose of checking for conformance with performance and design criteria given and the design concept expressed in the Contract Documents. City's review and acceptance of Submittals (except design calculations and design drawings) will be only for the purpose stated in Paragraph 6.18.C.

6.23 *Right to Audit*

- A. The Contractor agrees that the City shall, until the expiration of three (3) years after final payment under this Contract, have access to and the right to examine and photocopy any directly pertinent books, documents, papers, and records of the Contractor involving transactions relating to this Contract. Contractor agrees that the City shall have access during Regular Working Hours to all necessary Contractor facilities and shall be provided adequate and appropriate work space in order to conduct audits in compliance with the provisions of this Paragraph. The City shall give Contractor reasonable advance notice of intended audits.
- B. Contractor further agrees to include in all its subcontracts hereunder a provision to the effect that the subcontractor agrees that the City shall, until the expiration of three (3) years after final payment under this Contract, have access to and the right to examine and photocopy any directly pertinent books, documents, papers, and records of such Subcontractor, involving transactions to the subcontract, and further, that City shall have access during Regular Working Hours to all

Subcontractor facilities, and shall be provided adequate and appropriate work space in order to conduct audits in compliance with the provisions of this Paragraph. The City shall give Subcontractor reasonable advance notice of intended audits.

- C. Contractor and Subcontractor agree to photocopy such documents as may be requested by the City. The City agrees to reimburse Contractor for the cost of the copies as follows at the rate published in the Texas Administrative Code in effect as of the time copying is performed.

6.24 *Nondiscrimination*

- A. The City is responsible for operating Public Transportation Programs and implementing transit-related projects, which are funded in part with Federal financial assistance awarded by the U.S. Department of Transportation and the Federal Transit Administration (FTA), without discriminating against any person in the United States on the basis of race, color, or national origin.
- B. *Title VI, Civil Rights Act of 1964 as amended*: Contractor shall comply with the requirements of the Act and the Regulations as further defined in the Supplementary Conditions for any project receiving Federal assistance.

ARTICLE 7 – OTHER WORK AT THE SITE

7.01 *Related Work at Site*

- A. City may perform other work related to the Project at the Site with City's employees, or other City contractors, or through other direct contracts therefor, or have other work performed by utility owners. If such other work is not noted in the Contract Documents, then written notice thereof will be given to Contractor prior to starting any such other work; and
- B. Contractor shall afford each other contractor who is a party to such a direct contract, each utility owner, and City, if City is performing other work with City's employees or other City contractors, proper and safe access to the Site, provide a reasonable opportunity for the introduction and storage of materials and equipment and the execution of such other work, and properly coordinate the Work with theirs. 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 City and the others whose work will be affected.
- C. If the proper execution or results of any part of Contractor's Work depends upon work performed by others under this Article 7, Contractor shall inspect such other work and promptly report to City 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 in the work provided by others.

7.02 *Coordination*

- A. If City intends to contract with others for the performance of other work on the Project at the Site, the following will be set forth in Supplementary Conditions:
1. the individual or entity who will have authority and responsibility for coordination of the activities among the various contractors will be identified;
 2. the specific matters to be covered by such authority and responsibility will be itemized; and
 3. the extent of such authority and responsibilities will be provided.
- B. Unless otherwise provided in the Supplementary Conditions, City shall have authority for such coordination.

ARTICLE 8 – CITY’S RESPONSIBILITIES

8.01 *Communications to Contractor*

Except as otherwise provided in the Supplementary Conditions, City shall issue all communications to Contractor.

8.02 *Furnish Data*

City shall timely furnish the data required under the Contract Documents.

8.03 *Pay When Due*

City shall make payments to Contractor in accordance with Article 14.

8.04 *Lands and Easements; Reports and Tests*

City’s duties with respect to providing lands and easements and providing engineering surveys to establish reference points are set forth in Paragraphs 4.01 and 4.05. Paragraph 4.02 refers to City’s identifying and making available to Contractor copies of reports of explorations and tests of subsurface conditions and drawings of physical conditions relating to existing surface or subsurface structures at or contiguous to the Site that have been utilized by City in preparing the Contract Documents.

8.05 *Change Orders*

City shall execute Change Orders in accordance with Paragraph 10.03.

8.06 *Inspections, Tests, and Approvals*

City’s responsibility with respect to certain inspections, tests, and approvals is set forth in Paragraph 13.03.

8.07 *Limitations on City's Responsibilities*

A. The City 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. City will not be responsible for Contractor's failure to perform the Work in accordance with the Contract Documents.

B. City will notify the Contractor of applicable safety plans pursuant to Paragraph 6.14.

8.08 *Undisclosed Hazardous Environmental Condition*

City's responsibility with respect to an undisclosed Hazardous Environmental Condition is set forth in Paragraph 4.06.

8.09 *Compliance with Safety Program*

While at the Site, City's employees and representatives shall comply with the specific applicable requirements of Contractor's safety programs of which City has been informed pursuant to Paragraph 6.14.

ARTICLE 9 – CITY'S OBSERVATION STATUS DURING CONSTRUCTION

9.01 *City's Project Manager*

City will provide one or more Project Manager(s) during the construction period. The duties and responsibilities and the limitations of authority of City's Project Manager during construction are set forth in the Contract Documents. The City's Project Manager for this Contract is identified in the Supplementary Conditions.

9.02 *Visits to Site*

A. City's Project Manager will make visits to the Site at intervals appropriate to the various stages of construction as City deems necessary in order to observe 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, City's Project Manager will determine, in general, if the Work is proceeding in accordance with the Contract Documents. City's Project Manager will not be required to make exhaustive or continuous inspections on the Site to check the quality or quantity of the Work. City's Project Manager's efforts will be directed toward providing City a greater degree of confidence that the completed Work will conform generally to the Contract Documents.

B. City's Project Manager's visits and observations are subject to all the limitations on authority and responsibility in the Contract Documents including those set forth in Paragraph 8.07.

9.03 *Authorized Variations in Work*

City's Project Manager may authorize minor variations in the Work from the requirements of the Contract Documents which do not involve an adjustment in the Contract Price or the Contract Time and are compatible with the design concept of the completed Project as a functioning whole as indicated by the Contract Documents. These may be accomplished by a Field Order and will be binding on City and also on Contractor, who shall perform the Work involved promptly.

9.04 *Rejecting Defective Work*

City will have authority to reject Work which City's Project Manager believes to be defective, or will not produce a completed Project that conforms to the Contract Documents or that will prejudice the integrity of the design concept of the completed Project as a functioning whole as indicated by the Contract Documents. City will have authority to conduct special inspection or testing of the Work as provided in Article 13, whether or not the Work is fabricated, installed, or completed.

9.05 *Determinations for Work Performed*

Contractor will determine the actual quantities and classifications of Work performed. City's Project Manager will review with Contractor the preliminary determinations on such matters before rendering a written recommendation. City's written decision will be final (except as modified to reflect changed factual conditions or more accurate data).

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

- A. City will be the initial interpreter of the requirements of the Contract Documents and judge of the acceptability of the Work thereunder.
- B. City will render a written decision on any issue referred.
- C. City's written decision on the issue referred will be final and binding on the Contractor, subject to the provisions of Paragraph 10.06.

ARTICLE 10 – CHANGES IN THE WORK; CLAIMS; EXTRA WORK

10.01 *Authorized Changes in the Work*

- A. Without invalidating the Contract and without notice to any surety, City may, at any time or from time to time, order Extra Work. Upon notice of such Extra Work, Contractor shall promptly proceed with the Work involved which will be performed under the applicable conditions of the Contract Documents (except as otherwise specifically provided). Extra Work shall be memorialized by a Change Order which may or may not precede an order of Extra work.
- B. For minor changes of Work not requiring changes to Contract Time or Contract Price, a Field Order may be issued by the City.

10.02 *Unauthorized Changes in the Work*

Contractor shall not be entitled to an increase in the Contract Price or an extension of the Contract Time with respect to any work performed that is not required by the Contract Documents as amended, modified, or supplemented as provided in Paragraph 3.04, except in the case of an emergency as provided in Paragraph 6.17.

10.03 *Execution of Change Orders*

A. City and Contractor shall execute appropriate Change Orders covering:

1. changes in the Work which are: (i) ordered by City pursuant to Paragraph 10.01.A, (ii) required because of acceptance of defective Work under Paragraph 13.08 or City's correction of defective Work under Paragraph 13.09, or (iii) agreed to by the parties;
2. changes in the Contract Price or Contract Time which are agreed to by the parties, including any undisputed sum or amount of time for Work actually performed.

10.04 *Extra Work*

- A. Should a difference arise as to what does or does not constitute Extra Work, or as to the payment thereof, and the City insists upon its performance, the Contractor shall proceed with the work after making written request for written orders and shall keep accurate account of the actual reasonable cost thereof. Contract Claims regarding Extra Work shall be made pursuant to Paragraph 10.06.
- B. The Contractor shall furnish the City such installation records of all deviations from the original Contract Documents as may be necessary to enable the City to prepare for permanent record a corrected set of plans showing the actual installation.
- C. The compensation agreed upon for Extra Work whether or not initiated by a Change Order shall be a full, complete and final payment for all costs Contractor incurs as a result or relating to the change or Extra Work, whether said costs are known, unknown, foreseen or unforeseen at that time, including without limitation, any costs for delay, extended overhead, ripple or impact cost, or any other effect on changed or unchanged work as a result of the change or Extra Work.

10.05 *Notification to Surety*

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 Time), the giving of any such notice will be Contractor's responsibility. The amount of each applicable bond will be adjusted by the Contractor to reflect the effect of any such change.

10.06 *Contract Claims Process*

- A. *City's Decision Required:* All Contract Claims, except those waived pursuant to Paragraph 14.09, shall be referred to the City for decision. A decision by City shall be required as a condition precedent to any exercise by Contractor of any rights or remedies he may otherwise have under the Contract Documents or by Laws and Regulations in respect of such Contract Claims.
- B. *Notice:*
1. Written notice stating the general nature of each Contract Claim shall be delivered by the Contractor to City no later than 15 days after the start of the event giving rise thereto. The responsibility to substantiate a Contract Claim shall rest with the party making the Contract Claim.
 2. Notice of the amount or extent of the Contract Claim, with supporting data shall be delivered to the City on or before 45 days from the start of the event giving rise thereto (unless the City allows additional time for Contractor to submit additional or more accurate data in support of such Contract Claim).
 3. A Contract Claim for an adjustment in Contract Price shall be prepared in accordance with the provisions of Paragraph 12.01.
 4. A Contract Claim for an adjustment in Contract Time shall be prepared in accordance with the provisions of Paragraph 12.02.
 5. Each Contract Claim shall be accompanied by Contractor's written statement that the adjustment claimed is the entire adjustment to which the Contractor believes it is entitled as a result of said event.
 6. The City shall submit any response to the Contractor within 30 days after receipt of the claimant's last submittal (unless Contract allows additional time).
- C. *City's Action:* City will review each Contract Claim and, within 30 days after receipt of the last submittal of the Contractor, if any, take one of the following actions in writing:
1. deny the Contract Claim in whole or in part;
 2. approve the Contract Claim; or
 3. notify the Contractor that the City is unable to resolve the Contract Claim if, in the City's sole discretion, it would be inappropriate for the City to do so. For purposes of further resolution of the Contract Claim, such notice shall be deemed a denial.

- D. City's written action under Paragraph 10.06.C will be final and binding, unless City or Contractor invoke the dispute resolution procedure set forth in Article 16 within 30 days of such action or denial.
- E. No Contract Claim for an adjustment in Contract Price or Contract Time will be valid if not submitted in accordance with this Paragraph 10.06.

ARTICLE 11 – COST OF THE WORK; ALLOWANCES; UNIT PRICE WORK; PLANS QUANTITY MEASUREMENT

11.01 Cost of the Work

- A. *Costs Included:* The term Cost of the Work means the sum of all costs, except those excluded in Paragraph 11.01.B, necessarily incurred and paid by Contractor in the proper performance of the Work. When the value of any Work covered by a Change Order, the costs to be reimbursed to Contractor will be only those additional or incremental costs required because of the change in the Work. Such costs shall not include any of the costs itemized in Paragraph 11.01.B, and shall include but not be limited to 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 City and Contractor. Such employees shall include, without limitation, superintendents, foremen, and other personnel employed full time on the Work. Payroll costs for employees not employed full time on the Work shall be apportioned on the basis of their time spent on the Work. Payroll costs shall include;
 - a. salaries with a 55% markup, or
 - b. salaries and wages plus the cost of fringe benefits, which shall include social security contributions, unemployment, excise, and payroll taxes, workers' compensation, health and retirement benefits, bonuses, sick leave, vacation and holiday pay applicable thereto. The expenses of performing Work outside of Regular Working Hours, Weekend Working Hours, or legal holidays, shall be included in the above to the extent authorized by City.
 - 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.
 - 3. Rentals of all construction equipment and machinery, and the parts thereof whether rented from Contractor or others in accordance with rental agreements approved by City, and the costs of transportation, loading, unloading, assembly, dismantling, and removal thereof. All such costs shall be in accordance with the terms of said rental agreements. The rental of any such equipment, machinery, or parts shall cease when the use thereof is no longer necessary for the Work.

4. Payments made by Contractor to Subcontractors for Work performed by Subcontractors. If required by City, Contractor shall obtain competitive bids from subcontractors acceptable to City and Contractor and shall deliver such bids to City, who will then determine, 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 shall be determined in the same manner as Contractor's Cost of the Work and fee as provided in this Paragraph 11.01.
5. Costs of special consultants (including but not limited to engineers, architects, testing laboratories, surveyors, attorneys, and accountants) employed for services specifically related to the Work.
6. Supplemental costs including 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, and hand tools not owned by the workers, 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.
 - c. Sales, consumer, use, and other similar taxes related to the Work, and for which Contractor is liable not covered under Paragraph 6.11, as imposed by Laws and Regulations.
 - d. 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.
 - e. 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, 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 shall include settlements made with the written consent and approval of City. No such losses, damages, and expenses shall be included in the Cost of the Work for the purpose of determining Contractor's fee.
 - f. The cost of utilities, fuel, and sanitary facilities at the Site.
 - g. Minor expenses such as telegrams, long distance telephone calls, telephone and communication services at the Site, express and courier services, and similar petty cash items in connection with the Work.

h. The costs of premiums for all bonds and insurance Contractor is required by the Contract Documents to purchase and maintain.

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

1. Payroll costs and other compensation of Contractor's officers, executives, principals (of partnerships and sole proprietorships), general managers, safety 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 11.01.A.1 or specifically covered by Paragraph 11.01.A.4, all of which are to be considered administrative costs covered by the Contractor's fee.
2. Expenses of Contractor's principal and branch offices other than Contractor's office at the Site.
3. Any part of Contractor's capital expenses, including interest on Contractor's capital employed for the Work and charges against Contractor for delinquent payments.
4. 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.
5. Other overhead or general expense costs of any kind.

C. *Contractor's Fee:* When all the Work is performed on the basis of cost-plus, Contractor's fee shall be determined as set forth in the Agreement. When the value of any Work covered by a Change Order for an adjustment in Contract Price is determined on the basis of Cost of the Work, Contractor's fee shall be determined as set forth in Paragraph 12.01.C.

D. *Documentation:* Whenever the Cost of the Work for any purpose is to be determined pursuant to Paragraphs 11.01.A and 11.01.B, Contractor will establish and maintain records thereof in accordance with generally accepted accounting practices and submit in a form acceptable to City an itemized cost breakdown together with supporting data.

11.02 Allowances

A. *Specified Allowance:* 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 City.

B. *Pre-bid Allowances:*

1. Contractor agrees that:

- a. the pre-bid allowances include the cost to Contractor of materials and equipment required by the allowances to be delivered at the Site, and all applicable taxes; and
 - b. Contractor's costs for unloading and handling on the Site, labor, installation, overhead, profit, and other expenses contemplated for the pre-bid allowances have been included in the allowances, and no demand for additional payment on account of any of the foregoing will be valid.
- C. *Contingency Allowance*: Contractor agrees that a contingency allowance, if any, is for the sole use of City.
- D. Prior to final payment, an appropriate Change Order will be issued to reflect actual amounts due Contractor on account of Work covered by allowances, and the Contract Price shall be correspondingly adjusted.

11.03 *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. Determinations of the actual quantities and classifications of Unit Price Work performed by Contractor will be made by City subject to the provisions of Paragraph 9.05.
- 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. Work described in the Contract Documents, or reasonably inferred as required for a functionally complete installation, but not identified in the listing of unit price items shall be considered incidental to unit price work listed and the cost of incidental work included as part of the unit price.
- D. City may make an adjustment in the Contract Price in accordance with Paragraph 12.01 if:
 1. the quantity of any item of Unit Price Work performed by Contractor differs materially and significantly from the estimated quantity of such item indicated in the Agreement; and
 2. there is no corresponding adjustment with respect to any other item of Work.
- E. *Increased or Decreased Quantities*: The City reserves the right to order Extra Work in accordance with Paragraph 10.01.
 1. If the changes in quantities or the alterations do not significantly change the character of work under the Contract Documents, the altered work will be paid for at the Contract unit price.

2. If the changes in quantities or alterations significantly change the character of work, the Contract will be amended by a Change Order.
3. If no unit prices exist, this will be considered Extra Work and the Contract will be amended by a Change Order in accordance with Article 12.
4. A significant change in the character of work occurs when:
 - a. the character of work for any Item as altered differs materially in kind or nature from that in the Contract or
 - b. a Major Item of work varies by more than 25% from the original Contract quantity.
5. When the quantity of work to be done under any Major Item of the Contract is more than 125% of the original quantity stated in the Contract, then either party to the Contract may request an adjustment to the unit price on the portion of the work that is above 125%.
6. When the quantity of work to be done under any Major Item of the Contract is less than 75% of the original quantity stated in the Contract, then either party to the Contract may request an adjustment to the unit price.

11.04 *Plans Quantity Measurement*

- A. Plans quantities may or may not represent the exact quantity of work performed or material moved, handled, or placed during the execution of the Contract. The estimated bid quantities are designated as final payment quantities, unless revised by the governing Section or this Article.
- B. If the quantity measured as outlined under “Price and Payment Procedures” varies by more than 25% (or as stipulated under “Price and Payment Procedures” for specific Items) from the total estimated quantity for an individual Item originally shown in the Contract Documents, an adjustment may be made to the quantity of authorized work done for payment purposes. The party to the Contract requesting the adjustment will provide field measurements and calculations showing the final quantity for which payment will be made. Payment for revised quantity will be made at the unit price bid for that Item, except as provided for in Article 10.
- C. When quantities are revised by a change in design approved by the City, by Change Order, or to correct an error, or to correct an error on the plans, the plans quantity will be increased or decreased by the amount involved in the change, and the 25% variance will apply to the new plans quantity.
- D. If the total Contract quantity multiplied by the unit price bid for an individual Item is less than \$250 and the Item is not originally a plans quantity Item, then the Item may be paid as a plans quantity Item if the City and Contractor agree in writing to fix the final quantity as a plans quantity.

- E. For callout work or non-site specific Contracts, the plans quantity measurement requirements are not applicable.

ARTICLE 12 – CHANGE OF CONTRACT PRICE; CHANGE OF CONTRACT TIME

12.01 *Change of Contract Price*

- A. The Contract Price may only be changed by a Change Order.
- B. The value of any Work covered by a Change Order will be determined as follows:
1. where the Work involved is covered by unit prices contained in the Contract Documents, by application of such unit prices to the quantities of the items involved (subject to the provisions of Paragraph 11.03); or
 2. where the Work involved is not covered by unit prices contained in the Contract Documents, by a mutually agreed lump sum or unit price (which may include an allowance for overhead and profit not necessarily in accordance with Paragraph 12.01.C.2), and shall include the cost of any secondary impacts that are foreseeable at the time of pricing the cost of Extra Work; or
 3. where the Work involved is not covered by unit prices contained in the Contract Documents and agreement to a lump sum or unit price is not reached under Paragraph 12.01.B.2, on the basis of the Cost of the Work (determined as provided in Paragraph 11.01) plus a Contractor's fee for overhead and profit (determined as provided in Paragraph 12.01.C).
- C. *Contractor's Fee*: The Contractor's additional fee for overhead and profit shall 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 11.01.A.1, 11.01.A.2. and 11.01.A.3, the Contractor's additional fee shall be 15 percent except for:
 - 1) rental fees for Contractor's own equipment using standard rental rates;
 - 2) bonds and insurance;
 - b. for costs incurred under Paragraph 11.01.A.4 and 11.01.A.5, the Contractor's fee shall be five percent (5%);
 - 1) 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 12.01.C.2.a and 12.01.C.2.b is that the Subcontractor who actually performs the Work, at whatever

tier, will be paid a fee of 15 percent of the costs incurred by such Subcontractor under Paragraphs 11.01.A.1 and 11.01.A.2 and that any higher tier Subcontractor and Contractor will each be paid a fee of five percent (5%) of the amount paid to the next lower tier Subcontractor, however in no case shall the cumulative total of fees paid be in excess of 25%;

- c. no fee shall be payable on the basis of costs itemized under Paragraphs 11.01.A.6, and 11.01.B;
- d. the amount of credit to be allowed by Contractor to City for any change which results in a net decrease in cost will be the amount of the actual net decrease in cost plus a deduction in Contractor's fee by an amount equal to five percent (5%) of such net decrease.

12.02 *Change of Contract Time*

- A. The Contract Time may only be changed by a Change Order.
- B. No extension of the Contract Time will be allowed for Extra Work or for claimed delay unless the Extra Work contemplated or claimed delay is shown to be on the critical path of the Project Schedule or Contractor can show by Critical Path Method analysis how the Extra Work or claimed delay adversely affects the critical path.

12.03 *Delays*

- A. Where Contractor is reasonably delayed in the performance or completion of any part of the Work within the Contract Time due to delay beyond the control of Contractor, the Contract Time may be extended in an amount equal to the time lost due to such delay if a Contract Claim is made therefor. Delays beyond the control of Contractor shall include, but not be limited to, acts or neglect by City, acts or neglect of utility owners or other contractors performing other work as contemplated by Article 7, fires, floods, epidemics, abnormal weather conditions, or acts of God. Such an adjustment shall be Contractor's sole and exclusive remedy for the delays described in this Paragraph.
- B. If Contractor is delayed, City shall not be liable to Contractor for any claims, costs, losses, or 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) sustained by Contractor on or in connection with any other project or anticipated project.
- C. Contractor shall not be entitled to an adjustment in Contract Price or Contract Time for delays within the control of Contractor. Delays attributable to and within the control of a Subcontractor or Supplier shall be deemed to be delays within the control of Contractor.
- D. The Contractor shall receive no compensation for delays or hindrances to the Work, except when direct and unavoidable extra cost to the Contractor is caused by the failure of the City to provide information or material, if any, which is to be furnished by the City.

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

13.01 Notice of Defects

Notice of all defective Work of which City has actual knowledge will be given to Contractor. Defective Work may be rejected, corrected, or accepted as provided in this Article 13.

13.02 Access to Work

City, independent testing laboratories, and governmental agencies with jurisdictional interests will 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 therewith as applicable.

13.03 Tests and Inspections

- A. Contractor shall give City timely notice of readiness of the Work for all required inspections, tests, or approvals and shall cooperate with inspection and testing personnel to facilitate required inspections or tests.
- B. If Contract Documents, Laws or Regulations of any public body having jurisdiction require any of the Work (or part thereof) to be inspected, tested, or approved, Contractor shall assume full responsibility for arranging and obtaining such independent inspections, tests, retests or approvals, pay all costs in connection therewith, and furnish City the required certificates of inspection or approval; excepting, however, those fees specifically identified in the Supplementary Conditions or any Texas Department of Licensure and Regulation (TDLR) inspections, which shall be paid as described in the Supplementary Conditions.
- C. Contractor shall be responsible for arranging and obtaining and shall pay all costs in connection with any inspections, tests, re-tests, or approvals required for City's acceptance of materials or equipment to be incorporated in the Work; or acceptance of materials, mix designs, or equipment submitted for approval prior to Contractor's purchase thereof for incorporation in the Work. Such inspections, tests, re-tests, or approvals shall be performed by organizations acceptable to City.
- D. City may arrange for the services of an independent testing laboratory ("Testing Lab") to perform any inspections or tests ("Testing") for any part of the Work, as determined solely by City.
 - 1. City will coordinate such Testing to the extent possible, with Contractor;
 - 2. Should any Testing under this Section 13.03 D result in a "fail", "did not pass" or other similar negative result, the Contractor shall be responsible for paying for any and all retests. Contractor's cancellation without cause of City initiated Testing shall be deemed a negative result and require a retest.

3. Any amounts owed for any retest under this Section 13.03 D shall be paid directly to the Testing Lab by Contractor. City will forward all invoices for retests to Contractor.
4. If Contractor fails to pay the Testing Lab, City will not issue Final Payment until the Testing Lab is paid.
- E. If any Work (or the work of others) that is to be inspected, tested, or approved is covered by Contractor without written concurrence of City, Contractor shall, if requested by City, uncover such Work for observation.
- F. Uncovering Work as provided in Paragraph 13.03.E shall be at Contractor's expense.
- G. Contractor shall have the right to make a Contract Claim regarding any retest or invoice issued under Section 13.03 D.

13.04 *Uncovering Work*

- A. If any Work is covered contrary to the Contract Documents or specific instructions by the City, it must, if requested by City, be uncovered for City's observation and replaced at Contractor's expense.
- B. If City considers it necessary or advisable that covered Work be observed by City or inspected or tested by others, Contractor, at City's request, shall uncover, expose, or otherwise make available for observation, inspection, or testing as City may require, that portion of the Work in question, furnishing all necessary labor, material, and equipment.
 1. If it is found that the uncovered Work is defective, Contractor shall pay 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 other dispute resolution costs) 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); or City shall be entitled to accept defective Work in accordance with Paragraph 13.08 in which case Contractor shall still be responsible for all costs associated with exposing, observing, and testing the defective Work.
 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 Time, or both, directly attributable to such uncovering, exposure, observation, inspection, testing, replacement, and reconstruction.

13.05 *City May Stop the Work*

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, City may order Contractor to stop the Work, or any portion thereof, until the cause for such order has been eliminated; however, this right of City to stop the Work shall not give rise to any duty on the part of City 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.

13.06 *Correction or Removal of Defective Work*

- A. Promptly after receipt of written notice, Contractor shall correct all defective Work pursuant to an acceptable schedule, whether or not fabricated, installed, or completed, or, if the Work has been rejected by City, remove it from the Project and replace it with Work that is not defective. Contractor shall pay all claims, costs, additional testing, 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 removal (including but not limited to all costs of repair or replacement of work of others). Failure to require the removal of any defective Work shall not constitute acceptance of such Work.
- B. When correcting defective Work under the terms of this Paragraph 13.06 or Paragraph 13.07, Contractor shall take no action that would void or otherwise impair City's special warranty and guarantee, if any, on said Work.

13.07 *Correction Period*

- A. If within two (2) years after the date of Final Acceptance (or such longer period of time as may be prescribed by the terms of any applicable special guarantee required by the Contract Documents), any Work is found to be defective, or if the repair of any damages to the land or areas made available for Contractor's use by City or permitted by Laws and Regulations as contemplated in Paragraph 6.10.A is found to be defective, Contractor shall promptly, without cost to City and in accordance with City's written instructions:
 - 1. repair such defective land or areas; or
 - 2. correct such defective Work; or
 - 3. if the defective Work has been rejected by City, remove it from the Project and replace it with Work that is not defective, and
 - 4. satisfactorily correct or repair or remove and replace any damage to other Work, to the work of others or other land or areas resulting therefrom.
- B. If Contractor does not promptly comply with the terms of City's written instructions, or in an emergency where delay would cause serious risk of loss or damage, City may have the defective Work corrected or repaired or may have the rejected Work removed and replaced. 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 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) will be paid by Contractor.

- C. In special circumstances where a particular item of equipment is placed in continuous service before Final Acceptance of all the Work, the correction period for that item may start to run from an earlier date if so provided in the Contract Documents.
- D. Where defective Work (and damage to other Work resulting therefrom) has been corrected or removed and replaced under this Paragraph 13.07, the correction period hereunder with respect to such Work may be required to be extended for an additional period of one year after the end of the initial correction period. City shall provide 30 days written notice to Contractor should such additional warranty coverage be required. Contractor may dispute this requirement by filing a Contract Claim, pursuant to Paragraph 10.06.
- E. Contractor's obligations under this Paragraph 13.07 are in addition to any other obligation or warranty. The provisions of this Paragraph 13.07 shall not be construed as a substitute for, or a waiver of, the provisions of any applicable statute of limitation or repose.

13.08 *Acceptance of Defective Work*

If, instead of requiring correction or removal and replacement of defective Work, City prefers to accept it, City may do so. Contractor shall pay 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 other dispute resolution costs) attributable to City's evaluation of and determination to accept such defective Work and for the diminished value of the Work to the extent not otherwise paid by Contractor. If any such acceptance occurs prior to Final Acceptance, a Change Order will be issued incorporating the necessary revisions in the Contract Documents with respect to the Work, and City shall be entitled to an appropriate decrease in the Contract Price, reflecting the diminished value of Work so accepted.

13.09 *City May Correct Defective Work*

- A. If Contractor fails within a reasonable time after written notice from City to correct defective Work, or to remove and replace rejected Work as required by City in accordance with Paragraph 13.06.A, or if Contractor fails to perform the Work in accordance with the Contract Documents, or if Contractor fails to comply with any other provision of the Contract Documents, City may, after seven (7) days written notice to Contractor, correct, or remedy any such deficiency.
- B. In exercising the rights and remedies under this Paragraph 13.09, City shall proceed expeditiously. In connection with such corrective or remedial action, City 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 incorporated in the Work, stored at the Site or for which City has paid Contractor but which are stored elsewhere. Contractor shall allow City, City's representatives, agents, consultants, employees, and City's other contractors, access to the Site to enable City to exercise the rights and remedies under this Paragraph.
- C. 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 other dispute resolution

costs) incurred or sustained by City in exercising the rights and remedies under this Paragraph 13.09 will be charged against Contractor, and a Change Order will be issued incorporating the necessary revisions in the Contract Documents with respect to the Work; and City shall be entitled to an appropriate decrease in the Contract Price.

- D. Contractor shall not be allowed an extension of the Contract Time because of any delay in the performance of the Work attributable to the exercise of City's rights and remedies under this Paragraph 13.09.

ARTICLE 14 – PAYMENTS TO CONTRACTOR AND COMPLETION

14.01 *Schedule of Values*

The Schedule of Values for lump sum contracts established as provided in Paragraph 2.07 will serve as the basis for progress payments and will be incorporated into a form of Application for Payment acceptable to City. Progress payments on account of Unit Price Work will be based on the number of units completed.

14.02 *Progress Payments*

A. *Applications for Payments:*

1. Contractor is responsible for providing all information as required to become a vendor of the City.
2. At least 20 days before the date established in the General Requirements for each progress payment, Contractor shall submit to City 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.
3. 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 shall also be accompanied by a bill of sale, invoice, or other documentation warranting that City has received the materials and equipment free and clear of all Liens and evidence that the materials and equipment are covered by appropriate insurance or other arrangements to protect City's interest therein, all of which must be satisfactory to City.
4. Beginning with the second Application for Payment, each Application shall include an affidavit of Contractor stating that previous progress payments received on account of the Work have been applied on account to discharge Contractor's legitimate obligations associated with prior Applications for Payment.
5. The amount of retainage with respect to progress payments will be as described in subsection C. unless otherwise stipulated in the Contract Documents.

B. *Review of Applications:*

1. City will, after receipt of each Application for Payment, either indicate in writing a recommendation of payment or return the Application to Contractor indicating reasons for refusing payment. In the latter case, Contractor may make the necessary corrections and resubmit the Application.
2. City's processing of any payment requested in an Application for Payment will be based on City's observations of the executed Work, and on City's review of the Application for Payment and the accompanying data and schedules, that to the best of City's knowledge:
 - 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 Final Acceptance, the results of any subsequent tests called for in the Contract Documents, a final determination of quantities and classifications for Work performed under Paragraph 9.05, and any other qualifications stated in the recommendation).
3. Processing any such payment 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 City in the Contract Documents; or
 - b. there may not be other matters or issues between the parties that might entitle Contractor to be paid additionally by City or entitle City to withhold payment to Contractor; or
 - c. Contractor has complied with Laws and Regulations applicable to Contractor's performance of the Work.
4. City may refuse to process the whole or any part of any payment because of subsequently discovered evidence or the results of subsequent inspections or tests, and revise or revoke any such payment previously made, to such extent as may be necessary to protect City from loss because:
 - a. the Work is defective or completed Work has been damaged by the Contractor or subcontractors requiring correction or replacement;
 - b. discrepancies in quantities contained in previous applications for payment;
 - c. the Contract Price has been reduced by Change Orders;
 - d. City has been required to correct defective Work or complete Work in accordance with Paragraph 13.09; or

e. City has actual knowledge of the occurrence of any of the events enumerated in Paragraph 15.02.A.

C. *Retainage:*

1. For contracts less than \$400,000 at the time of execution, retainage shall be ten percent (10%).
2. For contracts greater than \$400,000 at the time of execution, retainage shall be five percent (5%).

D. *Liquidated Damages.* For each calendar day that any work shall remain uncompleted after the time specified in the Contract Documents, the sum per day specified in the Agreement will be assessed against the monies due the Contractor, not as a penalty, but as damages suffered by the City.

E. *Payment:* Contractor will be paid pursuant to the requirements of this Article 14 and payment will become due in accordance with the Contract Documents.

F. *Reduction in Payment:*

1. City may refuse to make payment of the amount requested because:
 - a. Liens have been filed in connection with the Work, except where Contractor has delivered a specific bond satisfactory to City to secure the satisfaction and discharge of such Liens;
 - b. there are other items entitling City to a set-off against the amount recommended; or
 - c. City has actual knowledge of the occurrence of any of the events enumerated in Paragraphs 14.02.B.4.a through 14.02.B.4.e or Paragraph 15.02.A.
2. If City refuses to make payment of the amount requested, City will give Contractor written notice stating the reasons for such action and pay Contractor any amount remaining after deduction of the amount so withheld. City shall pay Contractor the amount so withheld, or any adjustment thereto agreed to by City and Contractor, when Contractor remedies the reasons for such action.

14.03 *Contractor's Warranty of Title*

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 City no later than the time of payment free and clear of all Liens.

14.04 *Partial Utilization*

- A. Prior to Final Acceptance of all the Work, City may use or occupy any part of the Work which has specifically been identified in the Contract Documents, or which City determines constitutes a separately functioning and usable part of the Work that can be used for its intended purpose without significant interference with Contractor's performance of the remainder of the Work. City at any time may notify Contractor in writing to permit City to use or occupy any such part of the Work which City determines to be ready for its intended use, subject to the following conditions:
1. Contractor at any time may notify City in writing that Contractor considers any such part of the Work ready for its intended use.
 2. Within a reasonable time after notification as enumerated in Paragraph 14.05.A.1, City and Contractor shall make an inspection of that part of the Work to determine its status of completion. If City does not consider that part of the Work to be substantially complete, City will notify Contractor in writing giving the reasons therefor.
 3. Partial Utilization will not constitute Final Acceptance by City.

14.05 *Final Inspection*

- A. Upon written notice from Contractor that the entire Work is Substantially Complete in accordance with the Contract Documents:
1. Within 10 days, City will schedule a Final Inspection with Contractor.
 2. City will notify Contractor in writing of all particulars in which this inspection reveals that the Work is incomplete or defective ("Punch List Items"). Contractor shall immediately take such measures as are necessary to complete such Work or remedy such deficiencies.
- B. No time charge will be made against the Contractor between said date of notification to the City of Substantial Completion and the date of Final Inspection.
1. Should the City determine that the Work is not ready for Final Inspection, City will notify the Contractor in writing of the reasons and Contract Time will resume.
 2. Should the City concur that Substantial Completion has been achieved with the exception of any Punch List Items, Contract Time will resume for the duration it takes for Contractor to achieve Final Acceptance.

14.06 *Final Acceptance*

Upon completion by Contractor to City's satisfaction, of any additional Work identified in the Final Inspection, City will issue to Contractor a letter of Final Acceptance.

14.07 *Final Payment*

A. *Application for Payment:*

1. Upon Final Acceptance, and in the opinion of City, Contractor may make an application for final payment following the procedure for progress payments in accordance with the Contract Documents.
2. The final Application for Payment shall be accompanied (except as previously delivered) by:
 - a. all documentation called for in the Contract Documents, including but not limited to the evidence of insurance required by Paragraph 5.03;
 - b. consent of the surety, if any, to final payment;
 - c. a list of all pending or released Damage Claims against City that Contractor believes are unsettled; and
 - d. affidavits of payments and complete and legally effective releases or waivers (satisfactory to City) of all Lien rights arising out of or Liens filed in connection with the Work.

B. *Payment Becomes Due:*

1. After City's acceptance of the Application for Payment and accompanying documentation, requested by Contractor, less previous payments made and any sum City is entitled, including but not limited to liquidated damages, will become due and payable.
2. After all Damage Claims have been resolved:
 - a. directly by the Contractor or;
 - b. Contractor provides evidence that the Damage Claim has been reported to Contractor's insurance provider for resolution.
3. The making of the final payment by the City shall not relieve the Contractor of any guarantees or other requirements of the Contract Documents which specifically continue thereafter.

14.08 *Final Completion Delayed and Partial Retainage Release*

- A. If final completion of the Work is significantly delayed, and if City so confirms, City may, upon receipt of Contractor's final Application for Payment, and without terminating the Contract, make payment of the balance due for that portion of the Work fully completed and accepted. If the remaining balance to be held by City for Work not fully completed or corrected is less than the retainage stipulated in Paragraph 14.02.C, and if bonds have been furnished as required in Paragraph 5.02, the written consent of the surety to the payment of the balance due for that

portion of the Work fully completed and accepted shall be submitted by Contractor to City with the Application for such payment. Such payment shall be made under the terms and conditions governing final payment, except that it shall not constitute a waiver of Contract Claims.

- B. *Partial Retainage Release.* For a Contract that provides for a separate vegetative establishment and maintenance, and test and performance periods following the completion of all other construction in the Contract Documents for all Work locations, the City may release a portion of the amount retained provided that all other work is completed as determined by the City. Before the release, all submittals and final quantities must be completed and accepted for all other work. An amount sufficient to ensure Contract compliance will be retained.

14.09 *Waiver of Claims*

The acceptance of final payment will constitute a release of the City from all claims or liabilities under the Contract for anything done or furnished or relating to the work under the Contract Documents or any act or neglect of City related to or connected with the Contract.

ARTICLE 15 – SUSPENSION OF WORK AND TERMINATION

15.01 *City May Suspend Work*

- A. At any time and without cause, City may suspend the Work or any portion thereof by written notice to Contractor and which may fix the date on which Work will be resumed. Contractor shall resume the Work on the date so fixed. During temporary suspension of the Work covered by these Contract Documents, for any reason, the City will make no extra payment for stand-by time of construction equipment and/or construction crews.
- B. Should the Contractor not be able to complete a portion of the Project due to causes beyond the control of and without the fault or negligence of the Contractor, and should it be determined by mutual consent of the Contractor and City that a solution to allow construction to proceed is not available within a reasonable period of time, Contractor may request an extension in Contract Time, directly attributable to any such suspension.
- C. If it should become necessary to suspend the Work for an indefinite period, the Contractor shall store all materials in such a manner that they will not obstruct or impede the public unnecessarily nor become damaged in any way, and he shall take every precaution to prevent damage or deterioration of the work performed; he shall provide suitable drainage about the work, and erect temporary structures where necessary.
- D. Contractor may be reimbursed for the cost of moving his equipment off the job and returning the necessary equipment to the job when it is determined by the City that construction may be resumed. Such reimbursement shall be based on actual cost to the Contractor of moving the equipment and no profit will be allowed. Reimbursement may not be allowed if the equipment is moved to another construction project for the City.

15.02 *City May Terminate for Cause*

- A. The occurrence of any one or more of the following events by way of example, but not of limitation, may 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, failure to adhere to the Project Schedule established under Paragraph 2.07 as adjusted from time to time pursuant to Paragraph 6.04, or failure to adhere to the City's Business Diversity Enterprise Ordinance #20020-12-2011 established under Paragraph 6.06.D);
 2. Contractor's disregard of Laws or Regulations of any public body having jurisdiction;
 3. Contractor's repeated disregard of the authority of City; or
 4. Contractor's violation in any substantial way of any provisions of the Contract Documents; or
 5. Contractor's failure to promptly make good any defect in materials or workmanship, or defects of any nature, the correction of which has been directed in writing by the City; or
 6. Substantial indication that the Contractor has made an unauthorized assignment of the Contract or any funds due therefrom for the benefit of any creditor or for any other purpose; or
 7. Substantial evidence that the Contractor has become insolvent or bankrupt, or otherwise financially unable to carry on the Work satisfactorily; or
 8. Contractor commences legal action in a court of competent jurisdiction against the City.
- B. If one or more of the events identified in Paragraph 15.02A. occur, City will provide written notice to Contractor and Surety to arrange a conference with Contractor and Surety to address Contractor's failure to perform the Work. Conference shall be held not later than 15 days, after receipt of notice.
1. If the City, the Contractor, and the Surety do not agree to allow the Contractor to proceed to perform the construction Contract, the City may, to the extent permitted by Laws and Regulations, declare a Contractor default and formally terminate the Contractor's right to complete the Contract. Contractor default shall not be declared earlier than 20 days after the Contractor and Surety have received notice of conference to address Contractor's failure to perform the Work.
 2. If Contractor's services are terminated, Surety shall be obligated to take over and perform the Work. If Surety does not commence performance thereof within 15 consecutive calendar days after date of an additional written notice demanding Surety's performance of its

obligations, then City, without process or action at law, may take over any portion of the Work and complete it as described below.

- a. If City completes the Work, City may exclude Contractor and Surety from the site and take possession of the Work, and all materials and equipment incorporated into the Work stored at the Site or for which City has paid Contractor or Surety but which are stored elsewhere, and finish the Work as City may deem expedient.
3. Whether City or Surety completes the Work, Contractor shall not be entitled to receive any further payment until the Work is finished. If the unpaid balance of the Contract Price exceeds all claims, costs, losses and damages sustained by City arising out of or resulting from completing the Work, such excess will be paid to Contractor. If such claims, costs, losses and damages exceed such unpaid balance, Contractor shall pay the difference to City. Such claims, costs, losses and damages incurred by City will be incorporated in a Change Order, provided that when exercising any rights or remedies under this Paragraph, City shall not be required to obtain the lowest price for the Work performed.
 4. Neither City, nor any of its respective consultants, agents, officers, directors or employees shall be in any way liable or accountable to Contractor or Surety for the method by which the completion of the said Work, or any portion thereof, may be accomplished or for the price paid therefor.
 5. City, notwithstanding the method used in completing the Contract, shall not forfeit the right to recover damages from Contractor or Surety for Contractor's failure to timely complete the entire Contract. Contractor shall not be entitled to any claim on account of the method used by City in completing the Contract.
 6. Maintenance of the Work shall continue to be Contractor's and Surety's responsibilities as provided for in the bond requirements of the Contract Documents or any special guarantees provided for under the Contract Documents or any other obligations otherwise prescribed by law.
- C. Notwithstanding Paragraphs 15.02.B, Contractor's services will not be terminated if Contractor begins within seven days of receipt of notice of intent to terminate to correct its failure to perform and proceeds diligently to cure such failure within no more than 30 days of receipt of said notice.
 - D. Where Contractor's services have been so terminated by City, the termination will not affect any rights or remedies of City against Contractor then existing or which may thereafter accrue. Any retention or payment of moneys due Contractor by City will not release Contractor from liability.
 - E. If and to the extent that Contractor has provided a performance bond under the provisions of Paragraph 5.02, the termination procedures of that bond shall not supersede the provisions of this Article.

15.03 *City May Terminate For Convenience*

- A. City may, without cause and without prejudice to any other right or remedy of City, terminate the Contract. Any termination shall be effected by mailing a notice of the termination to the Contractor specifying the extent to which performance of Work under the contract is terminated, and the date upon which such termination becomes effective. Receipt of the notice shall be deemed conclusively presumed and established when the letter is placed in the United States Postal Service Mail by the City. Further, it shall be deemed conclusively presumed and established that such termination is made with just cause as therein stated; and no proof in any claim, demand or suit shall be required of the City regarding such discretionary action.
- B. After receipt of a notice of termination, and except as otherwise directed by the City, the Contractor shall:
1. Stop work under the Contract on the date and to the extent specified in the notice of termination;
 2. place no further orders or subcontracts for materials, services or facilities except as may be necessary for completion of such portion of the Work under the Contract as is not terminated;
 3. terminate all orders and subcontracts to the extent that they relate to the performance of the Work terminated by notice of termination;
 4. transfer title to the City and deliver in the manner, at the times, and to the extent, if any, directed by the City:
 - a. the fabricated or unfabricated parts, Work in progress, completed Work, supplies and other material produced as a part of, or acquired in connection with the performance of, the Work terminated by the notice of the termination; and
 - b. the completed, or partially completed plans, drawings, information and other property which, if the Contract had been completed, would have been required to be furnished to the City.
 5. complete performance of such Work as shall not have been terminated by the notice of termination; and
 6. take such action as may be necessary, or as the City may direct, for the protection and preservation of the property related to its contract which is in the possession of the Contractor and in which the owner has or may acquire the rest.
- C. At a time not later than 30 days after the termination date specified in the notice of termination, the Contractor may submit to the City a list, certified as to quantity and quality, of any or all items of termination inventory not previously disposed of, exclusive of items the disposition of which has been directed or authorized by City.

- D. Not later than 15 days thereafter, the City shall accept title to such items provided, that the list submitted shall be subject to verification by the City upon removal of the items or, if the items are stored, within 45 days from the date of submission of the list, and any necessary adjustments to correct the list as submitted, shall be made prior to final settlement.
- E. Not later than 60 days after the notice of termination, the Contractor shall submit his termination claim to the City in the form and with the certification prescribed by the City. Unless an extension is made in writing within such 60 day period by the Contractor, and granted by the City, any and all such claims shall be conclusively deemed waived.
- F. 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. reasonable expenses directly attributable to termination.
- G. In the event of the failure of the Contractor and City to agree upon the whole amount to be paid to the Contractor by reason of the termination of the Work, the City shall determine, on the basis of information available to it, the amount, if any, due to the Contractor by reason of the termination and shall pay to the Contractor the amounts determined. Contractor shall not be paid on account of loss of anticipated profits or revenue or other economic loss arising out of or resulting from such termination.

ARTICLE 16 – DISPUTE RESOLUTION

16.01 *Methods and Procedures*

- A. Either City or Contractor may request mediation of any Contract Claim submitted for a decision under Paragraph 10.06 before such decision becomes final and binding. The request for mediation shall be submitted to the other party to the Contract. Timely submission of the request shall stay the effect of Paragraph 10.06.E.
- B. City and Contractor shall participate in the mediation process in good faith. The process shall be commenced within 60 days of filing of the request.
- C. If the Contract Claim is not resolved by mediation, City's action under Paragraph 10.06.C or a denial pursuant to Paragraphs 10.06.C.3 or 10.06.D shall become final and binding 30 days after termination of the mediation unless, within that time period, City or Contractor:

1. elects in writing to invoke any other dispute resolution process provided for in the Supplementary Conditions; or
2. agrees with the other party to submit the Contract Claim to another dispute resolution process; or
3. gives written notice to the other party of the intent to submit the Contract Claim to a court of competent jurisdiction.

ARTICLE 17 – MISCELLANEOUS

17.01 *Giving Notice*

- A. Whenever any provision of the Contract Documents requires the giving of written notice, it will be deemed to have been validly given if:
 1. delivered in person to the individual or to a member of the firm or to an officer of the corporation for whom it is intended; or
 2. delivered at or sent by registered or certified mail, postage prepaid, to the last business address known to the giver of the notice.
- B. Business address changes must be promptly made in writing to the other party.
- C. Whenever the Contract Documents specifies giving notice by electronic means such electronic notice shall be deemed sufficient upon confirmation of receipt by the receiving party.

17.02 *Computation of Times*

When any period of time is referred to in the Contract Documents 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 the next Working Day shall become the last day of the period.

17.03 *Cumulative Remedies*

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 Documents. 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.

17.04 *Survival of Obligations*

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

17.05 *Headings*

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

SECTION 00 73 00
SUPPLEMENTARY CONDITIONS
TO
GENERAL CONDITIONS

Supplementary Conditions

These Supplementary Conditions modify and supplement Section 00 72 00 - General Conditions, and other provisions of the Contract Documents as indicated below. All provisions of the General Conditions that are modified or supplemented remain in full force and effect as so modified or supplemented. All provisions of the General Conditions which are not so modified or supplemented remain in full force and effect.

Defined Terms

The terms used in these Supplementary Conditions which are defined in the General Conditions have the meaning assigned to them in the General Conditions, unless specifically noted herein.

Modifications and Supplements

The following are instructions that modify or supplement specific paragraphs in the General Conditions and other Contract Documents.

SC-3.03B.2, “Resolving Discrepancies”

Plans govern over Specifications.

SC-4.01A, “Availability of Lands”

Easement limits shown on the Drawing are approximate and were provided to establish a basis for bidding. Upon receiving the final easements descriptions, Contractor shall compare them to the lines shown on the Contract Drawings.

SC-4.02A, “Subsurface and Physical Conditions”

The following are reports of explorations and tests of subsurface conditions at the site of the Work:

- (1) Geotechnical Report by CMJ Engineering, Inc. Dated 07/16/2021.

SC-5.03A., “Certificates of Insurance”

The entities listed below are "additional insureds as their interest may appear" including their respective officers, directors, agents and employees.

- (1) City
- (2) Consultant: Enercon Services, Inc.
- (3) Other: Tarrant Regional Water District

SC-5.04A., “Contractor’s Insurance”

The limits of liability for the insurance required by Paragraph GC-5.04 shall provide the following coverages for not less than the following amounts or greater where required by laws and regulations:

5.04A. Workers' Compensation, under Paragraph GC-5.04A.

Statutory limits
Employer's liability
\$100,000 each accident/occurrence
\$100,000 Disease - each employee
\$500,000 Disease - policy limit

SC-5.04B., "Contractor's Insurance"

5.04B. Commercial General Liability, under Paragraph GC-5.04B. Contractor's Liability Insurance under Paragraph GC-5.04B., which shall be on a per project basis covering the Contractor with minimum limits of:

\$1,000,000 each occurrence
\$2,000,000 aggregate limit

The policy must have an endorsement (Amendment – Aggregate Limits of Insurance) making the General Aggregate Limits apply separately to each job site.

The Commercial General Liability Insurance policies shall provide "X", "C", and "U" coverage's. Verification of such coverage must be shown in the Remarks Article of the Certificate of Insurance.

Environmental Impairment Liability (EIL) and/or Pollution Liability

\$4,000,000 per occurrence.

EIL coverage(s) must be included in policies listed in Commercial General Liability; or such insurance shall be provided under a separate policy or policies. Liability for damage occurring while loading, unloading and transporting materials collected under the contract project shall be included under the Automobile Liability insurance or other policy(s).

SC 5.04C., "Contractor's Insurance"

5.04C. Automobile Liability, under Paragraph GC-5.04C. Contractor's Liability Insurance under Paragraph GC-5.04C., which shall be in an amount not less than the following amounts:

(1) **Automobile Liability** - a commercial business policy shall provide coverage on "Any Auto", defined as autos owned, hired and non-owned.

\$1,000,000 each accident on a combined single limit basis. Split limits are acceptable if limits are at least:

\$250,000 Bodily Injury per person /
\$500,000 Bodily Injury per accident /
\$100,000 Property Damage

SC-6.04., "Project Schedule"

Project schedule shall be **Tier 2** for the project.

SC-6.07., "Wage Rates"

The following is the prevailing wage rate table(s) applicable to this project and is provided in the Appendixes:

2013 Prevailing Wage Rates – Heavy and Highway Construction Projects

A copy of the table is also available by accessing the City’s website at:

<https://apps.fortworthtexas.gov/ProjectResources/>

You can access the file by following the directory path:
02-Construction Documents/Specifications/Div00 – General Conditions

SC-6.09., “Permits and Utilities”

SC-6.09A., “Contractor obtained permits and licenses”

The following are known permits and/or licenses required by the Contract to be acquired by the Contractor:

- (1) Tarrant County Floodplain Permit

SC-6.09B. “City obtained permits and licenses”

The following are known permits and/or licenses required by the Contract to be acquired by the City:

- (1) U.S. Army Corps Engineers Section 408 Permit

SC-6.09C. “Outstanding permits and licenses”

The following is a list of known outstanding permits and/or licenses to be acquired, if any as of August 9, 2022:

Outstanding Permits and/or Licenses to Be Acquired

OWNER	PERMIT OR LICENSE AND LOCATION	TARGET DATE OF POSSESSION
Tarrant Regional Water District	USACE Section 408 Permit	December 31, 2022

SC-7.02., “Coordination”

The individuals or entities listed below have contracts with the City for the performance of other work at the Site: **None**

SC-8.01, “Communications to Contractor”

All communication to the Contractor shall be through the City.

SC-9.01., “City’s Project Manager”

The City’s Project Manager for this Contract is Eric Mason (Phone: 817.392.5456) or his/her successor pursuant to **written notification from the Director of Environmental Quality.**

SC-13.03C., “Tests and Inspections”

None

SC-16.01C.1, “Methods and Procedures”

None

END OF SECTION

Revision Log		
DATE	NAME	SUMMARY OF CHANGE
1/22/2016	F. Griffin	SC-9.01., "City's Project Representative" wording changed to City's Project Manager.
3/9/2020	D.V. Magaña	SC-6.07, Updated the link such that files can be accessed via the City's website.

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SECTION 01 11 00
SUMMARY OF WORK

PART 1 - GENERAL

1.1 SUMMARY

- A. Section Includes:
 1. Summary of Work to be performed in accordance with the Contract Documents
- B. Related Specification Sections include, but are not necessarily limited to:
 1. Division 0 - Bidding Requirements, Contract Forms, and Conditions of the Contract
 2. Division 1 - General Requirements
 3. Division 31 – Earthwork

1.2 PRICE AND PAYMENT PROCEDURES

- A. Measurement and Payment
 1. Work associated with this Item is considered subsidiary to the various bid items. No separate payment will be allowed for this Item.

1.3 REFERENCES [NOT USED]

1.4 ADMINISTRATIVE REQUIREMENTS

- A. Work Covered by Contract Documents
 1. Work is to include furnishing all labor, materials, and equipment, and performing all Work necessary for this construction project as detailed in the Drawings and Specifications.
 2. Work under this project includes installation of two Waterwheel Trash Interceptors at two locations on the Trinity River in Fort Worth, Texas as summarized below
 - a. Clear Fork Trinity River Site
 - 1) Supply and installation of three (3) mooring piles to secure the Waterwheel Trash Interceptor.
 - 2) Supply and installation of four (4) helical piles to secure of floating booms.
 - 3) Supply and installation of tether foundation and cables to Waterwheel.
 - 4) Supply and installation of approximately 200 feet of floating booms (contractor to verify length in the field).
 - 5) Supply and installation of the Waterwheel Trash Interceptor and connection to the mooring piles, tether foundation and floating booms.
 - 6) Supply and installation of all signs and waterway markers.
 - 7) Supply, installation and maintenance of erosion and sediment control for onshore work area(s) and turbidity curtains for work in the Trinity River.
 - b. West Fork Trinity River Site
 - 1) Supply and installation of three (3) mooring piles to secure the Waterwheel Trash Interceptor.
 - 2) Supply and installation of four (4) helical piles secure of floating booms.
 - 3) Supply and installation of tether foundation and cables to Waterwheel.

- 1 4) Supply and installation of approximately 300 feet of floating booms
2 (contractor to verify length in the field).
- 3 5) Supply and installation of the Waterwheel Trash Interceptor and connection
4 to the mooring piles, tether foundation and floating booms.
- 5 6) Supply and installation of all signs and waterway markers.
- 6 7) Supply, installation and maintenance of erosion and sediment control for
7 onshore work area(s) and turbidity curtains for work in the Trinity River.
- 8 c. The Contractor shall acquire the Waterwheel Trash Interceptors and floating
9 booms from Clearwater Mills, LLC, located at 4965 Mountain Road, Pasadena,
10 MD 21122. No alternate or substitution will be accepted.

11 B. Subsidiary Work

- 12 1. Any and all Work specifically governed by documentary requirements for the
13 project, such as conditions imposed by the Drawings or Contract Documents in
14 which no specific item for bid has been provided for in the Proposal and the item is
15 not a typical unit bid item included on the standard bid item list, then the item shall
16 be considered as a subsidiary item of Work, the cost of which shall be included in
17 the price bid in the Proposal for various bid items.

18 C. Examination of the Site

- 19 1. Visit the site, to compare drawings and specifications with any work in place, and
20 observe all site conditions, including other work, if any, is being performed. Failure
21 to visit the site shall not relieve the Contractor from the necessity of furnishing
22 materials or performing work required to complete work in accordance with the
23 Contract Documents.

24 D. Use of Premises

- 25 1. Coordinate uses of premises under direction of the City.
- 26 2. Assume full responsibility for protection and safekeeping of materials and
27 equipment stored on the Site.
- 28 3. Use and occupy only portions of the public streets and alleys, or other public places
29 or other rights-of-way as provided for in the ordinances of the City, as shown in the
30 Contract Documents, or as may be specifically authorized in writing by the City.
 - 31 a. A reasonable number of tools, materials, and equipment for construction
32 purposes may be stored in such space, but no more than is necessary to avoid
33 delay in the construction operations.
 - 34 b. Excavated and waste materials shall be stored in such a way as not to interfere
35 with the use of spaces that may be designated to be left free and unobstructed
36 and so as not to inconvenience occupants of adjacent property.
 - 37 c. If the street is occupied by railroad tracks, the Work shall be carried on in such
38 manner as not to interfere with the operation of the railroad.
 - 39 1) All Work shall be in accordance with railroad requirements set forth in
40 Division 0 as well as the railroad permit.

41 E. Work within Easements

- 42 1. Do not enter upon private property for any purpose without having previously
43 obtained permission from the owner of such property.
- 44 2. Do not store equipment or material on private property unless and until the
45 specified approval of the property owner has been secured in writing by the
46 Contractor and a copy furnished to the City.

- 1 3. Unless specifically provided otherwise, clear all rights-of-way or easements of
2 obstructions which must be removed to make possible proper prosecution of the
3 Work as a part of the project construction operations.
- 4 4. Preserve and use every precaution to prevent damage to, all trees, shrubbery, plants,
5 lawns, fences, culverts, curbing, and all other types of structures or improvements,
6 to all water, sewer, and gas lines, to all conduits, overhead pole lines, or
7 appurtenances thereof, including the construction of temporary fences and to all
8 other public or private property adjacent to the Work.
- 9 5. Notify the proper representatives of the owners or occupants of the public or private
10 lands of interest in lands which might be affected by the Work.
 - 11 a. Such notice shall be made at least 48 hours in advance of the beginning of the
12 Work.
 - 13 b. Notices shall be applicable to both public and private utility companies and any
14 corporation, company, individual, or other, either as owners or occupants, whose
15 land or interest in land might be affected by the Work.
 - 16 c. Be responsible for all damage or injury to property of any character resulting
17 from any act, omission, neglect, or misconduct in the manner or method or
18 execution of the Work, or at any time due to defective work, material, or
19 equipment.
- 20 6. Fence
 - 21 a. Restore all fences encountered and removed during construction of the Project
22 to the original or a better than original condition.
 - 23 b. Erect temporary fencing in place of the fencing removed whenever the Work is
24 not in progress and when the site is vacated overnight, and/or at all times to
25 provide site security.
 - 26 c. The cost for all fence work within easements, including removal, temporary
27 closures and replacement, shall be subsidiary to the various items bid in the
28 project proposal, unless a bid item is specifically provided in the proposal.

1 **1.5 SUBMITTALS [NOT USED]**

2 **1.6 ACTION SUBMITTALS/INFORMATIONAL SUBMITTALS [NOT USED]**

3 **1.7 CLOSEOUT SUBMITTALS [NOT USED]**

4 **1.8 MAINTENANCE MATERIAL SUBMITTALS [NOT USED]**

5 **1.9 QUALITY ASSURANCE [NOT USED]**

6 **1.10 DELIVERY, STORAGE, AND HANDLING [NOT USED]**

7 **1.11 FIELD [SITE] CONDITIONS [NOT USED]**

8 **1.12 WARRANTY [NOT USED]**

9 **PART 2 - PRODUCTS [NOT USED]**

10 **PART 3 - EXECUTION [NOT USED]**

11 **END OF SECTION**

SECTION 01 25 00
SUBSTITUTION PROCEDURES

PART 1 - GENERAL

1.1 SUMMARY

A. Section Includes:

1. The procedure for requesting the approval of substitution of a product that is not equivalent to a product which is specified by descriptive or performance criteria or defined by reference to 1 or more of the following:
 - a. Name of manufacturer
 - b. Name of vendor
 - c. Trade name
 - d. Catalog number
2. Substitutions are not "or-equals".

B. Deviations from this City of Fort Worth Standard Specification

1. None.

C. Related Specification Sections include, but are not necessarily limited to:

1. Division 0 – Bidding Requirements, Contract Forms and Conditions of the Contract
2. Division 1 – General Requirements

1.2 PRICE AND PAYMENT PROCEDURES

A. Measurement and Payment

1. Work associated with this Item is considered subsidiary to the various items bid. No separate payment will be allowed for this Item.

1.3 REFERENCES [NOT USED]

1.4 ADMINISTRATIVE REQUIREMENTS

A. Request for Substitution - General

1. Within 30 days after award of Contract (unless noted otherwise), the City will consider formal requests from Contractor for substitution of products in place of those specified.
2. Certain types of equipment and kinds of material are described in Specifications by means of references to names of manufacturers and vendors, trade names, or catalog numbers.
 - a. When this method of specifying is used, it is not intended to exclude from consideration other products bearing other manufacturer's or vendor's names, trade names, or catalog numbers, provided said products are "or-equals," as determined by City.
3. Other types of equipment and kinds of material may be acceptable substitutions under the following conditions:
 - a. Or-equals are unavailable due to strike, discontinued production of products meeting specified requirements, or other factors beyond control of Contractor;or,

- b. Contractor proposes a cost and/or time reduction incentive to the City.

1.5 SUBMITTALS

- A. See Request for Substitution Form (attached)
- B. Procedure for Requesting Substitution
 - 1. Substitution shall be considered only:
 - a. After award of Contract
 - b. Under the conditions stated herein
 - 2. Submit **3** copies of each written request for substitution, including:
 - a. Documentation
 - 1) Complete data substantiating compliance of proposed substitution with Contract Documents
 - 2) Data relating to changes in construction schedule, when a reduction is proposed
 - 3) Data relating to changes in cost
 - b. For products
 - 1) Product identification
 - a) Manufacturer's name
 - b) Telephone number and representative contact name
 - c) Specification Section or Drawing reference of originally specified product, including discrete name or tag number assigned to original product in the Contract Documents
 - 2) Manufacturer's literature clearly marked to show compliance of proposed product with Contract Documents
 - 3) Itemized comparison of original and proposed product addressing product characteristics including, but not necessarily limited to:
 - a) Size
 - b) Composition or materials of construction
 - c) Weight
 - d) Electrical or mechanical requirements
 - 4) Product experience
 - a) Location of past projects utilizing product
 - b) Name and telephone number of persons associated with referenced projects knowledgeable concerning proposed product
 - c) Available field data and reports associated with proposed product
 - 5) Samples
 - a) Provide at request of City.
 - b) Samples become the property of the City.
 - c. For construction methods:
 - 1) Detailed description of proposed method
 - 2) Illustration drawings
- C. Approval or Rejection
 - 1. Written approval or rejection of substitution given by the City
 - 2. City reserves the right to require proposed product to comply with color and pattern of specified product if necessary to secure design intent.
 - 3. In the event the substitution is approved, the resulting cost and/or time reduction will be documented by Change Order in accordance with the General Conditions.

4. No additional contract time will be given for substitution.
5. Substitution will be rejected if:
 - a. Submittal is not through the Contractor with his stamp of approval
 - b. Request is not made in accordance with this Specification Section
 - c. In the City’s opinion, acceptance will require substantial revision of the original design
 - d. In the City’s opinion, substitution will not perform adequately the function consistent with the design intent

1.6 ACTION SUBMITTALS/INFORMATIONAL SUBMITTALS [NOT USED]

1.7 CLOSEOUT SUBMITTALS [NOT USED]

1.8 MAINTENANCE MATERIAL SUBMITTALS [NOT USED]

1.9 QUALITY ASSURANCE

- A. In making request for substitution or in using an approved product, the Contractor represents that the Contractor:
1. Has investigated proposed product, and has determined that it is adequate or superior in all respects to that specified, and that it will perform function for which it is intended
 2. Will provide same guarantee for substitute item as for product specified
 3. Will coordinate installation of accepted substitution into Work, to include building modifications if necessary, making such changes as may be required for Work to be complete in all respects
 4. Waives all claims for additional costs related to substitution which subsequently arise

1.10 DELIVERY, STORAGE, AND HANDLING [NOT USED]

1.11 FIELD [SITE] CONDITIONS [NOT USED]

1.12 WARRANTY [NOT USED]

PART 2 - PRODUCTS [NOT USED]

PART 3 - EXECUTION [NOT USED]

END OF SECTION

Revision Log		
DATE	NAME	SUMMARY OF CHANGE

EXHIBIT A
REQUEST FOR SUBSTITUTION FORM:

TO: _____
PROJECT: _____ DATE: _____

We hereby submit for your consideration the following product instead of the specified item for the above project:

SECTION	PARAGRAPH	SPECIFIED ITEM
---------	-----------	----------------

Proposed Substitution: _____

Reason for Substitution: _____

Include complete information on changes to Drawings and/or Specifications which proposed substitution will require for its proper installation.

Fill in Blanks Below:

A. Will the undersigned contractor pay for changes to the building design, including engineering and detailing costs caused by the requested substitution?

B. _____
What effect does substitution have on other trades?

C. _____
Differences between proposed substitution and specified item?

D. _____
Differences in product cost or product delivery time?

E. _____
Manufacturer's guarantees of the proposed and specified items are:

_____ Equal _____ Better (explain on attachment)

The undersigned states that the function, appearance and quality are equivalent or superior to the specified item.

Submitted By: _____ For Use by City

Signature _____ as noted _____ Recommended _____ Recommended

Firm _____ _____ Not recommended _____ Received late

Address _____ By _____

Date _____ Date _____

Telephone _____ Remarks _____

For Use by City: _____

_____ Approved _____ Rejected
City _____ Date _____

SECTION 01 31 19
PRECONSTRUCTION MEETING

PART 1 - GENERAL

1.1 SUMMARY

- A. Section Includes:
 - 1. Provisions for the preconstruction meeting to be held prior to the start of Work to clarify construction contract administration procedures
- B. Deviations from this City of Fort Worth Standard Specification
 - 1. None.
- C. Related Specification Sections include, but are not necessarily limited to:
 - 1. Division 0 – Bidding Requirements, Contract Forms and Conditions of the Contract
 - 2. Division 1 – General Requirements

1.2 PRICE AND PAYMENT PROCEDURES

- A. Measurement and Payment
 - 1. Work associated with this Item is considered subsidiary to the various items bid. No separate payment will be allowed for this Item.

1.3 REFERENCES [NOT USED]

1.4 ADMINISTRATIVE REQUIREMENTS

- A. Coordination
 - 1. Attend preconstruction meeting.
 - 2. Representatives of Contractor, subcontractors and suppliers attending meetings shall be qualified and authorized to act on behalf of the entity each represents.
 - 3. Meeting administered by City may be tape recorded.
 - a. If recorded, tapes will be used to prepare minutes and retained by City for future reference.
- B. Preconstruction Meeting
 - 1. A preconstruction meeting will be held within 14 days after the execution of the Agreement and before Work is started.
 - a. The meeting will be scheduled and administered by the City.
 - 2. The Project Representative will preside at the meeting, prepare the notes of the meeting and distribute copies of same to all participants who so request by fully completing the attendance form to be circulated at the beginning of the meeting.
 - 3. Attendance shall include:
 - a. Project Representative
 - b. Contractor's project manager
 - c. Contractor's superintendent
 - d. Any subcontractor or supplier representatives whom the Contractor may desire to invite or the City may request

- e. Other City representatives
 - f. Others as appropriate
4. Construction Schedule
- a. Prepare baseline construction schedule in accordance with Section 01 32 16 and provide at Preconstruction Meeting.
 - b. City will notify Contractor of any schedule changes upon Notice of Preconstruction Meeting.
5. Preliminary Agenda may include:
- a. Introduction of Project Personnel
 - b. General Description of Project
 - c. Status of right-of-way, utility clearances, easements or other pertinent permits
 - d. Contractor's work plan and schedule
 - e. Contract Time
 - f. Notice to Proceed
 - g. Construction Staking
 - h. Progress Payments
 - i. Extra Work and Change Order Procedures
 - j. Field Orders
 - k. Disposal Site Letter for Waste Material
 - l. Insurance Renewals
 - m. Payroll Certification
 - n. Material Certifications and Quality Control Testing
 - o. Public Safety and Convenience
 - p. Documentation of Pre-Construction Conditions
 - q. Weekend Work Notification
 - r. Legal Holidays
 - s. Trench Safety Plans
 - t. Confined Space Entry Standards
 - u. Coordination with the City's representative for operations of existing water systems
 - v. Storm Water Pollution Prevention Plan
 - w. Coordination with other Contractors
 - x. Early Warning System
 - y. Contractor Evaluation
 - z. Special Conditions applicable to the project
 - aa. Damages Claims
 - bb. Submittal Procedures
 - cc. Substitution Procedures
 - dd. Correspondence Routing
 - ee. Record Drawings
 - ff. Temporary construction facilities
 - gg. M/WBE or MBE/SBE procedures
 - hh. Final Acceptance
 - ii. Final Payment
 - jj. Questions or Comments

1.5 SUBMITTALS [NOT USED]

1.6 ACTION SUBMITTALS/INFORMATIONAL SUBMITTALS [NOT USED]

1.7 CLOSEOUT SUBMITTALS [NOT USED]

1.8 MAINTENANCE MATERIAL SUBMITTALS [NOT USED]

1.9 QUALITY ASSURANCE [NOT USED]

1.10 DELIVERY, STORAGE, AND HANDLING [NOT USED]

1.11 FIELD [SITE] CONDITIONS [NOT USED]

1.12 WARRANTY [NOT USED]

PART 2 - PRODUCTS [NOT USED]

PART 3 - EXECUTION [NOT USED]

END OF SECTION

Revision Log		
DATE	NAME	SUMMARY OF CHANGE

1 **SECTION 01 31 20**
2 **PROJECT MEETINGS**

3 **PART 1 - GENERAL**

4 **1.1 SUMMARY**

5 A. Section Includes:

- 6 1. Provisions for project meetings throughout the construction period to enable orderly
7 review of the progress of the Work and to provide for systematic discussion of
8 potential problems

9 B. Related Specification Sections include, but are not necessarily limited to:

- 10 1. Division 0 – Bidding Requirements, Contract Forms and Conditions of the Contract
11 2. Division 1 – General Requirements

12 **1.2 PRICE AND PAYMENT PROCEDURES**

13 A. Measurement and Payment

- 14 1. Work associated with this Item is considered subsidiary to the various items bid.
15 No separate payment will be allowed for this Item.

16 **1.3 REFERENCES [NOT USED]**

17 **1.4 ADMINISTRATIVE REQUIREMENTS**

18 A. Coordination

- 19 1. Schedule, attend and administer as specified, periodic progress meetings, and
20 specially called meetings throughout progress of the Work.
21 2. Representatives of Contractor, subcontractors and suppliers attending meetings shall
22 be qualified and authorized to act on behalf of the entity each represents.
23 3. Meetings administered by City may be tape recorded.
24 a. If recorded, tapes will be used to prepare minutes and retained by City for future
25 reference.
26 4. Meetings, in addition to those specified in this Section, may be held when requested
27 by the City, Engineer or Contractor.

28 B. Progress Meetings

- 29 1. Formal project coordination meetings will be held periodically. Meetings will be
30 scheduled and administered by Project Representative.
31 2. Additional progress meetings to discuss specific topics will be conducted on an as-
32 needed basis. Such additional meetings shall include, but not be limited to:
33 a. Coordinating shutdowns
34 b. Installation of piping and equipment
35 c. Coordination between other construction projects
36 d. Resolution of construction issues
37 e. Equipment approval

- 1 3. The Project Representative will preside at progress meetings, prepare the notes of
2 the meeting and distribute copies of the same to all participants who so request by
3 fully completing the attendance form to be circulated at the beginning of each
4 meeting.
- 5 4. Attendance shall include:
 - 6 a. Contractor's project manager
 - 7 b. Contractor's superintendent
 - 8 c. Any subcontractor or supplier representatives whom the Contractor may desire
9 to invite or the City may request
 - 10 d. Engineer's representatives
 - 11 e. City's representatives
 - 12 f. Others, as requested by the Project Representative
- 13 5. Preliminary Agenda may include:
 - 14 a. Review of Work progress since previous meeting
 - 15 b. Field observations, problems, conflicts
 - 16 c. Items which impede construction schedule
 - 17 d. Review of off-site fabrication, delivery schedules
 - 18 e. Review of construction interfacing and sequencing requirements with other
19 construction contracts
 - 20 f. Corrective measures and procedures to regain projected schedule
 - 21 g. Revisions to construction schedule
 - 22 h. Progress, schedule, during succeeding Work period
 - 23 i. Coordination of schedules
 - 24 j. Review submittal schedules
 - 25 k. Maintenance of quality standards
 - 26 l. Pending changes and substitutions
 - 27 m. Review proposed changes for:
 - 28 1) Effect on construction schedule and on completion date
 - 29 2) Effect on other contracts of the Project
 - 30 n. Review Record Documents
 - 31 o. Review monthly pay request
 - 32 p. Review status of Requests for Information
- 33 6. Meeting Schedule
 - 34 a. Progress meetings will be held periodically as determined by the Project
35 Representative.
 - 36 1) Additional meetings may be held at the request of the:
 - 37 a) City
 - 38 b) Engineer
 - 39 c) Contractor
- 40 7. Meeting Location
 - 41 a. The City will establish a meeting location.
 - 42 1) To the extent practicable, meetings will be held at the Site.

- 1 **1.5 SUBMITTALS [NOT USED]**
- 2 **1.6 ACTION SUBMITTALS/INFORMATIONAL SUBMITTALS [NOT USED]**
- 3 **1.7 CLOSEOUT SUBMITTALS [NOT USED]**
- 4 **1.8 MAINTENANCE MATERIAL SUBMITTALS [NOT USED]**
- 5 **1.9 QUALITY ASSURANCE [NOT USED]**
- 6 **1.10 DELIVERY, STORAGE, AND HANDLING [NOT USED]**
- 7 **1.11 FIELD [SITE] CONDITIONS [NOT USED]**
- 8 **1.12 WARRANTY [NOT USED]**

- 9 **PART 2 - PRODUCTS [NOT USED]**

- 10 **PART 3 - EXECUTION [NOT USED]**

- 11 **END OF SECTION**

SECTION 01 32 16
CONSTRUCTION SCHEDULE

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PART 1 - GENERAL

1.1 SUMMARY

- A. Section Includes:
 - 1. General requirements for the preparation, submittal, updating, status reporting and management of the Construction Progress Schedule
 - 2. Specific requirements are presented in the City of Fort Worth Schedule Guidance Document
- B. Deviations from this City of Fort Worth Standard Specification
 - 1. None.
- C. Related Specification Sections include, but are not necessarily limited to:
 - 1. Division 0 – Bidding Requirements, Contract Forms and Conditions of the Contract
 - 2. Division 1 – General Requirements
- D. Purpose
The City of Fort Worth (City) is committed to delivering quality, cost-effective infrastructure to its citizens in a timely manner. A key tool to achieve this purpose is a properly structured schedule with accurate updates. This supports effective monitoring of progress and is input to critical decision making by the project manager throughout the life of the project. Data from the updated project schedule is utilized in status reporting to various levels of the City organization and the citizenry.

This Document complements the City's Standard Agreement to guide the construction contractor (Contractor) in preparing and submitting acceptable schedules for use by the City in project delivery. The expectation is the performance of the work follows the accepted schedule and adhere to the contractual timeline.

The Contractor will designate a qualified representative (Project Scheduler) responsible for developing and updating the schedule and preparing status reporting as required by the City.

1.2 PRICE AND PAYMENT PROCEDURES

- A. Measurement and Payment
 - 1. Work associated with this Item is considered subsidiary to the various items bid. No separate payment will be allowed for this Item.
 - 2. Non-compliance with this specification is grounds for City to withhold payment of the Contractor’s invoices until Contractor achieves said compliance.

1.3 REFERENCES

- A. Project Schedules

1 Each project is represented by City’s master project schedule that encompasses the
2 entire scope of activities envisioned by the City to properly deliver the work. When the
3 City contracts with a Contractor to perform construction of the Work, the Contractor
4 will develop and maintain a schedule for their scope of work in alignment with the
5 City’s standard schedule requirements as defined herein. The data and information of
6 each such schedule will be leveraged and become integral in the master project
7 schedule as deemed appropriate by the City’s Project Control Specialist and approved
8 by the City’s Project Manager.
9

10 1. Master Project Schedule

11 The master project schedule is a holistic representation of the scheduled activities
12 and milestones for the total project and be Critical Path Method (CPM) based. The
13 City’s Project Manager is accountable for oversight of the development and
14 maintaining a master project schedule for each project. When the City contracts for
15 the design and/or construction of the project, the master project schedule will
16 incorporate elements of the Design and Construction schedules as deemed
17 appropriate by the City’s Project Control Specialist. The assigned City Project
18 Control Specialist creates and maintains the master project schedule in P6 (City’s
19 scheduling software).
20

21 2. Construction Schedule

22 The Contractor is responsible for developing and maintaining a schedule for the
23 scope of the Contractor’s contractual requirements. The Contractor will issue an
24 initial schedule for review and acceptance by the City’s Project Control Specialist
25 and the City’s Project Manager as a baseline schedule for Contractor’s scope of
26 work. Contractor will issue current, accurate updates of their schedule (Progress
27 Schedule) to the City at the end of each month throughout the life of their work.
28

29 B. Schedule Tiers

30 The City has a portfolio of projects that vary widely in size, complexity and content
31 requiring different scheduling to effectively deliver each project. The City uses a
32 “tiered” approach to align the proper schedule with the criteria for each project. The
33 City’s Project Manager determines the appropriate schedule tier for each project, and
34 includes that designation and the associated requirements in the Contractor’s scope of
35 work. The following is a summary of the “tiers”.
36

37 1. Tier 1: Small Size and Short Duration Project (design not required)

38 The City develops and maintains a Master Project Schedule for the project. No
39 schedule submittal is required from Contractor. City’s Project Control Specialist
40 acquires any necessary schedule status data or information through discussions with
41 the respective party on an as-needed basis.
42

43 2. Tier 2: Small Size and Short to Medium Duration Project

44 The City develops and maintains a Master Project Schedule for the project. The
45 Contractor identifies “start” and “finish” milestone dates on key elements of their
46 work as agreed with the City’s Project Manager at the kickoff of their work effort.
47 The Contractor issues to the City, updates to the “start” and “finish” dates for such
48 milestones at the end of each month throughout the life of their work on the project.
49

3. Tier 3: Medium and Large Size and/or Complex Projects Regardless of Duration

1 The City develops and maintains a Master Project Schedule for the project. The
2 Contractor develops a Baseline Schedule and maintains the schedule of their
3 respective scope of work on the project at a level of detail (generally Level 3) and in
4 alignment with the WBS structure in Section 1.4.H as agreed by the Project
5 Manager. The Contractor issues to the City, updates of their respective schedule
6 (Progress Schedule) at the end of each month throughout the life of their work on the
7 project.

8 C. Schedule Types

9 Project delivery for the City utilizes two types of schedules as noted below. The City
10 develops and maintains a Master Project Schedule as a “baseline” schedule and issue
11 monthly updates to the City Project Manager (end of each month) as a “progress”
12 schedule. The Contractor prepares and submits each schedule type to fulfill their
13 contractual requirements.
14

15 1. Baseline Schedule

16 The Contractor develops and submits to the City, an initial schedule for their scope
17 of work in alignment with this specification. Once reviewed and accepted by the
18 City, it becomes the “Baseline” schedule and is the basis against which all progress
19 is measured. The baseline schedule will be updated when there is a change or
20 addition to the scope of work impacting the duration of the work, and only after
21 receipt of a duly authorized change order issued by the City. In the event progress is
22 significantly behind schedule, the City’s Project Manager may authorize an update
23 to the baseline schedule to facilitate a more practical evaluation of progress. An
24 example of a Baseline Schedule is provided in Specification 01 32 16.1
25 Construction Project Schedule Baseline Example.
26

27 2. Progress Schedule

28 The Contractor updates their schedule at the end of each month to represent the
29 progress achieved in the work which includes any impact from authorized changes
30 in the work. The updated schedule must accurately reflect the current status of the
31 work at that point in time and is referred to as the “Progress Schedule”. The City’s
32 Project Manager and Project Control Specialist reviews and accepts each progress
33 schedule. In the event a progress schedule is deemed not acceptable, the
34 unacceptable issues are identified by the City within 5 working days and the
35 Contractor must provide an acceptable progress schedule within 5 working days
36 after receipt of non-acceptance notification. An example of a Progress Schedule is
37 provided in Specification 01 32 16.2 Construction Project Schedule Progress
38 Example.

39 D. City Standard Schedule requirements

40 The following is an overview of the methodology for developing and maintaining a
41 schedule for delivery of a project.

1 1. Schedule Framework - The schedule will be based on the defined scope of work
2 and follow the (Critical Path Methodology) CPM method. The Contractor's
3 schedule will align with the requirements of this specification and will be **cost**
4 **loaded** to reflect their plan for execution. **Compliance with cost loading can be**
5 **provided with traditional cost loading of line items OR a projected cost per**
6 **month for the project when the initial schedule is submitted, updated on a**
7 **quarterly basis is significant change is anticipated.** Overall schedule duration
8 will align with the contractual requirements for the respective scope of work and be
9 reflected in City's Master Project Schedule. The Project Number and Name of the
10 Project is required on each schedule and must match the City's project data.
11

12 E. Schedule File Name

13 All schedules submitted to the City for a project will have a file name that begins with
14 the City's **project number** followed by the **name of the project** followed by **baseline** (if
15 a baseline schedule) or the **year and month** (if a progress schedule), as shown below.
16

17 • Baseline Schedule File Name

18 Format: City Project Number_Project Name_Baseline

19 Example: 101376_North Montgomery Street HMAC_Baseline
20

21 • Progress Schedule File Name

22 Format: City Project Number_Project Name_YYYY-MM

23 Example: 101376_North Montgomery Street HMAC_2018_01
24

25 • Project Schedule Progress Narrative File Name

26 Format: City Project Number_Project Name_PN_YYYY-MM

27 Example: 101376_North Montgomery Street HMAC_PN_2018_01
28

29 F. Schedule Templates

30 The Contractor will utilize the relevant sections from the City's templates provided in
31 the City's document management system as the basis for creating their respective
32 project schedule. Specifically, the Contractor's schedule will align with the layout of
33 the Construction section. The templates are identified by type of project as noted
34 below.

- 35 • Arterials
- 36 • Aviation
- 37 • Neighborhood Streets
- 38 • Sidewalks (later)
- 39 • Quiet Zones (later)
- 40 • Street Lights (later)
- 41 • Intersection Improvements (later)
- 42 • Parks
- 43 • Storm water
- 44 • Street Maintenance
- 45 • Traffic
- 46 • Water
- 47

48 G. Schedule Calendar

1 The City’s standard calendar for schedule development purposes is based on a 5-day
2 workweek and accounts for the City’s eight standard holidays (New Years, Martin
3 Luther King, Memorial, Independence, Labor, Thanksgiving, day after Thanksgiving,
4 Christmas). The Contractor will establish a schedule calendar as part of the schedule
5 development process and provide to the Project Control Specialist as part of the basis
6 for their schedule. Variations between the City’s calendar and the Contractor’s
7 calendar must be resolved prior to the City’s acceptance of their Baseline project
8 schedule.
9

10 H. WBS & Milestone Standards for Schedule Development

11 The scope of work to be accomplished by the Contractor is represented in the schedule
12 in the form of a Work Breakdown Structure (WBS). The WBS is the basis for the
13 development of the schedule activities and shall be imbedded and depicted in the
14 schedule.

15
16 The following is a summary of the standards to be followed in preparing and
17 maintaining a schedule for project delivery.
18

- 19 1. Contractor is required to utilize the City’s WBS structure and respective
20 project type template for “Construction” as shown in Section 1.4.H below.
21 Additional activities may be added to Levels 1 - 4 to accommodate the needs
22 of the organization executing the work. Specifically the Contractor will add
23 activities under WBS XXXXXX.80.83 “Construction Execution” that
24 delineates the activities associated with the various components of the work.
25
- 26 2. Contractor is required to adhere to the City’s Standard Milestones as shown
27 in Section 1.4.I below. Contractor will include additional milestones
28 representing intermediate deliverables as required to accurately reflect their
29 scope of work.
30

31 I. Schedule Activities

32 Activities are the discrete elements of work that make up the schedule. They will be
33 organized under the umbrella of the WBS. Activity descriptions should adequately
34 describe the activity, and in some cases the extent of the activity. All activities are
35 logically tied with a predecessor and a successor. The only exception to this rule is for
36 “project start” and “project finish” milestones.
37

38 The activity duration is based on the physical amount of work to be performed for the
39 stated activity, with a maximum duration of 20 working days **OR a continuous activity**
40 **in one location**. If the work for any one activity exceeds 20 days, break that activity
41 down incrementally to achieve this duration constraint. Any exception to this requires
42 review and acceptance by the City’s Project Control Specialist.
43

44 J. Change Orders

45 When a Change Order is issued by the City, the impact is incorporated into the
46 previously accepted baseline schedule as an update, to clearly show impact to the
47 project timeline. The Contractor submits this updated baseline schedule to the City for

review and acceptance as described in Section 1.5 below. Updated baseline schedules adhere to the following:

1. Time extensions associated with approved contract modifications are limited to the actual amount of time the project activities are anticipated to be delayed, unless otherwise approved by the Program Manager.
2. The re-baselined schedule is submitted by the Contractor *within ten workdays* after the date of receipt of the approved Change Order.
3. The changes in logic or durations approved by the City are used to analyze the impact of the change and is included in the Change Order. The coding for a new activity(s) added to the schedule for the Change Order includes the Change Order number in the Activity ID. Use as many activities as needed to accurately show the work of the Change Order. Revisions to the baseline schedule are not effective until accepted by the City.

K. City’s Work Breakdown Structure

<u>WBS Code</u>	<u>WBS Name</u>
XXXXXX	Project Name
XXXXXX.30	Design
XXXXXX.30.10	Design Contractor Agreement
XXXXXX.30.20	Conceptual Design (30%)
XXXXXX.30.30	Preliminary Design (60%)
XXXXXX.30.40	Final Design
XXXXXX.30.50	Environmental
XXXXXX.30.60	Permits
XXXXXX.30.60.10	Permits - Identification
XXXXXX.30.60.20	Permits - Review/Approve
XXXXXX.40	ROW & Easements
XXXXXX.40.10	ROW Negotiations
XXXXXX.40.20	Condemnation
XXXXXX.70	Utility Relocation
XXXXXX.70.10	Utility Relocation Co-ordination
XXXXXX.80	Construction
XXXXXX.80.81	Bid and Award
XXXXXX.80.83	Construction Execution
XXXXXX.80.85	Inspection
XXXXXX.80.86	Landscaping
XXXXXX.90	Closeout
XXXXXX.90.10	Construction Contract Close-out
XXXXXX.90.40	Design Contract Closure

L. City’s Standard Milestones

The following milestone activities (i.e., important events on a project that mark critical points in time) are of particular interest to the City and must be reflected in the project schedule for all phases of work.

<u>Activity ID</u>	<u>Activity Name</u>
Design	
3020	Award Design Agreement
3040	Issue Notice to Proceed - Design Engineer
3100	Design Kick-off Meeting
3120	Submit Conceptual Plans to Utilities, ROW, Traffic, Parks, Storm Water, Water & Sewer
3150	Peer Review Meeting/Design Review meeting (technical)
3160	Conduct Design Public Meeting #1 (required)
3170	Conceptual Design Complete
3220	Submit Preliminary Plans and Specifications to Utilities, ROW, Traffic, Parks, Storm Water, Water & Sewer
3250	Conduct Design Public Meeting #2 (required)
3260	Preliminary Design Complete
3310	Submit Final Design to Utilities, ROW, Traffic, Parks, Storm Water, Water & Sewer
3330	Conduct Design Public Meeting #3 (if required)
3360	Final Design Complete
ROW & Easements	
4000	Right of Way Start
4230	Right of Way Complete
Utility Relocation	
7000	Utilities Start
7120	Utilities Cleared/Complete
Construction	
Bid and Award	
8110	Start Advertisement
8150	Conduct Bid Opening
8240	Award Construction Contract
Construction Execution	
8330	Conduct Construction Public Meeting #4 Pre-Construction
8350	Construction Start
8370	Substantial Completion
8540	Construction Completion
9130	Notice of Completion/Green Sheet
9150	Construction Contract Closed
9420	Design Contract Closed

38

39 1.4 SUBMITTALS

40 A. Schedule Submittal & Review

41 The City's Project Manager is responsible for reviews and acceptance of the Contractor's
42 schedule. The City's Project Control Specialist is responsible for ensuring alignment of
43 the Contractor's baseline and progress schedules with the Master Project Schedule as
44 support to the City's Project Manager. The City reviews and accepts or rejects the
45 schedule *within ten workdays* of Contractor's submittal.
46

1 1. Schedule Format

2 The Contractor will submit each schedule in two electronic forms, one in native file
3 format (.xer, .xml, .mpx) and the second in a *pdf* format, in the City's document
4 management system in the location dedicated for this purpose and identified by the
5 Project Manager. In the event the Contractor does not use Primavera P6 or MS
6 Project for scheduling purposes, the schedule information must be submitted in .xls or
7 .xlsx format in compliance with the sample layout (See Specification 01 32 16.1
8 Construction Project Schedule Baseline Example), including activity predecessors,
9 successors and total float.

10
11 2. Initial & Baseline Schedule

12 The Contractor will develop their schedule for their scope of work and submit their
13 initial schedule in electronic form (in the file formats noted above), in the City's
14 document management system in the location dedicated for this purpose **at least 5**
15 **working days prior to Pre Construction Meeting.**

16
17 The City's Project Manager and Project Control Specialist review this initial schedule
18 to determine alignment with the City's Master Project Schedule, including format &
19 WBS structure. Following the City's review, feedback is provided to the Contractor
20 for their use in finalizing their initial schedule and issuing (**within five workdays**) their
21 Baseline Schedule for final review and acceptance by the City.

22
23 3. Progress Schedule

24 The Contractor will update and issue their project schedule (Progress Schedule) **by the**
25 **last day of each month** throughout the life of their work on the project. The Progress
26 Schedule is submitted in electronic form as noted above, in the City's document
27 management system in the location dedicated for this purpose.

28
29 The City's Project Control team reviews each Progress Schedule for data and
30 information that support the assessment of the update to the schedule. In the event
31 data or information is missing or incomplete, the Project Controls Specialist
32 communicates directly with the Contractor's scheduler for providing same. The
33 Contractor re-submits the corrected Progress Schedule **within 5 workdays**, following
34 the submittal process noted above. The City's Project Manager and Project Control
35 Specialist review the Contractor's progress schedule for acceptance and to monitor
36 performance and progress.

37
38 The following list of items are required to ensure proper status information is
39 contained in the Progress Schedule.

- 40 ● Baseline Start date
 - 41 ● Baseline Finish Date
 - 42 ● % Complete
 - 43 ● Float
 - 44 ● Activity Logic (dependencies)
 - 45 ● Critical Path
 - 46 ● Activities added or deleted
 - 47 ● Expected Baseline Finish date
 - 48 ● Variance to the Baseline Finish Date
- 49

1 B. Monthly Construction Status Report

2 The Contractor submits a written status report (referred to as a progress narrative) at the
3 monthly progress meeting (if monthly meetings are held) or at the end of each month to
4 accompany the Progress Schedule submittal, using the standard format provided in
5 Specification 01 32 16.3 Construction Project Schedule Progress Narrative. The content
6 of the Construction Project Schedule Progress Narrative should be concise and complete
7 to include only changes, delays, and anticipated problems.
8

9 C. Submittal Process

- 10 • Schedules and Monthly Construction Status Reports are submitted in in the City’s
11 document management system in the location dedicated for this purpose.
12 • Once the project has been completed and Final Acceptance has been issued by the
13 City, no further progress schedules or construction status reports are required from
14 the Contractor.
15 1.

16 **1.5 ACTION SUBMITTALS/INFORMATIONAL SUBMITTALS [NOT USED]**

17 **1.6 CLOSEOUT SUBMITTALS [NOT USED]**

18 **1.7 MAINTENANCE MATERIAL SUBMITTALS [NOT USED]**

19 **1.8 QUALITY ASSURANCE**

- 20 A. The person preparing and revising the construction Progress Schedule shall be
21 experienced in the preparation of schedules of similar complexity.
22 B. Schedule and supporting documents addressed in this Specification shall be prepared,
23 updated and revised to accurately reflect the performance of the construction.
24 C. Contractor is responsible for the quality of all submittals in this section meeting the
25 standard of care for the construction industry for similar projects.

26 **1.9 DELIVERY, STORAGE, AND HANDLING [NOT USED]**

27 **1.10 FIELD [SITE] CONDITIONS [NOT USED]**

28 **1.11 WARRANTY [NOT USED]**

29 **1.12 ATTACHMENTS**

- 30 Spec 01 32 16.1 Construction Project Schedule Baseline Example
31 Spec 01 32 16.2 Construction Project Schedule Progress Example
32 Spec 01 32 16.3 Construction Project Schedule Progress Narrative
33

1

2 **PART 2 - PRODUCTS [NOT USED]**

3 **PART 3 - EXECUTION [NOT USED]**

4

END OF SECTION

5

Revision Log		
DATE	NAME	SUMMARY OF CHANGE
8/13/2021	Michael Owen	Revised to update specification requirements and eliminate duplicate schedule specifications.

6

SECTION 01 32 33
PRECONSTRUCTION VIDEO

PART 1 - GENERAL

1.1 SUMMARY

- A. Section Includes:
 - 1. Administrative and procedural requirements for:
 - a. Preconstruction Videos
- B. Deviations from this City of Fort Worth Standard Specification
 - 1. None.
- C. Related Specification Sections include, but are not necessarily limited to:
 - 1. Division 0 – Bidding Requirements, Contract Forms and Conditions of the Contract
 - 2. Division 1 – General Requirements

1.2 PRICE AND PAYMENT PROCEDURES

- A. Measurement and Payment
 - 1. Work associated with this Item is considered subsidiary to the various items bid.
No separate payment will be allowed for this Item.

1.3 REFERENCES [NOT USED]

1.4 ADMINISTRATIVE REQUIREMENTS

- A. Preconstruction Video
 - 1. Produce a preconstruction video of the site/alignment, including all areas in the vicinity of and to be affected by construction.
 - a. Provide digital copy of video upon request by the City.
 - 2. Retain a copy of the preconstruction video until the end of the maintenance surety period.

1.5 SUBMITTALS [NOT USED]

1.6 ACTION SUBMITTALS/INFORMATIONAL SUBMITTALS [NOT USED]

1.7 CLOSEOUT SUBMITTALS [NOT USED]

1.8 MAINTENANCE MATERIAL SUBMITTALS [NOT USED]

1.9 QUALITY ASSURANCE [NOT USED]

1.10 DELIVERY, STORAGE, AND HANDLING [NOT USED]

1.11 FIELD [SITE] CONDITIONS [NOT USED]

1.12 WARRANTY [NOT USED]

PART 2 - PRODUCTS [NOT USED]

PART 3 - EXECUTION [NOT USED]

END OF SECTION

Revision Log		
DATE	NAME	SUMMARY OF CHANGE

SECTION 01 33 00 SUBMITTALS

PART 1 - GENERAL

1.1 SUMMARY

- A. Section Includes:
 - 1. General methods and requirements of submissions applicable to the following Work-related submittals:
 - a. Shop Drawings
 - b. Product Data (including Standard Product List submittals)
 - c. Samples
 - d. Mock Ups
- B. Deviations from this City of Fort Worth Standard Specification
 - 1. None.
- C. Related Specification Sections include, but are not necessarily limited to:
 - 1. Division 0 – Bidding Requirements, Contract Forms and Conditions of the Contract
 - 2. Division 1 – General Requirements

1.2 PRICE AND PAYMENT PROCEDURES

- A. Measurement and Payment
 - 1. Work associated with this Item is considered subsidiary to the various items bid. No separate payment will be allowed for this Item.

1.3 REFERENCES [NOT USED]

1.4 ADMINISTRATIVE REQUIREMENTS

- A. Coordination
 - 1. Notify the City in writing, at the time of submittal, of any deviations in the submittals from the requirements of the Contract Documents.
 - 2. Coordination of Submittal Times
 - a. Prepare, prioritize and transmit each submittal sufficiently in advance of performing the related Work or other applicable activities, or within the time specified in the individual Work Sections, of the Specifications.
 - b. Contractor is responsible such that the installation will not be delayed by processing times including, but not limited to:
 - a) Disapproval and resubmittal (if required)
 - b) Coordination with other submittals
 - c) Testing
 - d) Purchasing
 - e) Fabrication
 - f) Delivery
 - g) Similar sequenced activities
 - c. No extension of time will be authorized because of the Contractor's failure to transmit submittals sufficiently in advance of the Work.

- d. Make submittals promptly in accordance with approved schedule, and in such sequence as to cause no delay in the Work or in the work of any other contractor.

B. Submittal Numbering

1. When submitting shop drawings or samples, utilize a 9-character submittal cross-reference identification numbering system in the following manner:
 - a. Use the first 6 digits of the applicable Specification Section Number.
 - b. For the next 2 digits number use numbers 01-99 to sequentially number each initial separate item or drawing submitted under each specific Section number.
 - c. Last use a letter, A-Z, indicating the resubmission of the same drawing (i.e. A=2nd submission, B=3rd submission, C=4th submission, etc.). A typical submittal number would be as follows:

03 30 00-08-B

- 1) 03 30 00 is the Specification Section for Concrete
- 2) 08 is the eighth initial submittal under this Specification Section
- 3) B is the third submission (second resubmission) of that particular shop drawing

C. Contractor Certification

1. Review shop drawings, product data and samples, including those by subcontractors, prior to submission to determine and verify the following:
 - a. Field measurements
 - b. Field construction criteria
 - c. Catalog numbers and similar data
 - d. Conformance with the Contract Documents
2. Provide each shop drawing, sample and product data submitted by the Contractor with a Certification Statement affixed including:
 - a. The Contractor's Company name
 - b. Signature of submittal reviewer
 - c. Certification Statement
 - 1) "By this submittal, I hereby represent that I have determined and verified field measurements, field construction criteria, materials, dimensions, catalog numbers and similar data and I have checked and coordinated each item with other applicable approved shop drawings."

D. Submittal Format

1. Fold shop drawings larger than 8 ½ inches x 11 inches to 8 ½ inches x 11 inches.
2. Bind shop drawings and product data sheets together.
3. Order
 - a. Cover Sheet
 - 1) Description of Packet
 - 2) Contractor Certification
 - b. List of items / Table of Contents
 - c. Product Data /Shop Drawings/Samples /Calculations

E. Submittal Content

1. The date of submission and the dates of any previous submissions

2. The Project title and number
 3. Contractor identification
 4. The names of:
 - a. Contractor
 - b. Supplier
 - c. Manufacturer
 5. Identification of the product, with the Specification Section number, page and paragraph(s)
 6. Field dimensions, clearly identified as such
 7. Relation to adjacent or critical features of the Work or materials
 8. Applicable standards, such as ASTM or Federal Specification numbers
 9. Identification by highlighting of deviations from Contract Documents
 10. Identification by highlighting of revisions on resubmittals
 11. An 8-inch x 3-inch blank space for Contractor and City stamps
- F. Shop Drawings
1. As specified in individual Work Sections includes, but is not necessarily limited to:
 - a. Custom-prepared data such as fabrication and erection/installation (working) drawings
 - b. Scheduled information
 - c. Setting diagrams
 - d. Actual shopwork manufacturing instructions
 - e. Custom templates
 - f. Special wiring diagrams
 - g. Coordination drawings
 - h. Individual system or equipment inspection and test reports including:
 - 1) Performance curves and certifications
 - i. As applicable to the Work
 2. Details
 - a. Relation of the various parts to the main members and lines of the structure
 - b. Where correct fabrication of the Work depends upon field measurements
 - 1) Provide such measurements and note on the drawings prior to submitting for approval.
- G. Product Data
1. For submittals of product data for products included on the City's Standard Product List, clearly identify each item selected for use on the Project.
 2. For submittals of product data for products not included on the City's Standard Product List, submittal data may include, but is not necessarily limited to:
 - a. Standard prepared data for manufactured products (sometimes referred to as catalog data)
 - 1) Such as the manufacturer's product specification and installation instructions
 - 2) Availability of colors and patterns
 - 3) Manufacturer's printed statements of compliances and applicability
 - 4) Roughing-in diagrams and templates
 - 5) Catalog cuts
 - 6) Product photographs

- 7) Standard wiring diagrams
- 8) Printed performance curves and operational-range diagrams
- 9) Production or quality control inspection and test reports and certifications
- 10) Mill reports
- 11) Product operating and maintenance instructions and recommended spare-parts listing and printed product warranties
- 12) As applicable to the Work

H. Samples

1. As specified in individual Sections, include, but are not necessarily limited to:
 - a. Physical examples of the Work such as:
 - 1) Sections of manufactured or fabricated Work
 - 2) Small cuts or containers of materials
 - 3) Complete units of repetitively used products color/texture/pattern swatches and range sets
 - 4) Specimens for coordination of visual effect
 - 5) Graphic symbols and units of Work to be used by the City for independent inspection and testing, as applicable to the Work
- I. Do not start Work requiring a shop drawing, sample or product data nor any material to be fabricated or installed prior to the approval or qualified approval of such item.
 1. Fabrication performed, materials purchased or on-site construction accomplished which does not conform to approved shop drawings and data is at the Contractor's risk.
 2. The City will not be liable for any expense or delay due to corrections or remedies required to accomplish conformity.
 3. Complete project Work, materials, fabrication, and installations in conformance with approved shop drawings, applicable samples, and product data.

J. Submittal Distribution

1. Electronic Distribution
 - a. Confirm development of Project directory for electronic submittals to be uploaded to City's Buzzsaw site, or another external FTP site approved by the City.
 - b. Shop Drawings
 - 1) Upload submittal to designated project directory and notify appropriate City representatives via email of submittal posting.
 - 2) Hard Copies
 - a) 3 copies for all submittals
 - b) If Contractor requires more than 1 hard copy of Shop Drawings returned, Contractor shall submit more than the number of copies listed above.
 - c. Product Data
 - 1) Upload submittal to designated project directory and notify appropriate City representatives via email of submittal posting.
 - 2) Hard Copies
 - a) 3 copies for all submittals
 - d. Samples
 - 1) Distributed to the Project Representative
2. Hard Copy Distribution (if required in lieu of electronic distribution)

- a. Shop Drawings
 - 1) Distributed to the City
 - 2) Copies
 - a) 8 copies for mechanical submittals
 - b) 7 copies for all other submittals
 - c) If Contractor requires more than 3 copies of Shop Drawings returned, Contractor shall submit more than the number of copies listed above.
 - b. Product Data
 - 1) Distributed to the City
 - 2) Copies
 - a) 4 copies
 - c. Samples
 - 1) Distributed to the Project Representative
 - 2) Copies
 - a) Submit the number stated in the respective Specification Sections.
3. Distribute reproductions of approved shop drawings and copies of approved product data and samples, where required, to the job site file and elsewhere as directed by the City.
 - a. Provide number of copies as directed by the City but not exceeding the number previously specified.

K. Submittal Review

1. The review of shop drawings, data and samples will be for general conformance with the design concept and Contract Documents. This is not to be construed as:
 - a. Permitting any departure from the Contract requirements
 - b. Relieving the Contractor of responsibility for any errors, including details, dimensions, and materials
 - c. Approving departures from details furnished by the City, except as otherwise provided herein
2. The review and approval of shop drawings, samples or product data by the City does not relieve the Contractor from his/her responsibility with regard to the fulfillment of the terms of the Contract.
 - a. All risks of error and omission are assumed by the Contractor, and the City will have no responsibility therefore.
3. The Contractor remains responsible for details and accuracy, for coordinating the Work with all other associated work and trades, for selecting fabrication processes, for techniques of assembly and for performing Work in a safe manner.
4. If the shop drawings, data or samples as submitted describe variations and show a departure from the Contract requirements which City finds to be in the interest of the City and to be so minor as not to involve a change in Contract Price or time for performance, the City may return the reviewed drawings without noting an exception.
5. Submittals will be returned to the Contractor under 1 of the following codes:
 - a. Code 1
 - 1) "NO EXCEPTIONS TAKEN" is assigned when there are no notations or comments on the submittal.
 - a) When returned under this code the Contractor may release the equipment and/or material for manufacture.
 - b. Code 2

- 1) "EXCEPTIONS NOTED". This code is assigned when a confirmation of the notations and comments IS NOT required by the Contractor.
 - a) The Contractor may release the equipment or material for manufacture; however, all notations and comments must be incorporated into the final product.
 - c. Code 3
 - 1) "EXCEPTIONS NOTED/RESUBMIT". This combination of codes is assigned when notations and comments are extensive enough to require a resubmittal of the package.
 - a) The Contractor may release the equipment or material for manufacture; however, all notations and comments must be incorporated into the final product.
 - b) This resubmittal is to address all comments, omissions and non-conforming items that were noted.
 - c) Resubmittal is to be received by the City within 15 Calendar Days of the date of the City's transmittal requiring the resubmittal.
 - d. Code 4
 - 1) "NOT APPROVED" is assigned when the submittal does not meet the intent of the Contract Documents.
 - a) The Contractor must resubmit the entire package revised to bring the submittal into conformance.
 - b) It may be necessary to resubmit using a different manufacturer/vendor to meet the Contract Documents.
6. Resubmittals
- a. Handled in the same manner as first submittals
 - 1) Corrections other than requested by the City
 - 2) Marked with revision triangle or other similar method
 - a) At Contractor's risk if not marked
 - b. Submittals for each item will be reviewed no more than twice at the City's expense.
 - 1) All subsequent reviews will be performed at times convenient to the City and at the Contractor's expense, based on the City's or City Representative's then prevailing rates.
 - 2) Provide Contractor reimbursement to the City within 30 Calendar Days for all such fees invoiced by the City.
 - c. The need for more than 1 resubmission or any other delay in obtaining City's review of submittals, will not entitle the Contractor to an extension of Contract Time.
7. Partial Submittals
- a. City reserves the right to not review submittals deemed partial, at the City's discretion.
 - b. Submittals deemed by the City to be not complete will be returned to the Contractor, and will be considered "Not Approved" until resubmitted.
 - c. The City may at its option provide a list or mark the submittal directing the Contractor to the areas that are incomplete.
8. If the Contractor considers any correction indicated on the shop drawings to constitute a change to the Contract Documents, then written notice must be provided thereof to the City at least 7 Calendar Days prior to release for manufacture.

9. When the shop drawings have been completed to the satisfaction of the City, the Contractor may carry out the construction in accordance therewith and no further changes therein except upon written instructions from the City.
10. Each submittal, appropriately coded, will be returned within 30 Calendar Days following receipt of submittal by the City.

L. Mock ups

1. Mock Up units as specified in individual Sections, include, but are not necessarily limited to, complete units of the standard of acceptance for that type of Work to be used on the Project. Remove at the completion of the Work or when directed.

M. Qualifications

1. If specifically required in other Sections of these Specifications, submit a P.E. Certification for each item required.

N. Request for Information (RFI)

1. Contractor Request for additional information
 - a. Clarification or interpretation of the contract documents
 - b. When the Contractor believes there is a conflict between Contract Documents
 - c. When the Contractor believes there is a conflict between the Drawings and Specifications
 - 1) Identify the conflict and request clarification
2. Use the Request for Information (RFI) form provided by the City.
3. Numbering of RFI
 - a. Prefix with "RFI" followed by series number, "-xxx", beginning with "01" and increasing sequentially with each additional transmittal.
4. Sufficient information shall be attached to permit a written response without further information.
5. The City will log each request and will review the request.
 - a. If review of the project information request indicates that a change to the Contract Documents is required, the City will issue a Field Order or Change Order, as appropriate.

1.5 SUBMITTALS [NOT USED]

1.6 ACTION SUBMITTALS/INFORMATIONAL SUBMITTALS [NOT USED]

1.7 CLOSEOUT SUBMITTALS [NOT USED]

1.8 MAINTENANCE MATERIAL SUBMITTALS [NOT USED]

1.9 QUALITY ASSURANCE [NOT USED]

1.10 DELIVERY, STORAGE, AND HANDLING [NOT USED]

1.11 FIELD [SITE] CONDITIONS [NOT USED]

1.12 WARRANTY [NOT USED]

PART 2 - PRODUCTS [NOT USED]

PART 3 - EXECUTION [NOT USED]

END OF SECTION

Revision Log		
DATE	NAME	SUMMARY OF CHANGE
12/20/2012	D. Johnson	1.4.K.8. Working Days modified to Calendar Days

1 **SECTION 01 35 13**
2 **SPECIAL PROJECT PROCEDURES**

3 **PART 1 - GENERAL**

4 **1.1 SUMMARY**

5 A. Section Includes:

- 6 1. The procedures for special project circumstances that includes, but is not limited to:
7 a. Coordination with the Texas Department of Transportation
8 b. Work near High Voltage Lines
9 c. Confined Space Entry Program
10 d. Use of Explosives, Drop Weight, Etc.
11 e. Water Department Notification
12 f. Public Notification Prior to Beginning Construction
13 g. Coordination with United States Army Corps of Engineers
14 h. Coordination within Railroad permits areas
15 i. Dust Control
16 j. Employee Parking

17 B. Deviations from this City of Fort Worth Standard Specification

- 18 1. None.

19 C. Related Specification Sections include, but are not necessarily limited to:

- 20 1. Division 0 – Bidding Requirements, Contract Forms and Conditions of the Contract
21 2. Division 1 – General Requirements
22 3. Section 33 12 25 – Connection to Existing Water Mains

23 **1.2 PRICE AND PAYMENT PROCEDURES**

24 A. Measurement and Payment

- 25 1. Work associated with these Items is considered subsidiary to the various Items bid.
26 No separate payment will be allowed for this Item.

27 **1.3 REFERENCES**

28 A. Reference Standards

- 29 1. Reference standards cited in this Specification refer to the current reference
30 standard published at the time of the latest revision date logged at the end of this
31 Specification, unless a date is specifically cited.
32 2. Health and Safety Code, Title 9. Safety, Subtitle A. Public Safety, Chapter 752.
33 High Voltage Overhead Lines.

34 **1.4 ADMINISTRATIVE REQUIREMENTS**

35 A. Coordination with the Texas Department of Transportation

- 36 1. When work in the right-of-way which is under the jurisdiction of the Texas
37 Department of Transportation (TxDOT):
38 a. Notify the Texas Department of Transportation prior to commencing any work
39 therein in accordance with the provisions of the permit

- 1 b. All work performed in the TxDOT right-of-way shall be performed in
2 compliance with and subject to approval from the Texas Department of
3 Transportation
- 4 B. Work near High Voltage Lines
- 5 1. Regulatory Requirements
- 6 a. All Work near High Voltage Lines (more than 600 volts measured between
7 conductors or between a conductor and the ground) shall be in accordance with
8 Health and Safety Code, Title 9, Subtitle A, Chapter 752.
- 9 2. Warning sign
- 10 a. Provide sign of sufficient size meeting all OSHA requirements.
- 11 3. Equipment operating within 10 feet of high voltage lines will require the following
12 safety features
- 13 a. Insulating cage-type of guard about the boom or arm
- 14 b. Insulator links on the lift hook connections for back hoes or dippers
- 15 c. Equipment must meet the safety requirements as set forth by OSHA and the
16 safety requirements of the owner of the high voltage lines
- 17 4. Work within 6 feet of high voltage electric lines
- 18 a. Notification shall be given to:
- 19 1) The power company (example: ONCOR)
- 20 a) Maintain an accurate log of all such calls to power company and record
21 action taken in each case.
- 22 b. Coordination with power company
- 23 1) After notification coordinate with the power company to:
- 24 a) Erect temporary mechanical barriers, de-energize the lines, or raise or
25 lower the lines
- 26 c. No personnel may work within 6 feet of a high voltage line before the above
27 requirements have been met.
- 28 C. Confined Space Entry Program
- 29 1. Provide and follow approved Confined Space Entry Program in accordance with
30 OSHA requirements.
- 31 2. Confined Spaces include:
- 32 a. Manholes
- 33 b. All other confined spaces in accordance with OSHA's Permit Required for
34 Confined Spaces
- 35 D. Use of Explosives, Drop Weight, Etc.
- 36 1. When Contract Documents permit on the project the following will apply:
- 37 a. Public Notification
- 38 1) Submit notice to City and proof of adequate insurance coverage, 24 hours
39 prior to commencing.
- 40 2) Minimum 24 hour public notification in accordance with Section 01 31 13
- 41 E. Coordination with United States Army Corps of Engineers (USACE)
- 42 1. At locations in the Project where construction activities occur in areas where
43 USACE permits are required, meet all requirements set forth in each designated
44 permit.

- 1 F. Dust Control
- 2 1. Use acceptable measures to control dust at the Site.
- 3 a. If water is used to control dust, capture and properly dispose of waste water.
- 4 b. If wet saw cutting is performed, capture and properly dispose of slurry.
- 5 G. Employee Parking
- 6 1. Provide parking for employees at locations approved by the City.

- 7 **1.5 SUBMITTALS [NOT USED]**
- 8 **1.6 ACTION SUBMITTALS/INFORMATIONAL SUBMITTALS [NOT USED]**
- 9 **1.7 CLOSEOUT SUBMITTALS [NOT USED]**
- 10 **1.8 MAINTENANCE MATERIAL SUBMITTALS [NOT USED]**
- 11 **1.9 QUALITY ASSURANCE [NOT USED]**
- 12 **1.10 DELIVERY, STORAGE, AND HANDLING [NOT USED]**
- 13 **1.11 FIELD [SITE] CONDITIONS [NOT USED]**
- 14 **1.12 WARRANTY [NOT USED]**

15 **PART 2 - PRODUCTS [NOT USED]**

16 **PART 3 - EXECUTION [NOT USED]**

17 **END OF SECTION**

18

Revision Log		
DATE	NAME	SUMMARY OF CHANGE
8/31/2012	D. Johnson	1.4.B – Added requirement of compliance with Health and Safety Code, Title 9. Safety, Subtitle A. Public Safety, Chapter 752. High Voltage Overhead Lines. 1.4.E – Added Contractor responsibility for obtaining a TCEQ Air Permit
3/11/2022	M Owen	Remove references to Air Pollution watch Days and NCTCOG Clean construction Specification requirements. Clarify need for Door Hangers under in addition to contractor notification of public.

19

SECTION 01 45 23
TESTING AND INSPECTION SERVICES

PART 1 - GENERAL

1.1 SUMMARY

- A. Section Includes:
 - 1. Testing and inspection services procedures and coordination
- B. Deviations from this City of Fort Worth Standard Specification
 - 1. None.
- C. Related Specification Sections include, but are not necessarily limited to:
 - 1. Division 0 – Bidding Requirements, Contract Forms and Conditions of the Contract
 - 2. Division 1 – General Requirements

1.2 PRICE AND PAYMENT PROCEDURES

- A. Measurement and Payment
 - 1. Work associated with this Item is considered subsidiary to the various Items bid. No separate payment will be allowed for this Item.
 - a. Contractor is responsible for performing, coordinating, and payment of all Quality Control testing.
 - b. City is responsible for performing and payment for first set of Quality Assurance testing.
 - 1) If the first Quality Assurance test performed by the City fails, the Contractor is responsible for payment of subsequent Quality Assurance testing until a passing test occurs.
 - a) Final acceptance will not be issued by City until all required payments for testing by Contractor have been paid in full.

1.3 REFERENCES [NOT USED]

1.4 ADMINISTRATIVE REQUIREMENTS

- A. Testing
 - 1. Complete testing in accordance with the Contract Documents.
 - 2. Coordination
 - a. When testing is required to be performed by the City, notify City, sufficiently in advance, when testing is needed.
 - b. When testing is required to be completed by the Contractor, notify City, sufficiently in advance, that testing will be performed.
 - 3. Distribution of Testing Reports
 - a. Electronic Distribution
 - 1) Confirm development of Project directory for electronic submittals to be uploaded to the City's document management system, or another external FTP site approved by the City.

- 2) Upload test reports to designated project directory and notify appropriate City representatives via email of submittal posting.
- 3) Hard Copies
 - a) 1 copy for all submittals submitted to the Project Representative
- b. Hard Copy Distribution (if required in lieu of electronic distribution)
 - 1) Tests performed by City
 - a) Distribute 1 hard copy to the Contractor
 - 2) Tests performed by the Contractor
 - a) Distribute 3 hard copies to City’s Project Representative
- 4. Provide City’s Project Representative with trip tickets for each delivered load of Concrete or Lime material including the following information:
 - a. Name of pit
 - b. Date of delivery
 - c. Material delivered

B. Inspection

- 1. Inspection or lack of inspection does not relieve the Contractor from obligation to perform work in accordance with the Contract Documents.

1.5 SUBMITTALS [NOT USED]

1.6 ACTION SUBMITTALS/INFORMATIONAL SUBMITTALS [NOT USED]

1.7 CLOSEOUT SUBMITTALS [NOT USED]

1.8 MAINTENANCE MATERIAL SUBMITTALS [NOT USED]

1.9 QUALITY ASSURANCE [NOT USED]

1.10 DELIVERY, STORAGE, AND HANDLING [NOT USED]

1.11 FIELD [SITE] CONDITIONS [NOT USED]

1.12 WARRANTY [NOT USED]

PART 2 - PRODUCTS [NOT USED]

PART 3 - EXECUTION [NOT USED]

END OF SECTION

Revision Log		
DATE	NAME	SUMMARY OF CHANGE
3/9/2020	D.V. Magaña	Removed reference to Buzzsaw and noted that electronic submittals be uploaded through the City’s document management system.

SECTION 01 50 00
TEMPORARY FACILITIES AND CONTROLS

PART 1 - GENERAL

1.1 SUMMARY

- A. Section Includes:
 - 1. Provide temporary facilities and controls needed for the Work including, but not necessarily limited to:
 - a. Temporary utilities
 - b. Sanitary facilities
 - c. Storage Sheds and Buildings
 - d. Dust control
 - e. Temporary fencing of the construction site
- B. Deviations from this City of Fort Worth Standard Specification
 - 1. None.
- C. Related Specification Sections include, but are not necessarily limited to:
 - 1. Division 0 – Bidding Requirements, Contract Forms and Conditions of the Contract
 - 2. Division 1 – General Requirements

1.2 PRICE AND PAYMENT PROCEDURES

- A. Measurement and Payment
 - 1. Work associated with this Item is considered subsidiary to the various Items bid. No separate payment will be allowed for this Item.

1.3 REFERENCES [NOT USED]

1.4 ADMINISTRATIVE REQUIREMENTS

- A. Temporary Utilities
 - 1. Obtaining Temporary Service
 - a. Make arrangements with utility service companies for temporary services.
 - b. Abide by rules and regulations of utility service companies or authorities having jurisdiction.
 - c. Be responsible for utility service costs until Work is approved for Final Acceptance.
 - 1) Included are fuel, power, light, heat and other utility services necessary for execution, completion, testing and initial operation of Work.
 - 2. Water
 - a. Contractor to provide water required for and in connection with Work to be performed and for specified tests of piping, equipment, devices or other use as required for the completion of the Work.
 - b. Provide and maintain adequate supply of potable water for domestic consumption by Contractor personnel and City's Project Representatives.
 - c. Coordination
 - 1) Contact City 1 week before water for construction is desired

- d. Contractor Payment for Construction Water
 - 1) Obtain construction water meter from City for payment as billed by City's established rates.
 3. Electricity and Lighting
 - a. Provide and pay for electric powered service as required for Work, including testing of Work.
 - 1) Provide power for lighting, operation of equipment, or other use.
 - b. Electric power service includes temporary power service or generator to maintain operations during scheduled shutdown.
 4. Telephone
 - a. Provide emergency telephone service at Site for use by Contractor personnel and others performing work or furnishing services at Site.
 5. Temporary Heat and Ventilation
 - a. Provide temporary heat as necessary for protection or completion of Work.
 - b. Provide temporary heat and ventilation to assure safe working conditions.
- B. Sanitary Facilities
1. Provide and maintain sanitary facilities for persons on Site.
 - a. Comply with regulations of State and local departments of health.
 2. Enforce use of sanitary facilities by construction personnel at job site.
 - a. Enclose and anchor sanitary facilities.
 - b. No discharge will be allowed from these facilities.
 - c. Collect and store sewage and waste so as not to cause nuisance or health problem.
 - d. Haul sewage and waste off-site at no less than weekly intervals and properly dispose in accordance with applicable regulation.
 3. Locate facilities near Work Site and keep clean and maintained throughout Project.
 4. Remove facilities at completion of Project
- C. Storage Sheds and Buildings
1. Provide adequately ventilated, watertight, weatherproof storage facilities with floor above ground level for materials and equipment susceptible to weather damage.
 2. Storage of materials not susceptible to weather damage may be on blocks off ground.
 3. Store materials in a neat and orderly manner.
 - a. Place materials and equipment to permit easy access for identification, inspection and inventory.
 4. Equip building with lockable doors and lighting, and provide electrical service for equipment space heaters and heating or ventilation as necessary to provide storage environments acceptable to specified manufacturers.
 5. Fill and grade site for temporary structures to provide drainage away from temporary and existing buildings.
 6. Remove building from site prior to Final Acceptance.
- D. Temporary Fencing
1. Provide and maintain for the duration or construction when required in contract documents
- E. Dust Control

1. Contractor is responsible for maintaining dust control through the duration of the project.
 - a. Contractor remains on-call at all times
 - b. Must respond in a timely manner

F. Temporary Protection of Construction

1. Contractor or subcontractors are responsible for protecting Work from damage due to weather.

1.5 SUBMITTALS [NOT USED]

1.6 ACTION SUBMITTALS/INFORMATIONAL SUBMITTALS [NOT USED]

1.7 CLOSEOUT SUBMITTALS [NOT USED]

1.8 MAINTENANCE MATERIAL SUBMITTALS [NOT USED]

1.9 QUALITY ASSURANCE [NOT USED]

1.10 DELIVERY, STORAGE, AND HANDLING [NOT USED]

1.11 FIELD [SITE] CONDITIONS [NOT USED]

1.12 WARRANTY [NOT USED]

PART 2 - PRODUCTS [NOT USED]

PART 3 - EXECUTION [NOT USED]

3.1 INSTALLERS [NOT USED]

3.2 EXAMINATION [NOT USED]

3.3 PREPARATION [NOT USED]

3.4 INSTALLATION

A. Temporary Facilities

1. Maintain all temporary facilities for duration of construction activities as needed.

3.5 [REPAIR] / [RESTORATION]

3.6 RE-INSTALLATION

3.7 FIELD [or] SITE QUALITY CONTROL [NOT USED]

3.8 SYSTEM STARTUP [NOT USED]

3.9 ADJUSTING [NOT USED]

3.10 CLEANING [NOT USED]

3.11 CLOSEOUT ACTIVITIES

A. Temporary Facilities

1. Remove all temporary facilities and restore area after completion of the Work, to a condition equal to or better than prior to start of Work.

3.12 PROTECTION [NOT USED]

3.13 MAINTENANCE [NOT USED]

3.14 ATTACHMENTS [NOT USED]

END OF SECTION

Revision Log		
DATE	NAME	SUMMARY OF CHANGE

SECTION 01 57 13
STORM WATER POLLUTION PREVENTION

PART 1 - GENERAL

1.1 SUMMARY

- A. Section Includes:
 - 1. Procedures for Storm Water Pollution Prevention Plans
- B. Deviations from this City of Fort Worth Standard Specification
 - 1. None.
- C. Related Specification Sections include, but are not necessarily limited to:
 - 1. Division 0 – Bidding Requirements, Contract Forms and Conditions of the Contract
 - 2. Division 1 – General Requirements
 - 3. Section 31 25 00 – Erosion and Sediment Control

1.2 PRICE AND PAYMENT PROCEDURES

- A. Measurement and Payment
 - 1. Construction Activities resulting in less than 1 acre of disturbance
 - a. Work associated with this Item is considered subsidiary to the various Items bid. No separate payment will be allowed for this Item.
 - 2. Construction Activities resulting in greater than 1 acre of disturbance
 - a. Measurement and Payment shall be in accordance with Section 31 25 00.

1.3 REFERENCES

- A. Abbreviations and Acronyms
 - 1. Notice of Intent: NOI
 - 2. Notice of Termination: NOT
 - 3. Storm Water Pollution Prevention Plan: SWPPP
 - 4. Texas Commission on Environmental Quality: TCEQ
 - 5. Notice of Change: NOC
- A. Reference Standards
 - 1. Reference standards cited in this Specification refer to the current reference standard published at the time of the latest revision date logged at the end of this Specification, unless a date is specifically cited.
 - 2. Integrated Storm Management (iSWM) Technical Manual for Construction Controls

1.4 ADMINISTRATIVE REQUIREMENTS

- A. General
 - 1. Contractor is responsible for resolution and payment of any fines issued associated with compliance to Stormwater Pollution Prevention Plan.

- B. Construction Activities resulting in:
1. Less than 1 acre of disturbance
 - a. Provide erosion and sediment control in accordance with Section 31 25 00 and Drawings.
 2. 1 to less than 5 acres of disturbance
 - a. Texas Pollutant Discharge Elimination System (TPDES) General Construction Permit is required
 - b. Complete SWPPP in accordance with TCEQ requirements
 - 1) TCEQ Small Construction Site Notice Required under general permit TXR150000
 - a) Sign and post at job site
 - b) Prior to Preconstruction Meeting, send 1 copy to City Department of Transportation and Public Works, Environmental Division, (817) 392-6088.
 - 2) Provide erosion and sediment control in accordance with:
 - a) Section 31 25 00
 - b) The Drawings
 - c) TXR150000 General Permit
 - d) SWPPP
 - e) TCEQ requirements
 3. 5 acres or more of Disturbance
 - a. Texas Pollutant Discharge Elimination System (TPDES) General Construction Permit is required
 - b. Complete SWPPP in accordance with TCEQ requirements
 - 1) Prepare a TCEQ NOI form and submit to TCEQ along with required fee
 - a) Sign and post at job site
 - b) Send copy to City Department of Transportation and Public Works, Environmental Division, (817) 392-6088.
 - 2) TCEQ Notice of Change required if making changes or updates to NOI
 - 3) Provide erosion and sediment control in accordance with:
 - a) Section 31 25 00
 - b) The Drawings
 - c) TXR150000 General Permit
 - d) SWPPP
 - e) TCEQ requirements
 - 4) Once the project has been completed and all the closeout requirements of TCEQ have been met a TCEQ Notice of Termination can be submitted.
 - a) Send copy to City Department of Transportation and Public Works, Environmental Division, (817) 392-6088.

1.5 SUBMITTALS

A. SWPPP

1. Submit in accordance with Section 01 33 00, except as stated herein.
 - a. Prior to the Preconstruction Meeting, submit a draft copy of SWPPP to the City as follows:
 - 1) 1 copy to the City Project Manager
 - a) City Project Manager will forward to the City Department of Transportation and Public Works, Environmental Division for review

B. Modified SWPPP

- 1. If the SWPPP is revised during construction, resubmit modified SWPPP to the City in accordance with Section 01 33 00.

1.6 ACTION SUBMITTALS/INFORMATIONAL SUBMITTALS [NOT USED]

1.7 CLOSEOUT SUBMITTALS [NOT USED]

1.8 MAINTENANCE MATERIAL SUBMITTALS [NOT USED]

1.9 QUALITY ASSURANCE [NOT USED]

1.10 DELIVERY, STORAGE, AND HANDLING [NOT USED]

1.11 FIELD [SITE] CONDITIONS [NOT USED]

1.12 WARRANTY [NOT USED]

PART 2 - PRODUCTS [NOT USED]

PART 3 - EXECUTION [NOT USED]

END OF SECTION

Revision Log		
DATE	NAME	SUMMARY OF CHANGE

SECTION 01 58 13
TEMPORARY PROJECT SIGNAGE

PART 1 - GENERAL

1.1 SUMMARY

- A. Section Includes:
 - 1. Temporary Project Signage Requirements
- B. Deviations from this City of Fort Worth Standard Specification
 - 1. None.
- C. Related Specification Sections include, but are not necessarily limited to:
 - 1. Division 0 – Bidding Requirements, Contract Forms and Conditions of the Contract
 - 2. Division 1 – General Requirements

1.2 PRICE AND PAYMENT PROCEDURES

- A. Measurement and Payment
 - 1. Work associated with this Item is considered subsidiary to the various Items bid.
No separate payment will be allowed for this Item.

1.3 REFERENCES [NOT USED]

1.4 ADMINISTRATIVE REQUIREMENTS [NOT USED]

1.5 SUBMITTALS [NOT USED]

1.6 ACTION SUBMITTALS/INFORMATIONAL SUBMITTALS [NOT USED]

1.7 CLOSEOUT SUBMITTALS [NOT USED]

1.8 MAINTENANCE MATERIAL SUBMITTALS [NOT USED]

1.9 QUALITY ASSURANCE [NOT USED]

1.10 DELIVERY, STORAGE, AND HANDLING [NOT USED]

1.11 FIELD [SITE] CONDITIONS [NOT USED]

1.12 WARRANTY [NOT USED]

PART 2 - PRODUCTS

2.1 OWNER-FURNISHED [or] OWNER-SUPPLIED PRODUCTS [NOT USED]

2.2 EQUIPMENT, PRODUCT TYPES, AND MATERIALS

- A. Design Criteria
 - 1. Provide free standing Project Designation Sign in accordance with City's Standard Details for project signs.

B. Materials

1. Sign

- a. Constructed of 3/4-inch fir plywood, grade A-C (exterior) or better

2.3 ACCESSORIES [NOT USED]

2.4 SOURCE QUALITY CONTROL [NOT USED]

PART 3 - EXECUTION

3.1 INSTALLERS [NOT USED]

3.2 EXAMINATION [NOT USED]

3.3 PREPARATION [NOT USED]

3.4 INSTALLATION

A. General

1. Provide vertical installation at extents of project.
2. Relocate sign as needed, upon request of the City.

B. Mounting options

- a. Skids
- b. Posts
- c. Barricade

3.5 REPAIR / RESTORATION [NOT USED]

3.6 RE-INSTALLATION [NOT USED]

3.7 FIELD [or] SITE QUALITY CONTROL [NOT USED]

3.8 SYSTEM STARTUP [NOT USED]

3.9 ADJUSTING [NOT USED]

3.10 CLEANING [NOT USED]

3.11 CLOSEOUT ACTIVITIES [NOT USED]

3.12 PROTECTION [NOT USED]

3.13 MAINTENANCE

A. General

1. Maintenance will include painting and repairs as needed or directed by the City.

3.14 ATTACHMENTS [NOT USED]

END OF SECTION

Revision Log		
DATE	NAME	SUMMARY OF CHANGE

SECTION 01 60 00
PRODUCT REQUIREMENTS

PART 1 - GENERAL

1.1 SUMMARY

- A. Section Includes:
 - 1. References for Product Requirements and City Standard Products List
- B. Deviations from this City of Fort Worth Standard Specification
 - 1. None.
- C. Related Specification Sections include, but are not necessarily limited to:
 - 1. Division 0 – Bidding Requirements, Contract Forms and Conditions of the Contract
 - 2. Division 1 – General Requirements

1.2 PRICE AND PAYMENT PROCEDURES [NOT USED]

1.3 REFERENCES [NOT USED]

1.4 ADMINISTRATIVE REQUIREMENTS

- A. A list of City approved products for use is available through the City’s website at: <https://apps.fortworthtexas.gov/ProjectResources/> and following the directory path; 02 - Construction Documents/Standard Products List
- B. Only products specifically included on City’s Standard Product List in these Contract Documents shall be allowed for use on the Project.
 - 1. Any subsequently approved products will only be allowed for use upon specific approval by the City.
- C. Any specific product requirements in the Contract Documents supersede similar products included on the City’s Standard Product List.
 - 1. The City reserves the right to not allow products to be used for certain projects even though the product is listed on the City’s Standard Product List.
- D. Although a specific product is included on City’s Standard Product List, not all products from that manufacturer are approved for use, including but not limited to, that manufacturer’s standard product.
- E. See Section 01 33 00 for submittal requirements of Product Data included on City’s Standard Product List.

1.5 SUBMITTALS [NOT USED]

1.6 ACTION SUBMITTALS/INFORMATIONAL SUBMITTALS [NOT USED]

1.7 CLOSEOUT SUBMITTALS [NOT USED]

1.8 MAINTENANCE MATERIAL SUBMITTALS [NOT USED]

1.9 QUALITY ASSURANCE [NOT USED]

1.10 DELIVERY, STORAGE, AND HANDLING [NOT USED]

1.11 FIELD [SITE] CONDITIONS [NOT USED]

1.12 WARRANTY [NOT USED]

PART 2 - PRODUCTS [NOT USED]

PART 3 - EXECUTION [NOT USED]

END OF SECTION

Revision Log		
DATE	NAME	SUMMARY OF CHANGE
10/12/12	D. Johnson	Modified Location of City's Standard Product List
3/9/2020	D.V. Magaña	Removed reference to Buzzsaw and noted that the City approved products list is accessible through the City's website.

1 **SECTION 01 66 00**
2 **PRODUCT STORAGE AND HANDLING REQUIREMENTS**

3 **PART 1 - GENERAL**

4 **1.1 SUMMARY**

5 A. Section Includes:

- 6 1. Scheduling of product delivery
7 2. Packaging of products for delivery
8 3. Protection of products against damage from:
9 a. Handling
10 b. Exposure to elements or harsh environments

11 B. Related Specification Sections include, but are not necessarily limited to:

- 12 1. Division 0 – Bidding Requirements, Contract Forms and Conditions of the Contract
13 2. Division 1 – General Requirements

14 **1.2 PRICE AND PAYMENT PROCEDURES**

15 A. Measurement and Payment

- 16 1. Work associated with this Item is considered subsidiary to the various Items bid.
17 No separate payment will be allowed for this Item.

18 **1.3 REFERENCES [NOT USED]**

19 **1.4 ADMINISTRATIVE REQUIREMENTS [NOT USED]**

20 **1.5 SUBMITTALS [NOT USED]**

21 **1.6 ACTION SUBMITTALS/INFORMATIONAL SUBMITTALS [NOT USED]**

22 **1.7 CLOSEOUT SUBMITTALS [NOT USED]**

23 **1.8 MAINTENANCE MATERIAL SUBMITTALS [NOT USED]**

24 **1.9 QUALITY ASSURANCE [NOT USED]**

25 **1.10 DELIVERY AND HANDLING**

26 A. Delivery Requirements

- 27 1. Schedule delivery of products or equipment as required to allow timely installation
28 and to avoid prolonged storage.
29 2. Provide appropriate personnel and equipment to receive deliveries.
30 3. Delivery trucks will not be permitted to wait extended periods of time on the Site
31 for personnel or equipment to receive the delivery.
32 4. Deliver products or equipment in manufacturer's original unbroken cartons or other
33 containers designed and constructed to protect the contents from physical or
34 environmental damage.

- 1 5. Clearly and fully mark and identify as to manufacturer, item and installation
2 location.
- 3 6. Provide manufacturer's instructions for storage and handling.
- 4 B. Handling Requirements
- 5 1. Handle products or equipment in accordance with these Contract Documents and
6 manufacturer's recommendations and instructions.
- 7 C. Storage Requirements
- 8 1. Store materials in accordance with manufacturer's recommendations and
9 requirements of these Specifications.
- 10 2. Make necessary provisions for safe storage of materials and equipment.
11 a. Place loose soil materials and materials to be incorporated into Work to prevent
12 damage to any part of Work or existing facilities and to maintain free access at
13 all times to all parts of Work and to utility service company installations in
14 vicinity of Work.
- 15 3. Keep materials and equipment neatly and compactly stored in locations that will
16 cause minimum inconvenience to other contractors, public travel, adjoining owners,
17 tenants and occupants.
18 a. Arrange storage to provide easy access for inspection.
- 19 4. Restrict storage to areas available on construction site for storage of material and
20 equipment as shown on Drawings, or approved by City's Project Representative.
- 21 5. Provide off-site storage and protection when on-site storage is not adequate.
22 a. Provide addresses of and access to off-site storage locations for inspection by
23 City's Project Representative.
- 24 6. Do not use lawns, grass plots or other private property for storage purposes without
25 written permission of owner or other person in possession or control of premises.
- 26 7. Store in manufacturers' unopened containers.
- 27 8. Neatly, safely and compactly stack materials delivered and stored along line of
28 Work to avoid inconvenience and damage to property owners and general public
29 and maintain at least 3 feet from fire hydrant.
- 30 9. Keep public and private driveways and street crossings open.
- 31 10. Repair or replace damaged lawns, sidewalks, streets or other improvements to
32 satisfaction of City's Project Representative.
33 a. Total length which materials may be distributed along route of construction at
34 one time is 1,000 linear feet, unless otherwise approved in writing by City's
35 Project Representative.

1 **1.11 FIELD [SITE] CONDITIONS [NOT USED]**

2 **1.12 WARRANTY [NOT USED]**

3 **PART 2 - PRODUCTS [NOT USED]**

4 **PART 3 - EXECUTION**

5 **3.1 INSTALLERS [NOT USED]**

6 **3.2 EXAMINATION [NOT USED]**

7 **3.3 PREPARATION [NOT USED]**

8 **3.4 ERECTION [NOT USED]**

9 **3.5 REPAIR / RESTORATION [NOT USED]**

10 **3.6 RE-INSTALLATION [NOT USED]**

11 **3.7 FIELD [or] SITE QUALITY CONTROL**

12 A. Tests and Inspections

13 1. Inspect all products or equipment delivered to the site prior to unloading.

14 B. Non-Conforming Work

15 1. Reject all products or equipment that are damaged, used or in any other way
16 unsatisfactory for use on the project.

17 **3.8 SYSTEM STARTUP [NOT USED]**

18 **3.9 ADJUSTING [NOT USED]**

19 **3.10 CLEANING [NOT USED]**

20 **3.11 CLOSEOUT ACTIVITIES [NOT USED]**

21 **3.12 PROTECTION**

22 A. Protect all products or equipment in accordance with manufacturer's written directions.

23 B. Store products or equipment in location to avoid physical damage to items while in
24 storage.

25 C. Protect equipment from exposure to elements and keep thoroughly dry if required by
26 the manufacturer.

27 **3.13 MAINTENANCE [NOT USED]**

28 **3.14 ATTACHMENTS [NOT USED]**

29 **END OF SECTION**

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SECTION 01 70 00
MOBILIZATION AND REMOBILIZATION

PART 1 - GENERAL

1.1 SUMMARY

A. Section Includes:

1. Mobilization and Demobilization
 - a. Mobilization
 - 1) Transportation of Contractor’s personnel, equipment, and operating supplies to the Site
 - 2) Establishment of necessary general facilities for the Contractor’s operation at the Site
 - 3) Premiums paid for performance and payment bonds
 - 4) Transportation of Contractor’s personnel, equipment, and operating supplies to another location within the designated Site
 - 5) Relocation of necessary general facilities for the Contractor’s operation from 1 location to another location on the Site.
 - b. Demobilization
 - 1) Transportation of Contractor’s personnel, equipment, and operating supplies away from the Site including disassembly
 - 2) Site Clean-up
 - 3) Removal of all buildings and/or other facilities assembled at the Site for this Contract
 - c. Mobilization and Demobilization do not include activities for specific items of work that are for which payment is provided elsewhere in the contract.
2. Remobilization
 - a. Remobilization for Suspension of Work specifically required in the Contract Documents or as required by City includes:
 - 1) Demobilization
 - a) Transportation of Contractor’s personnel, equipment, and operating supplies from the Site including disassembly or temporarily securing equipment, supplies, and other facilities as designated by the Contract Documents necessary to suspend the Work.
 - b) Site Clean-up as designated in the Contract Documents
 - 2) Remobilization
 - a) Transportation of Contractor’s personnel, equipment, and operating supplies to the Site necessary to resume the Work.
 - b) Establishment of necessary general facilities for the Contractor’s operation at the Site necessary to resume the Work.
 - 3) No Payments will be made for:
 - a) Mobilization and Demobilization from one location to another on the Site in the normal progress of performing the Work.
 - b) Stand-by or idle time
 - c) Lost profits
3. Mobilizations and Demobilization for Miscellaneous Projects
 - a. Mobilization and Demobilization

- 1) Mobilization shall consist of the activities and cost on a Work Order basis necessary for:
 - a) Transportation of Contractor's personnel, equipment, and operating supplies to the Site for the issued Work Order.
 - b) Establishment of necessary general facilities for the Contractor's operation at the Site for the issued Work Order
 - 2) Demobilization shall consist of the activities and cost necessary for:
 - a) Transportation of Contractor's personnel, equipment, and operating supplies from the Site including disassembly for each issued Work Order
 - b) Site Clean-up for each issued Work Order
 - c) Removal of all buildings or other facilities assembled at the Site for each Work Oder
 - b. Mobilization and Demobilization do not include activities for specific items of work for which payment is provided elsewhere in the contract.
4. Emergency Mobilizations and Demobilization for Miscellaneous Projects
- a. A Mobilization for Miscellaneous Projects when directed by the City and the mobilization occurs within 24 hours of the issuance of the Work Order.
- B. Deviations from this City of Fort Worth Standard Specification
1. None.
- C. Related Specification Sections include, but are not necessarily limited to:
1. Division 0 – Bidding Requirements, Contract Forms and Conditions of the Contract
 2. Division 1 – General Requirements

1.2 PRICE AND PAYMENT PROCEDURES

- A. Measurement and Payment
1. Mobilization and Demobilization
 - a. Measure
 - 1) This Item is considered subsidiary to the various Items bid.
 - b. Payment
 - 1) The work performed and materials furnished in accordance with this Item are subsidiary to the to the various Items bid and no other compensation will be allowed.
 - 2) The work performed and materials furnished for demobilization in accordance with this Item are subsidiary to the to the various Items bid and no other compensation will be allowed.
 2. Remobilization for suspension of Work as specifically required in the Contract Documents
 - a. Measurement
 - 1) Measurement for this Item shall be per each remobilization performed.
 - b. Payment
 - 1) The work performed and materials furnished in accordance with this Item and measured as provided under "Measurement" will be paid for at the unit price per each "Specified Remobilization" in accordance with Contract Documents.
 - c. The price shall include:
 - 1) Demobilization as described in Section 1.1.A.2.a.(1)

- 1 2) Remobilization as described in Section 1.1.A.2.a.(2)
- 2 d. No payments will be made for standby, idle time, or lost profits associated this
- 3 Item.
- 4 3. Remobilization for suspension of Work as required by City
- 5 a. Measurement and Payment
- 6 1) This shall be submitted as a Contract Claim in accordance with Article 10
- 7 of Section 00 72 00.
- 8 2) No payments will be made for standby, idle time, or lost profits associated
- 9 with this Item.
- 10 4. Mobilizations and Demobilizations for Miscellaneous Projects
- 11 a. Measurement
- 12 1) Measurement for this Item shall be for each Mobilization and
- 13 Demobilization required by the Contract Documents
- 14 b. Payment
- 15 1) The Work performed and materials furnished in accordance with this Item
- 16 and measured as provided under “Measurement” will be paid for at the unit
- 17 price per each “Work Order Mobilization” in accordance with Contract
- 18 Documents. Demobilization shall be considered subsidiary to mobilization
- 19 and shall not be paid for separately.
- 20 c. The price shall include:
- 21 1) Mobilization as described in Section 1.1.A.3.a.(1)
- 22 2) Demobilization as described in Section 1.1.A.3.a.(2)
- 23 d. No payments will be made for standby, idle time, or lost profits associated this
- 24 Item.
- 25 5. Emergency Mobilizations and Demobilizations for Miscellaneous Projects
- 26 a. Measurement
- 27 1) Measurement for this Item shall be for each Mobilization and
- 28 Demobilization required by the Contract Documents
- 29 b. Payment
- 30 1) The Work performed and materials furnished in accordance with this Item
- 31 and measured as provided under “Measurement” will be paid for at the unit
- 32 price per each “Work Order Emergency Mobilization” in accordance with
- 33 Contract Documents. Demobilization shall be considered subsidiary to
- 34 mobilization and shall not be paid for separately.
- 35 c. The price shall include
- 36 1) Mobilization as described in Section 1.1.A.4.a
- 37 2) Demobilization as described in Section 1.1.A.3.a.(2)
- 38 d. No payments will be made for standby, idle time, or lost profits associated this
- 39 Item.

- 40 **1.3 REFERENCES [NOT USED]**
- 41 **1.4 ADMINISTRATIVE REQUIREMENTS [NOT USED]**
- 42 **1.5 SUBMITTALS [NOT USED]**
- 43 **1.6 INFORMATIONAL SUBMITTALS [NOT USED]**
- 44 **1.7 CLOSEOUT SUBMITTALS [NOT USED]**
- 45 **1.8 MAINTENANCE MATERIAL SUBMITTALS [NOT USED]**

- 1 **1.9 QUALITY ASSURANCE [NOT USED]**
- 2 **1.10 DELIVERY, STORAGE, AND HANDLING [NOT USED]**
- 3 **1.11 FIELD [SITE] CONDITIONS [NOT USED]**
- 4 **1.12 WARRANTY [NOT USED]**

- 5 **PART 2 - PRODUCTS [NOT USED]**

- 6 **PART 3 - EXECUTION [NOT USED]**

7 **END OF SECTION**

8

Revision Log		
DATE	NAME	SUMMARY OF CHANGE
11/22/16	Michael Owen	1.2 Price and Payment Procedures - Revised specification, including blue text, to make specification flexible for either subsidiary or paid bid item for Mobilization.

9

SECTION 01 74 23
CLEANING

PART 1 - GENERAL

1.1 SUMMARY

- A. Section Includes:
 - 1. Intermediate and final cleaning for Work not including special cleaning of closed systems specified elsewhere
- B. Deviations from this City of Fort Worth Standard Specification
 - 1. None.
- C. Related Specification Sections include, but are not necessarily limited to:
 - 1. Division 0 – Bidding Requirements, Contract Forms and Conditions of the Contract
 - 2. Division 1 – General Requirements
 - 3. Section 32 92 13 – Hydro-Mulching, Seeding and Sodding

1.2 PRICE AND PAYMENT PROCEDURES

- A. Measurement and Payment
 - 1. Work associated with this Item is considered subsidiary to the various Items bid. No separate payment will be allowed for this Item.

1.3 REFERENCES [NOT USED]

1.4 ADMINISTRATIVE REQUIREMENTS

- A. Scheduling
 - 1. Schedule cleaning operations so that dust and other contaminants disturbed by cleaning process will not fall on newly painted surfaces.
 - 2. Schedule final cleaning upon completion of Work and immediately prior to final inspection.

1.5 SUBMITTALS [NOT USED]

1.6 ACTION SUBMITTALS/INFORMATIONAL SUBMITTALS [NOT USED]

1.7 CLOSEOUT SUBMITTALS [NOT USED]

1.8 MAINTENANCE MATERIAL SUBMITTALS [NOT USED]

1.9 QUALITY ASSURANCE [NOT USED]

1.10 STORAGE, AND HANDLING

- A. Storage and Handling Requirements
 - 1. Store cleaning products and cleaning wastes in containers specifically designed for those materials.

1.11 FIELD [SITE] CONDITIONS [NOT USED]

1.12 WARRANTY [NOT USED]

PART 2 - PRODUCTS

2.1 OWNER-FURNISHED [or] OWNER-SUPPLIED PRODUCTS [NOT USED]

2.2 MATERIALS

A. Cleaning Agents

1. Compatible with surface being cleaned
2. New and uncontaminated
3. For manufactured surfaces
 - a. Material recommended by manufacturer

2.3 ACCESSORIES [NOT USED]

2.4 SOURCE QUALITY CONTROL [NOT USED]

PART 3 - EXECUTION

3.1 INSTALLERS [NOT USED]

3.2 EXAMINATION [NOT USED]

3.3 PREPARATION [NOT USED]

3.4 APPLICATION [NOT USED]

3.5 REPAIR / RESTORATION [NOT USED]

3.6 RE-INSTALLATION [NOT USED]

3.7 FIELD [or] SITE QUALITY CONTROL [NOT USED]

3.8 SYSTEM STARTUP [NOT USED]

3.9 ADJUSTING [NOT USED]

3.10 CLEANING

A. General

1. Prevent accumulation of wastes that create hazardous conditions.
2. Conduct cleaning and disposal operations to comply with laws and safety orders of governing authorities.
3. Do not dispose of volatile wastes such as mineral spirits, oil or paint thinner in storm or sanitary drains or sewers.
4. Dispose of degradable debris at an approved solid waste disposal site.
5. Dispose of nondegradable debris at an approved solid waste disposal site or in an alternate manner approved by City and regulatory agencies.

6. Handle materials in a controlled manner with as few handlings as possible.
7. Thoroughly clean, sweep, wash and polish all Work and equipment associated with this project.
8. Remove all signs of temporary construction and activities incidental to construction of required permanent Work.
9. If project is not cleaned to the satisfaction of the City, the City reserves the right to have the cleaning completed at the expense of the Contractor.
10. Do not burn on-site.

B. Intermediate Cleaning during Construction

1. Keep Work areas clean so as not to hinder health, safety or convenience of personnel in existing facility operations.
2. At maximum weekly intervals, dispose of waste materials, debris and rubbish.
3. Confine construction debris daily in strategically located container(s):
 - a. Cover to prevent blowing by wind
 - b. Store debris away from construction or operational activities
 - c. Haul from site at a minimum of once per week
4. Vacuum clean interior areas when ready to receive finish painting.
 - a. Continue vacuum cleaning on an as-needed basis, until Final Acceptance.
5. Prior to storm events, thoroughly clean site of all loose or unsecured items, which may become airborne or transported by flowing water during the storm.

C. Interior Final Cleaning

1. Remove grease, mastic, adhesives, dust, dirt, stains, fingerprints, labels and other foreign materials from sight-exposed surfaces.
2. Wipe all lighting fixture reflectors, lenses, lamps and trims clean.
3. Wash and shine glazing and mirrors.
4. Polish glossy surfaces to a clear shine.
5. Ventilating systems
 - a. Clean permanent filters and replace disposable filters if units were operated during construction.
 - b. Clean ducts, blowers and coils if units were operated without filters during construction.
6. Replace all burned out lamps.
7. Broom clean process area floors.
8. Mop office and control room floors.

D. Exterior (Site or Right of Way) Final Cleaning

1. Remove trash and debris containers from site.
 - a. Re-seed areas disturbed by location of trash and debris containers in accordance with Section 32 92 13.
2. Sweep roadway to remove all rocks, pieces of asphalt, concrete or any other object that may hinder or disrupt the flow of traffic along the roadway.
3. Clean any interior areas including, but not limited to, vaults, manholes, structures, junction boxes and inlets.

- 4. If no longer required for maintenance of erosion facilities, and upon approval by City, remove erosion control from site.
- 5. Clean signs, lights, signals, etc.

3.11 CLOSEOUT ACTIVITIES [NOT USED]

3.12 PROTECTION [NOT USED]

3.13 MAINTENANCE [NOT USED]

3.14 ATTACHMENTS [NOT USED]

END OF SECTION

Revision Log		
DATE	NAME	SUMMARY OF CHANGE

1 **SECTION 01 77 19**
2 **CLOSEOUT REQUIREMENTS**

3 **PART 1 - GENERAL**

4 **1.1 SUMMARY**

5 A. Section Includes:

- 6 1. The procedure for closing out a contract

7 B. Deviations from this City of Fort Worth Standard Specification

- 8 1. None.

9 C. Related Specification Sections include, but are not necessarily limited to:

- 10 1. Division 0 – Bidding Requirements, Contract Forms and Conditions of the Contract
11 2. Division 1 – General Requirements

12 **1.2 PRICE AND PAYMENT PROCEDURES**

13 A. Measurement and Payment

- 14 1. Work associated with this Item is considered subsidiary to the various Items bid.
15 No separate payment will be allowed for this Item.

16 **1.3 REFERENCES [NOT USED]**

17 **1.4 ADMINISTRATIVE REQUIREMENTS**

18 A. Guarantees, Bonds and Affidavits

- 19 1. No application for final payment will be accepted until all guarantees, bonds,
20 certificates, licenses and affidavits required for Work or equipment as specified are
21 satisfactorily filed with the City.

22 B. Release of Liens or Claims

- 23 1. No application for final payment will be accepted until satisfactory evidence of
24 release of liens has been submitted to the City.

25 **1.5 SUBMITTALS**

- 26 A. Submit all required documentation to City's Project Representative.
27

28 **1.6 INFORMATIONAL SUBMITTALS [NOT USED]**
29

30 **1.7 CLOSEOUT SUBMITTALS [NOT USED]**

31 **PART 2 - PRODUCTS [NOT USED]**
32

1 **PART 3 - EXECUTION**

2 **3.1 INSTALLERS [NOT USED]**

3 **3.2 EXAMINATION [NOT USED]**

4 **3.3 PREPARATION [NOT USED]**

5 **3.4 CLOSEOUT PROCEDURE**

6 A. Prior to requesting Final Inspection, submit:

- 7 1. Project Record Documents in accordance with Section 01 78 39
8 2. Operation and Maintenance Data, if required, in accordance with Section 01 78 23

9 B. Prior to requesting Final Inspection, perform final cleaning in accordance with Section
10 01 74 23.

11 C. Final Inspection

- 12 1. After final cleaning, provide notice to the City Project Representative that the Work
13 is completed.
14 a. The City will make an initial Final Inspection with the Contractor present.
15 b. Upon completion of this inspection, the City will notify the Contractor, in
16 writing within 10 business days, of any particulars in which this inspection
17 reveals that the Work is defective or incomplete.
18 2. Upon receiving written notice from the City, immediately undertake the Work
19 required to remedy deficiencies and complete the Work to the satisfaction of the
20 City.
21 3. The Right-of-way shall be cleared of all construction materials, barricades, and
22 temporary signage.
23 4. Upon completion of Work associated with the items listed in the City's written
24 notice, inform the City that the required Work has been completed. Upon receipt of
25 this notice, the City, in the presence of the Contractor, will make a subsequent Final
26 Inspection of the project.
27 5. Provide all special accessories required to place each item of equipment in full
28 operation. These special accessory items include, but are not limited to:
29 a. Specified spare parts
30 b. Adequate oil and grease as required for the first lubrication of the equipment
31 c. Initial fill up of all chemical tanks and fuel tanks
32 d. Light bulbs
33 e. Fuses
34 f. Vault keys
35 g. Handwheels
36 h. Other expendable items as required for initial start-up and operation of all
37 equipment

38 D. Notice of Project Completion

- 39 1. Once the City Project Representative finds the Work subsequent to Final Inspection
40 to be satisfactory, the City will issue a Notice of Project Completion (Green Sheet).

41 E. Supporting Documentation

- 1 1. Coordinate with the City Project Representative to complete the following
- 2 additional forms:
- 3 a. Final Payment Request
- 4 b. Statement of Contract Time
- 5 c. Affidavit of Payment and Release of Liens
- 6 d. Consent of Surety to Final Payment
- 7 e. Pipe Report (if required)
- 8 f. Contractor’s Evaluation of City
- 9 g. Performance Evaluation of Contractor

- 10 F. Letter of Final Acceptance
- 11 1. Upon review and acceptance of Notice of Project Completion and Supporting
- 12 Documentation, in accordance with General Conditions, City will issue Letter of
- 13 Final Acceptance and release the Final Payment Request for payment.

- 14 **3.5 REPAIR / RESTORATION [NOT USED]**
- 15 **3.6 RE-INSTALLATION [NOT USED]**
- 16 **3.7 FIELD [OR] SITE QUALITY CONTROL [NOT USED]**
- 17 **3.8 SYSTEM STARTUP [NOT USED]**
- 18 **3.9 ADJUSTING [NOT USED]**
- 19 **3.10 CLEANING [NOT USED]**
- 20 **3.11 CLOSEOUT ACTIVITIES [NOT USED]**
- 21 **3.12 PROTECTION [NOT USED]**
- 22 **3.13 MAINTENANCE [NOT USED]**
- 23 **3.14 ATTACHMENTS [NOT USED]**

END OF SECTION

Revision Log		
DATE	NAME	SUMMARY OF CHANGE
3/22/2021	M Owen	3.4 C. Added language to clarify and emphasize requirement to “Clearing ROW”

26

SECTION 01 78 23
OPERATION AND MAINTENANCE DATA

PART 1 - GENERAL

1.1 SUMMARY

- A. Section Includes:
 - 1. Product data and related information appropriate for City's maintenance and operation of products furnished under Contract
 - 2. Such products may include, but are not limited to:
 - a. Traffic Controllers
 - b. Irrigation Controllers (to be operated by the City)
 - c. Butterfly Valves
- B. Deviations from this City of Fort Worth Standard Specification
 - 1. None.
- C. Related Specification Sections include, but are not necessarily limited to:
 - 1. Division 0 – Bidding Requirements, Contract Forms and Conditions of the Contract
 - 2. Division 1 – General Requirements

1.2 PRICE AND PAYMENT PROCEDURES

- A. Measurement and Payment
 - 1. Work associated with this Item is considered subsidiary to the various Items bid. No separate payment will be allowed for this Item.

1.3 REFERENCES [NOT USED]

1.4 ADMINISTRATIVE REQUIREMENTS

- A. Schedule
 - 1. Submit manuals in final form to the City within 30 calendar days of product shipment to the project site.

1.5 SUBMITTALS

- A. Submittals shall be in accordance with Section 01 33 00 . All submittals shall be approved by the City prior to delivery.

1.6 INFORMATIONAL SUBMITTALS

- A. Submittal Form
 - 1. Prepare data in form of an instructional manual for use by City personnel.
 - 2. Format
 - a. Size: 8 ½ inches x 11 inches
 - b. Paper
 - 1) 40 pound minimum, white, for typed pages
 - 2) Holes reinforced with plastic, cloth or metal
 - c. Text: Manufacturer's printed data, or neatly typewritten

- d. Drawings
 - 1) Provide reinforced punched binder tab, bind in with text
 - 2) Reduce larger drawings and fold to size of text pages.
 - e. Provide fly-leaf for each separate product, or each piece of operating equipment.
 - 1) Provide typed description of product, and major component parts of equipment.
 - 2) Provide indexed tabs.
 - f. Cover
 - 1) Identify each volume with typed or printed title "OPERATING AND MAINTENANCE INSTRUCTIONS".
 - 2) List:
 - a) Title of Project
 - b) Identity of separate structure as applicable
 - c) Identity of general subject matter covered in the manual
3. Binders
- a. Commercial quality 3-ring binders with durable and cleanable plastic covers
 - b. When multiple binders are used, correlate the data into related consistent groupings.
4. If available, provide an electronic form of the O&M Manual.
- B. Manual Content
1. Neatly typewritten table of contents for each volume, arranged in systematic order
- a. Contractor, name of responsible principal, address and telephone number
 - b. A list of each product required to be included, indexed to content of the volume
 - c. List, with each product:
 - 1) The name, address and telephone number of the subcontractor or installer
 - 2) A list of each product required to be included, indexed to content of the volume
 - 3) Identify area of responsibility of each
 - 4) Local source of supply for parts and replacement
 - d. Identify each product by product name and other identifying symbols as set forth in Contract Documents.
2. Product Data
- a. Include only those sheets which are pertinent to the specific product.
 - b. Annotate each sheet to:
 - 1) Clearly identify specific product or part installed
 - 2) Clearly identify data applicable to installation
 - 3) Delete references to inapplicable information
3. Drawings
- a. Supplement product data with drawings as necessary to clearly illustrate:
 - 1) Relations of component parts of equipment and systems
 - 2) Control and flow diagrams
 - b. Coordinate drawings with information in Project Record Documents to assure correct illustration of completed installation.
 - c. Do not use Project Record Drawings as maintenance drawings.
4. Written text, as required to supplement product data for the particular installation:
- a. Organize in consistent format under separate headings for different procedures.
 - b. Provide logical sequence of instructions of each procedure.

5. Copy of each warranty, bond and service contract issued
 - a. Provide information sheet for City personnel giving:
 - 1) Proper procedures in event of failure
 - 2) Instances which might affect validity of warranties or bonds
- C. Manual for Materials and Finishes
 1. Submit 5 copies of complete manual in final form.
 2. Content, for architectural products, applied materials and finishes:
 - a. Manufacturer's data, giving full information on products
 - 1) Catalog number, size, composition
 - 2) Color and texture designations
 - 3) Information required for reordering special manufactured products
 - b. Instructions for care and maintenance
 - 1) Manufacturer's recommendation for types of cleaning agents and methods
 - 2) Cautions against cleaning agents and methods which are detrimental to product
 - 3) Recommended schedule for cleaning and maintenance
 3. Content, for moisture protection and weather exposure products:
 - a. Manufacturer's data, giving full information on products
 - 1) Applicable standards
 - 2) Chemical composition
 - 3) Details of installation
 - b. Instructions for inspection, maintenance and repair
- D. Manual for Equipment and Systems
 1. Submit 5 copies of complete manual in final form.
 2. Content, for each unit of equipment and system, as appropriate:
 - a. Description of unit and component parts
 - 1) Function, normal operating characteristics and limiting conditions
 - 2) Performance curves, engineering data and tests
 - 3) Complete nomenclature and commercial number of replaceable parts
 - b. Operating procedures
 - 1) Start-up, break-in, routine and normal operating instructions
 - 2) Regulation, control, stopping, shut-down and emergency instructions
 - 3) Summer and winter operating instructions
 - 4) Special operating instructions
 - c. Maintenance procedures
 - 1) Routine operations
 - 2) Guide to "trouble shooting"
 - 3) Disassembly, repair and reassembly
 - 4) Alignment, adjusting and checking
 - d. Servicing and lubrication schedule
 - 1) List of lubricants required
 - e. Manufacturer's printed operating and maintenance instructions
 - f. Description of sequence of operation by control manufacturer
 - 1) Predicted life of parts subject to wear
 - 2) Items recommended to be stocked as spare parts
 - g. As installed control diagrams by controls manufacturer
 - h. Each contractor's coordination drawings
 - 1) As installed color coded piping diagrams

- i. Charts of valve tag numbers, with location and function of each valve
 - j. List of original manufacturer's spare parts, manufacturer's current prices, and recommended quantities to be maintained in storage
 - k. Other data as required under pertinent Sections of Specifications
3. Content, for each electric and electronic system, as appropriate:
- a. Description of system and component parts
 - 1) Function, normal operating characteristics, and limiting conditions
 - 2) Performance curves, engineering data and tests
 - 3) Complete nomenclature and commercial number of replaceable parts
 - b. Circuit directories of panelboards
 - 1) Electrical service
 - 2) Controls
 - 3) Communications
 - c. As installed color coded wiring diagrams
 - d. Operating procedures
 - 1) Routine and normal operating instructions
 - 2) Sequences required
 - 3) Special operating instructions
 - e. Maintenance procedures
 - 1) Routine operations
 - 2) Guide to "trouble shooting"
 - 3) Disassembly, repair and reassembly
 - 4) Adjustment and checking
 - f. Manufacturer's printed operating and maintenance instructions
 - g. List of original manufacturer's spare parts, manufacturer's current prices, and recommended quantities to be maintained in storage
 - h. Other data as required under pertinent Sections of Specifications
4. Prepare and include additional data when the need for such data becomes apparent during instruction of City's personnel.

1.7 CLOSEOUT SUBMITTALS [NOT USED]

1.8 MAINTENANCE MATERIAL SUBMITTALS [NOT USED]

1.9 QUALITY ASSURANCE

- A. Provide operation and maintenance data by personnel with the following criteria:
1. Trained and experienced in maintenance and operation of described products
 2. Skilled as technical writer to the extent required to communicate essential data
 3. Skilled as draftsman competent to prepare required drawings

1.10 DELIVERY, STORAGE, AND HANDLING [NOT USED]

1.11 FIELD [SITE] CONDITIONS [NOT USED]

1.12 WARRANTY [NOT USED]

PART 2 - PRODUCTS [NOT USED]

PART 3 - EXECUTION [NOT USED]

END OF SECTION

Revision Log		
DATE	NAME	SUMMARY OF CHANGE
8/31/2012	D. Johnson	1.5.A.1 – title of section removed

SECTION 01 78 39
PROJECT RECORD DOCUMENTS

PART 1 - GENERAL

1.1 SUMMARY

A. Section Includes:

1. Work associated with the documenting the project and recording changes to project documents, including:
 - a. Record Drawings
 - b. Water Meter Service Reports
 - c. Sanitary Sewer Service Reports
 - d. Large Water Meter Reports

B. Deviations from this City of Fort Worth Standard Specification

1. None.

C. Related Specification Sections include, but are not necessarily limited to:

1. Division 0 – Bidding Requirements, Contract Forms and Conditions of the Contract
2. Division 1 – General Requirements

1.2 PRICE AND PAYMENT PROCEDURES

A. Measurement and Payment

1. Work associated with this Item is considered subsidiary to the various Items bid. No separate payment will be allowed for this Item.

1.3 REFERENCES [NOT USED]

1.4 ADMINISTRATIVE REQUIREMENTS [NOT USED]

1.5 SUBMITTALS

- A. Prior to submitting a request for Final Inspection, deliver Project Record Documents to City's Project Representative.

1.6 ACTION SUBMITTALS/INFORMATIONAL SUBMITTALS [NOT USED]

1.7 CLOSEOUT SUBMITTALS [NOT USED]

1.8 MAINTENANCE MATERIAL SUBMITTALS [NOT USED]

1.9 QUALITY ASSURANCE

A. Accuracy of Records

1. Thoroughly coordinate changes within the Record Documents, making adequate and proper entries on each page of Specifications and each sheet of Drawings and other Documents where such entry is required to show the change properly.
2. Accuracy of records shall be such that future search for items shown in the Contract Documents may rely reasonably on information obtained from the approved Project Record Documents.

3. To facilitate accuracy of records, make entries within 24 hours after receipt of information that the change has occurred.
4. Provide factual information regarding all aspects of the Work, both concealed and visible, to enable future modification of the Work to proceed without lengthy and expensive site measurement, investigation and examination.

1.10 STORAGE AND HANDLING

A. Storage and Handling Requirements

1. Maintain the job set of Record Documents completely protected from deterioration and from loss and damage until completion of the Work and transfer of all recorded data to the final Project Record Documents.
2. In the event of loss of recorded data, use means necessary to again secure the data to the City's approval.
 - a. In such case, provide replacements to the standards originally required by the Contract Documents.

1.11 FIELD [SITE] CONDITIONS [NOT USED]

1.12 WARRANTY [NOT USED]

PART 2 - PRODUCTS

2.1 OWNER-FURNISHED [OR] OWNER-SUPPLIED PRODUCTS [NOT USED]

2.2 RECORD DOCUMENTS

A. Job set

1. Promptly following receipt of the Notice to Proceed, secure from the City, at no charge to the Contractor, 1 complete set of all Documents comprising the Contract.

B. Final Record Documents

1. At a time nearing the completion of the Work and prior to Final Inspection, provide the City 1 complete set of all Final Record Drawings in the Contract.

2.3 ACCESSORIES [NOT USED]

2.4 SOURCE QUALITY CONTROL [NOT USED]

PART 3 - EXECUTION

3.1 INSTALLERS [NOT USED]

3.2 EXAMINATION [NOT USED]

3.3 PREPARATION [NOT USED]

3.4 MAINTENANCE DOCUMENTS

A. Maintenance of Job Set

1. Immediately upon receipt of the job set, identify each of the Documents with the title, "RECORD DOCUMENTS - JOB SET".

2. Preservation
 - a. Considering the Contract completion time, the probable number of occasions upon which the job set must be taken out for new entries and for examination, and the conditions under which these activities will be performed, devise a suitable method for protecting the job set.
 - b. Do not use the job set for any purpose except entry of new data and for review by the City, until start of transfer of data to final Project Record Documents.
 - c. Maintain the job set at the site of work.
 3. Coordination with Construction Survey
 - a. At a minimum, in accordance with the intervals set forth in Section 01 71 23, clearly mark any deviations from Contract Documents associated with installation of the infrastructure.
 4. Making entries on Drawings
 - a. Record any deviations from Contract Documents.
 - b. Use an erasable colored pencil (not ink or indelible pencil), clearly describe the change by graphic line and note as required.
 - c. Date all entries.
 - d. Call attention to the entry by a "cloud" drawn around the area or areas affected.
 - e. In the event of overlapping changes, use different colors for the overlapping changes.
 5. Conversion of schematic layouts
 - a. In some cases on the Drawings, arrangements of conduits, circuits, piping, ducts, and similar items, are shown schematically and are not intended to portray precise physical layout.
 - 1) Final physical arrangement is determined by the Contractor, subject to the City's approval.
 - 2) However, design of future modifications of the facility may require accurate information as to the final physical layout of items which are shown only schematically on the Drawings.
 - b. Show on the job set of Record Drawings, by dimension accurate to within 1 inch, the centerline of each run of items.
 - 1) Final physical arrangement is determined by the Contractor, subject to the City's approval.
 - 2) Show, by symbol or note, the vertical location of the Item ("under slab", "in ceiling plenum", "exposed", and the like).
 - 3) Make all identification sufficiently descriptive that it may be related reliably to the Specifications.
 - c. The City may waive the requirements for conversion of schematic layouts where, in the City's judgment, conversion serves no useful purpose. However, do not rely upon waivers being issued except as specifically issued in writing by the City.
- B. Final Project Record Documents
1. Transfer of data to Drawings
 - a. Carefully transfer change data shown on the job set of Record Drawings to the corresponding final documents, coordinating the changes as required.
 - b. Clearly indicate at each affected detail and other Drawing a full description of changes made during construction, and the actual location of items.

- c. Call attention to each entry by drawing a "cloud" around the area or areas affected.
 - d. Make changes neatly, consistently and with the proper media to assure longevity and clear reproduction.
2. Transfer of data to other Documents
- a. If the Documents, other than Drawings, have been kept clean during progress of the Work, and if entries thereon have been orderly to the approval of the City, the job set of those Documents, other than Drawings, will be accepted as final Record Documents.
 - b. If any such Document is not so approved by the City, secure a new copy of that Document from the City at the City's usual charge for reproduction and handling, and carefully transfer the change data to the new copy to the approval of the City.

- 3.5 REPAIR / RESTORATION [NOT USED]**
- 3.6 RE-INSTALLATION [NOT USED]**
- 3.7 FIELD [OR] SITE QUALITY CONTROL [NOT USED]**
- 3.8 SYSTEM STARTUP [NOT USED]**
- 3.9 ADJUSTING [NOT USED]**
- 3.10 CLEANING [NOT USED]**
- 3.11 CLOSEOUT ACTIVITIES [NOT USED]**
- 3.12 PROTECTION [NOT USED]**
- 3.13 MAINTENANCE [NOT USED]**
- 3.14 ATTACHMENTS [NOT USED]**

END OF SECTION

Revision Log		
DATE	NAME	SUMMARY OF CHANGE

1 **SECTION 31 23 16**
2 **UNCLASSIFIED EXCAVATION**

3 **PART 1 - GENERAL**

4 **1.1 SUMMARY**

5 A. Section Includes:

- 6 1. Excavate areas as shown on the Drawings or as directed. Removal of materials
7 encountered to the lines, grades, and typical sections shown on the Drawings and
8 removal from site. Excavations may include construction of
9 a. Roadways
10 b. Drainage Channels
11 c. Site Excavation
12 d. Excavation for Structures
13 e. Or any other operation involving the excavation of on-site materials

14 B. Deviations from this City of Fort Worth Standard Specification

- 15 1. None.

16 C. Related Specification Sections include, but are not necessarily limited to:

- 17 1. Division 0 – Bidding Requirements, Contract Forms and Conditions of the Contract
- 18 2. Division 1 – General Requirements

19 **1.2 PRICE AND PAYMENT PROCEDURES**

20 A. Measurement and Payment

21 1. Excavation by Plan Quantity

22 a. Measurement

- 23 1) Measurement for this Item shall be by the cubic yard in its final position
24 using the average end area method. Limits of measurement are shown on
25 the Drawings.
- 26 2) When measured by the cubic yard in its final position, this is a plans
27 quantity measurement Item. The quantity to be paid is the quantity shown
28 in the proposal, unless modified by Article 11.04 of the General
29 Conditions. Additional measurements or calculations will be made if
30 adjustments of quantities are required.

31 b. Payment

- 32 1) The work performed and materials furnished in accordance with this Item
33 and measured as provided under “Measurement” will be paid for at the unit
34 price bid per cubic yard of “Unclassified Excavation by Plan”. No
35 additional compensation will be allowed for rock or shrinkage/swell
36 factors, as these are the Contractor’s responsibility.

37 c. The price bid shall include:

- 38 1) Excavation
- 39 2) Excavation Safety
- 40 3) Drying
- 41 4) Dust Control
- 42 5) Reworking or replacing the over excavated material in rock cuts

- 1 6) Hauling
- 2 7) Disposal of excess material not used elsewhere onsite
- 3 8) Scarification
- 4 9) Clean-up

5 **1.3 REFERENCES [NOT USED]**

6 A. Definitions

- 7 1. Unclassified Excavation – Without regard to materials, all excavations shall be
- 8 considered unclassified and shall include all materials excavated. Any reference to
- 9 Rock or other materials on the Drawings or in the specifications is solely for the
- 10 City and the Contractor’s information and is not to be taken as a classification of
- 11 the excavation.

12 **1.4 ADMINSTRATIVE REQUIREMENTS**

- 13 A. The Contractor will provide the City with a Disposal Letter in accordance to Division
- 14 01.

15 **1.5 SUBMITTALS [NOT USED]**

16 **1.6 ACTION SUBMITTALS/INFORMATIONAL SUBMITTALS [NOT USED]**

17 **1.7 CLOSEOUT SUBMITTALS [NOT USED]**

18 **1.8 MAINTENANCE MATERIAL SUBMITTALS [NOT USED]**

19 **1.9 QUALITY ASSURANCE**

20 A. Excavation Safety

- 21 1. The Contractor shall be solely responsible for making all excavations in a safe
- 22 manner.
- 23 2. All excavation and related sheeting and bracing shall comply with the requirements
- 24 of OSHA excavation safety standards 29 CFR part 1926 and state requirements.

25 **1.10 DELIVERY, STORAGE, AND HANDLING**

26 A. Storage

- 27 1. Within Existing Rights-of-Way (ROW)
- 28 a. Soil may be stored within existing ROW, easements or temporary construction
- 29 easements, unless specifically disallowed in the Contract Documents.
- 30 b. Do not block drainage ways, inlets or driveways.
- 31 c. Provide erosion control in accordance with Section 31 25 00.
- 32 d. When the Work is performed in active traffic areas, store materials only in
- 33 areas barricaded as provided in the traffic control plans.
- 34 e. In non-paved areas, do not store material on the root zone of any trees or in
- 35 landscaped areas.
- 36 2. Designated Storage Areas
- 37 a. If the Contract Documents do not allow the storage of spoils within the ROW,
- 38 easement or temporary construction easement, then secure and maintain an
- 39 adequate storage location.
- 40 b. Provide an affidavit that rights have been secured to store the materials on
- 41 private property.

- 1 c. Provide erosion control in accordance with Section 31 25 00.
- 2 d. Do not block drainage ways.

3 **1.11 FIELD CONDITIONS**

4 A. Existing Conditions

- 5 1. Any data which has been or may be provided on subsurface conditions is not
- 6 intended as a representation or warranty of accuracy or continuity between soils. It
- 7 is expressly understood that neither the City nor the Engineer will be responsible
- 8 for interpretations or conclusions drawn there from by the Contractor.
- 9 2. Data is made available for the convenience of the Contractor.

10 **1.12 WARRANTY [NOT USED]**

11 **PART 2 - PRODUCTS [NOT USED]**

12 **2.1 OWNER-FURNISHED [NOT USED]**

13 **2.2 PRODUCT TYPES AND MATERIALS**

14 A. Materials

- 15 1. Unacceptable Fill Material
- 16 a. In-situ soils classified as ML, MH, PT, OL or OH in accordance with ASTM
- 17 D2487

18 **PART 3 - EXECUTION**

19 **3.1 INSTALLERS [NOT USED]**

20 **3.2 EXAMINATION [NOT USED]**

21 **3.3 PREPARATION [NOT USED]**

22 **3.4 CONSTRUCTION**

- 23 A. Accept ownership of unsuitable or excess material and dispose of material off-site
- 24 accordance with local, state, and federal regulations at locations.
- 25 B. Excavations shall be performed in the dry, and kept free from water, snow and ice
- 26 during construction with the exception of water that is applied for dust control.
- 27 C. Separate Unacceptable Fill Material from other materials, remove from the Site and
- 28 properly dispose according to disposal plan.
- 29 D. Maintain drainage in the excavated area to avoid damage to the roadway sections and
- 30 proposed or existing structures.
- 31 E. Correct any damage to the subgrade caused by weather, at no additional cost to the
- 32 City.
- 33 F. Shape slopes to avoid loosening material below or outside the proposed grades.
- 34 Remove and dispose of slides as directed.
- 35 G. Rock Cuts

- 1 1. Excavate to finish grades.
2 2. In the event of over excavation due to contractor error below the lines and grades
3 established in the Drawings, use approved embankment material compacted in
4 accordance with Section 31 24 00 to replace the over excavated at no additional
5 cost to City.

6 H. Earth Cuts

- 7 1. Excavate to finish subgrade
8 2. In the event of over excavation due to contractor error below the lines and grades
9 established in the Drawings, use approved embankment material compacted in
10 accordance with Section 31 24 00 to replace the over excavated at no additional
11 cost to City.
12 3. Manipulate and compact subgrade in accordance with Section 31 24 00.

13 **3.5 REPAIR [NOT USED]**

14 **3.6 RE-INSTALLATION [NOT USED]**

15 **3.7 FIELD QUALITY CONTROL**

16 A. Subgrade Tolerances

- 17 1. Excavate to within 0.1 foot in all directions.
18 2. In areas of over excavation, Contractor provides fill material approved by the City
19 at no expense to the City.

20 **3.8 SYSTEM STARTUP [NOT USED]**

21 **3.9 ADJUSTING [NOT USED]**

22 **3.10 CLEANING [NOT USED]**

23 **3.11 CLOSEOUT ACTIVITIES [NOT USED]**

24 **3.12 PROTECTION [NOT USED]**

25 **3.13 MAINTENANCE [NOT USED]**

26 **3.14 ATTACHMENTS [NOT USED]**

27 **END OF SECTION**

Revision Log		
DATE	NAME	SUMMARY OF CHANGE
12/20/2012	D. Johnson	1.2 - Measurement and Payment Section modified; Blue Text added for clarification
1/28/13	D. Johnson	1.2 – Modified Bid Item names in payment section to differentiate between Payment Methods on bid list.

28

APPENDIX

GC-4.02 Subsurface and Physical Conditions

GC-6.06.D Minority and Women Owned Business Enterprise Compliance (Subcontractor/Supplier Utilization Form, Prime Contractor Waiver Form, Good Faith Effort Form, and Joint Venture Eligibility Form)

GC-6.07 Wage Rates

GC-6.09 Permits and Utilities

GC-4.02 Subsurface and Physical Conditions

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**GEOTECHNICAL ENGINEERING STUDY
PROPOSED TRASH WHEELS
WEST FORK AND CLEAR FORK TRINITY RIVER
FORT WORTH, TEXAS**

Presented To:

Enercon

July 2021

CMJ PROJECT NO. 2878-21-01 (Revised)

July 20, 2021
CMJ Report No. 2878-21-01 (Revised)

Enercon
777 Main Street, Suite 620
Fort Worth, Texas 76102

Attn: Mr. Brian Pace, P.E.

**GEOTECHNICAL ENGINEERING STUDY
PROPOSED TRASH WHEELS
WEST FORK AND CLEAR FORK TRINITY RIVER
FORT WORTH, TEXAS**

Dear Mr. Pace:

Submitted herein are the results of the geotechnical engineering services for the referenced project. The geotechnical services were performed in accordance with Proposal No. 21-8103 (Revised) dated May 17, 2021. The geotechnical services were authorized via Enercon Purchase Order No. CMJE-1001-00-N, dated June 2, 2021.

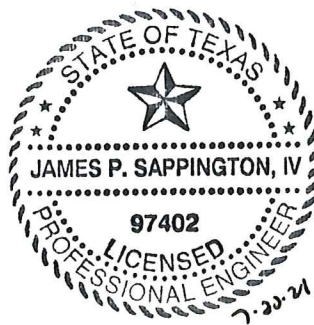
Engineering analyses and recommendations are contained in the text section of the report. Results of the field and laboratory services are included in Appendix A of the report.

We appreciate the opportunity to be of service to Enercon. Please contact us if you have any questions or if we may be of further service at this time.

Respectfully submitted,
CMJ ENGINEERING, INC.
TEXAS FIRM REGISTRATION NO. F-9177



James P. Sappington IV, P.E.
President
Texas No. 97402



copies submitted: (2) Mr. Brian Pace, P.E.; Enercon (by email and mail)
(1) Mr. Darren Lovvorn; Enercon (by email and mail)

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APPENDIX A

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1.0 INTRODUCTION

1.1 Project Description

The project, as currently planned, will consist of installing trash collection wheels on the West and Clear Forks of the Trinity River in Fort Worth, Texas. The West Fork location is immediately west of the SH 199 (Jacksboro Highway) bridge while the Clear Fork location is immediately west of Panther Island Pavilion. Each floating structure will be held in place with deep foundation elements consisting of either driven or drilled straight shafts. In addition, access boat ramps will be constructed at each trash wheel as part of the project. Plates A.1A and A.1B, Plan of Borings, presents the project vicinity and approximate locations of the exploration borings.

1.2 Purpose and Scope

The purpose of this geotechnical engineering study has been to determine the general subsurface conditions, evaluate the engineering characteristics of the subsurface materials encountered, and develop shaft L-Pile parameters and recommendations for the type or types of foundations suitable for the ramps aspect of the project.

To accomplish its intended purposes, the study has been conducted in the following phases: (1) drilling sample borings to determine the general subsurface conditions and to obtain samples for testing; (2) performing laboratory tests on appropriate samples to determine pertinent engineering properties of the subsurface materials; and (3) performing engineering analyses, using the field and laboratory data to develop geotechnical recommendations for the proposed construction.

The design is currently in progress and the locations and/or elevations of the structures could change. Once the final design is near completion (80-percent to 90-percent stage), it is recommended that CMJ Engineering, Inc. be retained to review those portions of the construction documents pertaining to the geotechnical recommendations, as a means to determine that our recommendations have been interpreted as intended.

1.3 Report Format

The text of the report is contained in Sections 1 through 10. All plates and large tables are contained in Appendix A. The alpha-numeric plate and table numbers identify the appendix in which they appear. Small tables of less than one page in length may appear in the body of the text and are numbered according to the section in which they occur.

Units used in the report are based on the English system and may include tons per square foot (tsf), kips (1 kip = 1,000 pounds), kips per square foot (ksf), pounds per square foot (psf), pounds per cubic foot (pcf), and pounds per square inch (psi).

2.0 FIELD EXPLORATION AND LABORATORY TESTING

2.1 Field Exploration

Subsurface materials at the project site were explored by two (2) vertical soil borings. The borings were drilled with a truck-mounted CME-75 drilling rig using hollow-stem augers at the approximate locations shown on Plates A.1A and A.1B, Plan of Borings. Boring CF-1 was drilled to a depth of 50 feet below existing grade at the river bank near the Clear Fork trash wheel location and Boring WF-1 was drilled to a depth of 55 feet at the river bank near the West Fork trash wheel location.

Undisturbed samples of cohesive soils were obtained with nominal 3-inch diameter thin-walled (Shelby) tube samplers which operate inside the hollow-stem augers at the locations shown on the logs of borings. The Shelby tube sampler consists of a thin-walled steel tube with a sharp cutting edge connected to a head equipped with a ball valve threaded for rod connection. The tube is pushed into the soil by the hydraulic pulldown of the drilling rig. The soil specimens were extruded from the tube in the field, logged, tested for consistency with a hand penetrometer, sealed, and packaged to limit loss of moisture.

The consistency of cohesive soil samples was evaluated in the field using a calibrated hand penetrometer. In this test a 0.25-inch diameter piston is pushed into the relatively undisturbed sample at a constant rate to a depth of 0.25 inch. The results of these tests, in tsf, are tabulated at respective sample depths on the logs. When the capacity of the penetrometer is exceeded, the value is tabulated as 4.5+.

Disturbed samples of the noncohesive granular or stiff to hard cohesive materials were obtained utilizing a nominal 2-inch O.D. split-barrel (split-spoon) sampler in conjunction with the Standard Penetration Test (ASTM D 1586). This test employs a 140-pound hammer that drops a free fall vertical distance of 30 inches, driving the split-spoon sampler into the material. The number of blows required for 18 inches of penetration is recorded and the value for the last 12 inches, or the penetration obtained from 50 blows, is reported as the Standard Penetration Value (N) at the appropriate depth on the log of boring.

To evaluate the relative density and consistency of the harder formations, a modified version of the Texas Cone Penetration test was performed at selected locations. Texas Department of Transportation (TXDOT) Test Method Tex-132-E specifies driving a 3-inch diameter cone with a 170-pound hammer freely falling 24 inches. This results in 340 foot-pounds of energy for each blow. In relatively soft materials, the penetrometer cone is driven 1 foot and the number of blows required for each 6-inch penetration is tabulated at respected test depths, as blows per 6 inches on the log. In hard materials (rock or rock-like), the penetrometer cone is driven with the resulting penetrations, in inches, recorded for the first and second 50 blows, a total of 100 blows. The penetration for the total 100 blows is recorded at the respective testing depths on the boring logs.

Continuous coring was performed at selected intervals in rock and rock-like materials using an NW (formerly NX) size, double-tube core barrel. This core barrel produces a nominal 2-inch diameter core sample. The core recovery and Rock Quality Designation (RQD) in percent are included in the appropriate column on the logs of borings. The recovered percent is presented first for each core run and the RQD percent is presented immediately beside the recovered percent, in the adjacent column.

Ground-water observations during and after completion of the borings are shown on the upper right of the boring log. Upon completion of the borings, the bore holes were backfilled with soil cuttings and plugged at the surface by hand tamping.

2.2 Laboratory Testing

Laboratory soil tests were performed on selected representative samples recovered from the borings. In addition to the classification tests (liquid limits, plastic limits, gradations), moisture content, unconfined compressive strength, and unit weight tests were performed. Results of the laboratory classification tests, moisture content, unconfined compressive strength, and unit weight tests conducted for this project are included on the boring logs. Gradation analyses are presented on Plates A.6 through A.8, Particle Size Distribution Reports.

The above laboratory tests were performed in general accordance with applicable ASTM procedures, or generally accepted practice.

3.0 SUBSURFACE CONDITIONS

3.1 Geology

The Dallas Sheet of the Geologic Atlas of Texas indicates the project sites are located in Alluvium Deposits of the Clear Fork and West Fork Trinity River overlying the Duck Creek, Kiamichi, and/or Goodland formations. The alluvial and terrace deposits are generally a mixture of fine-grained and coarse materials, which are typically layered with grain sizes increasing with depth. At the surface the clay portions of these deposits can be moderately to highly active. Ground-water is typically present in these deposits, especially in proximity to the river. The Duck Creek and Goodland formations consist of limestone with some shale portions, as discussed below.

3.2 Soil and Rock Conditions

Specific types and depths of subsurface strata encountered at the boring locations are shown on the boring logs in Appendix A. The generalized subsurface stratigraphy encountered in the borings are discussed below. Note that depths on the borings and in the discussion below refer to the depth from the existing ground surface present at the time of the investigation, and the boundaries between the various soil types are approximate.

Natural soils encountered consist of dark brown, brown, reddish brown, tan and gray silty clays, silty sandy clays, sandy silty clays and clays. The various clayey soils are generally stiff to hard (soil basis) in Boring WF-1 and above a depth of 6 feet in Boring CF-1, with pocket penetrometer readings of 2.0 to over 4.5 tsf. Soft to firm and occasionally stiff (soil basis) conditions are noted within the silty clay and sandy silty clay materials below 6 feet in Boring CF-1, with pocket penetrometer readings of 0.25 to 1.75 tsf and Standard Penetration (N) values of 6 to 9 blows per foot.

More granular tan and gray clayey sands, silty clayey sands, clayey silty sands, and clayey sandy silts are next present in the borings below depths of 33 and 13 feet in Borings CF-1 and WF-1, respectively. These granular soils vary from loose to dense or soft to firm (soil basis), with Standard Penetration (N) values of 4 to 38 blows per foot of penetration and a pocket penetrometer value of 0.75 tsf.

The various soils encountered had tested Liquid Limits (LL) of 22 to 51 with Plasticity Indices (PI) of 6 to 35, and classify as SM, SC, ML, CL and CH according to the USCS. Tested unit weight and

unconfined compressive strength values range from 106 to 123 pcf and 840 to 5,800 psf, respectively. Select lower strength test values reflect more granular or silty materials.

Tan limestone is next present in Boring CF-1 at a depth of 39 feet. The tan limestone occurs weathered and is considered moderately hard (sedimentary rock basis), with a Standard Penetration (SPT) test result of 2¾ inches of penetration for 50 hammer blows.

Gray limestone typically containing shale seams and layers is next present in Borings CF-1 and WF-1 at depths of 40 to 42½ feet. Borings CF-1 and WF-1 were terminated within the gray limestone at depths of 50 to 55 feet. The gray limestone exhibits unconfined compression test values varying from 41,660 to 211,250 psf. These values are considered to range widely from low to relatively high (sedimentary rock basis) from the viewpoint of rock strength. Lower strength test results typically reflect the presence of shale seams and layers within the gray limestone materials. Rock quality designation (RQD) measurements of recovered core samples within the gray limestone were similarly highly variable, ranging from 7 to 60 percent. The gray limestone exhibits Texas Cone Penetrometer (THD) test values of ½ to 2 inches of penetration for 100 hammer blows and a Standard Penetration (SPT) test result of 1½ inches of penetration for 50 hammer blows.

The Atterberg Limits tests indicate the assorted soils encountered in the borings vary from generally slightly to highly active with respect to moisture induced volume changes. Active clays can experience volume changes (expansion or contraction) with fluctuations in their moisture content.

3.3 Ground-Water Conditions

3.3.1 Observations

Borings were drilled using hollow-stem augers in order to observe ground-water seepage during drilling. Ground-water seepage was encountered during drilling in Borings CF-1 and WF-1 at depths of 17 to 22 feet. Wet rotary drilling methods were utilized below depths of 40 to 45 feet in the borings, precluding subsequent accurate water level measurements. Table 3.3-1 summarizes water level data.

While it is not possible to accurately predict the magnitude of subsurface water fluctuation that might occur based upon these short-term observations, it should be recognized that ground-water

conditions will vary with fluctuations in rainfall. Seepage near the observed levels should be anticipated throughout the year.

TABLE 3.3.1		
Ground-Water Observations		
Boring No.	Seepage During Drilling (ft.)	Water at Completion (ft.)
CF-1	22	N/A, wet rotary drilling below 40
WF-1	17	N/A, wet rotary drilling below 45

Fluctuations of the ground-water level can occur due to seasonal variations in the amount of rainfall; site topography and runoff; hydraulic conductivity of soil strata; and other factors not evident at the time the borings were performed. Water may be encountered in sand seams/layers, joints, fractures, or permeable seams within the various alluvial deposit soils and should be considered when developing the design and construction plans for the project.

Water traveling through the soil (subsurface water) is often unpredictable. This could be due to seasonal changes in ground water and due to the unpredictable nature of ground-water paths. Therefore, it is necessary during construction for the contractor to be observant for ground-water seepage in excavations in order to assess the situation and take appropriate action.

Due to the variable subsurface conditions, long-term observations would be necessary to more accurately evaluate the ground-water level. Such observations would require installation of piezometer or observation wells which are sealed to prevent the influence of surface water.

4.0 LPILE RECOMMENDATIONS

4.1 Lateral Loading Design Criteria (LPile)

Shaft design parameters for use with LPile based on laboratory test and field test results are presented in Tables 4.1-1 and 4.1-2. For development of clay parameters, unconfined compressive strength data was utilized. Standard Penetration test (SPT) values were utilized for sand criteria, while TxDOT Cone Penetrometer (THD) test values and unconfined compressive strength of recovered rock cores were used to develop the limestone values. Selection of the appropriate LPile parameters was accomplished using the above test results, published values,

and our past experience with similar conditions. These values should, therefore, be considered approximate. For the limestone, the “Weak Rock, Reese” model is suitable for use with LPile.

TABLE 4.1-1 - Recommended LPile Design Values							
Boring No. CF-1							
Soil Type	Depth Interval (ft)	Design Total Unit Weight (pcf)	Design Strength		Design ϵ_{50} or k_{rm}	k-value (pci)	E (psi)
Clay (Soft Clay, Matlock)	to 33	125	Cohesion (psi)	Friction Angle (degrees)	0.02	30	-
			3	-			
Clayey Sand (Sand, Reese)	33-40	125	-	36	-	120	-
Gray Limestone (Estimated RQD =30%)	40+	140	Uniaxial Compressive Strength (psi)		0.0001	-	1 x 10 ⁵
			275				

TABLE 4.1-2 - Recommended LPile Design Values							
Boring No. WF-1							
Soil Type	Depth Interval (ft)	Design Total Unit Weight (pcf)	Design Strength		Design ϵ_{50} or k_{rm}	k-value (pci)	E (psi)
Clayey Sandy Silt (Soft Clay, Matlock)	to 28	125	Cohesion (psi)	Friction Angle (degrees)	0.02	30	-
			3	-			
Clayey Silty Sand (Sand, Reese)	28-38	110	-	24	-	20	-
Clayey Sand (Sand, Reese)	38-42½	120	-	32	-	60	-
Gray Limestone (Estimated RQD =30%)	42½+	140	Uniaxial Compressive Strength (psi)		0.0001	-	1 x 10 ⁵
			275				

Note that depth intervals above refer to the depth from the existing ground surface at the boring locations, and the boundaries between the soil types are approximate.

5.0 RETAINING STRUCTURES

5.1 General Retaining Wall Considerations

Retaining structures may be required in association with the proposed boat ramps. Five geotechnical design criteria must be satisfied in the selection of the type and configuration of the retaining walls. These criteria are; the wall must have an acceptable factor of safety with respect to (1) overturning failure, (2) a sliding (translation) failure, (3) a bearing capacity failure, and (4) a global (deep-seated) slope failure. In addition, (5) the deformation of the wall caused by deflection from earth pressure, and from settlement or heave of the foundation soils or backfill soils, must be within tolerable limits during the functional life of the structures.

5.2 Potential Vertical Movements

Structures placed near existing grade will be subject to movement as a result of moisture-induced volume changes in the slightly active to highly active silty clays and clays. The clays expand (heave) with increases in moisture and contract (shrink) with decreases in moisture. The movement typically occurs as post-construction heave. The potential magnitude of the moisture-induced movements is rather indeterminate. It is influenced by the soil properties, overburden pressures, and to a great extent by soil moisture levels at the time of construction. The greatest potential for post-construction movement occurs when the soils are in a dry condition at the time of construction. Based on the conditions encountered in the boring, potential moisture-induced movements are estimated to be on the order of 2¾ inches for soils in a dry condition. Soil movements, significantly larger than estimated, could occur due to inadequate site grading, poor drainage, ponding of rainfall, and/or leaking pipelines.

5.3 Foundations

If the retaining walls are sensitive to movements, we recommend they be supported on a deep foundation system as previously discussed. If differential movements are acceptable, the retaining wall foundations can be supported on continuous footings situated in the surficial silty clays or clays. Footings situated a minimum of 2 feet below finished grade may be proportioned using a maximum allowable bearing pressure of 1,000 psf. Soils existing in a soft to firm state should be evaluated on a case-by-case basis. Close inspection of soil strength should be conducted by a geotechnical engineer to allow the designation and removal of very soft soils not meeting the bearing capacity stated above. The base of all excavated footings should be inspected by a

geotechnical engineer or geotechnician under his or her supervision to assure that the bottom is firm, level and free of loose soil material and/or debris.

It should be noted that retaining wall foundations are typically subjected to non-uniform pressure across the foundation, and possibly negative pressure (separation of foundation from soil) under a portion of the foundation, due to the overturning moment induced by the lateral earth pressures. The allowable foundation pressures given above are for the maximum pressure induced by the foundation loads, and not the average pressure under the foundation base.

The horizontal bases of the footings will develop resistance to sliding by means of a combination of friction and adhesion (for cohesive foundation materials). Given the nature of the foundation materials, an adhesion of 400 psf may be used for earth formed footings. An ultimate friction factor of 0.3 may be used to calculate sliding resistance of the footings bearing on site soils.

Foundations for the retaining walls designed in accordance with these recommendations will have a minimum factor of safety of 3 with respect to a bearing capacity failure and should experience a total settlement of 1 inch or less and a differential settlement of 0.5 inch or less, after construction.

5.4 Lateral Earth Pressures

5.4.1 General

The retaining walls must be designed for lateral pressures including, but not necessarily limited to, earth, water, surcharge, swelling, and vibration. In addition, the lateral pressures will be influenced by whether the backfill is drained or undrained, and above or below the groundwater table.

5.4.2 Equivalent Fluid Pressures

Lateral earth pressures on retaining walls will depend on a variety of factors, including the type of soils behind the wall, the condition of the soils, and the drainage conditions behind the wall. Recommended lateral earth pressures expressed as equivalent fluid pressures, per foot of wall height, are presented in Table 5.4.2-1 for a wall with a level backfill behind the top of the wall. The equivalent fluid pressure for an undrained condition should be used if a drainage system is not present to remove water trapped in the backfill and behind the wall. Pressures are provided for at-rest and active earth pressure conditions. In order to allow for an active condition, the top of the wall(s) must deflect on the order of 0.4 percent.

TABLE 5.4.2-1 – Equivalent Fluid Pressures				
Backfill Material	At-Rest Equivalent Fluid Pressure (pcf)		Active Equivalent Fluid Pressure (pcf)	
	Drained	Undrained	Drained	Undrained
Excavated on-site clay or clay fill material	100	110	85	100
Select fill or on-site soils meeting material specifications or flowable fill	65	90	50	85
Free draining granular backfill material	50	90	35	80

For the select fill or free draining granular backfill, these values assume that a “full” wedge of the material is present behind the wall. The wedge is defined where the wall backfill limits extend outward at least 2 feet from the base of the wall and then upward on a 1H:2V slope. For narrower backfill widths of granular or select fill soils, the equivalent fluid pressures for the on-site soils should be used.

5.4.3 Additional Lateral Pressures

The location and magnitude of permanent surcharge loads (if present) should be determined, and the additional pressure generated by these loads such as the weight of construction equipment and vehicular loads that are used at the time the structures are being built must also be considered in the design. The effect of this or any other surcharge loading may be accounted for by adding an additional uniform load to the full depth of the side walls equivalent to one-half of the expected vertical surcharge intensity for select backfill materials, or equal to the full vertical surcharge intensity for clay backfill. The equivalent fluid pressures, given here, do not include a safety factor. Analysis of surcharge loads (if any) should be performed on a case-by-case basis. This is not included in the scope of this study. These services can be provided as additional services upon request.

5.5 Wall Backfill Material Requirements

Granular Wall Backfill: All free draining granular wall backfill material should be a crushed stone, sand/gravel mixture, or sand/crushed stone mixture. The material should have less than 3 percent passing the No. 200 sieve and less than 30 percent passing the No. 40 sieve. The minus No. 40

sieve material should be non-plastic. Granular wall backfill should not be water jetted during installation.

Select Fill Behind Walls: All wall select backfill should consist of clayey sand and/or sandy clay material with a plasticity index of 16 or less, with a liquid limit not exceeding 35. The select fill should be placed in maximum 8-inch lifts and compacted to between 95 and 100 percent of Standard Proctor density (ASTM D 698) within a moisture range of plus to minus 3 percentage points of the optimum moisture. Compaction within five feet of the walls should be accomplished using hand compaction equipment and should be compacted between 90 and 95 percent of the Standard Proctor Density.

Flowable Backfill: Item 401, Texas Department of Transportation Standard Specifications for Construction and Maintenance of Highways, Streets, and Bridges, 2014 Edition.

On-Site Soil Backfill: For wall backfill areas with site-excavated materials or similar imported materials, all oversized fragments larger than four inches in maximum dimension should be removed from the backfill materials prior to placement. The backfill should be free of all organic and deleterious materials and should be placed in maximum 8-inch compacted lifts at a minimum of 95 percent of Standard Proctor density (ASTM D 698) within a moisture range of plus to minus 3 percentage points of optimum moisture. Compaction within five feet of the walls should be accomplished using hand compaction equipment and should be between 90 and 95 percent of the Standard Proctor Density.

5.6 Wall Backfill Settlement

Settlement of the wall backfill should be anticipated. Piping and conduits through the fill should be designed for potential soil loading due to fill settlement. Floor slabs, sidewalls, and pavements over fills also may settle. Backfill compacted to the density recommended above is anticipated to settle on the order of 0.2 to 0.5 percent of the fill thickness.

5.7 Wall Drainage

The design recommendations presented above assume hydrostatic pressure will not develop behind the retaining wall. In order to achieve the drained condition for lateral earth pressure for low-permeability walls (concrete, masonry, etc.), a vertical drainage blanket or geocomposite drainage member must be installed adjacent to the wall on the backfill side. Drainage could be

provided using a collector pipe or weep holes near the base of the retaining wall. Drains should be properly filtered to minimize the potential for erosion through these drains, and /or the plugging of drain lines. Design or specific recommendations for drainage members is beyond the scope of this study. These services can be provided as an additional service upon request.

6.0 PAVEMENTS / RAMPS

6.1 Pavement Subgrade Preparation

Finished grades near the presently existing grade will consist of slightly to moderately plastic silty clays. These silty clays are subject to loss in support value with the moisture increases which occur beneath pavement sections. They react with hydrated lime, which serves to improve and maintain their support value. Treatment of these soils with hydrated lime is typically performed beneath pavements to improve their subgrade characteristics to support anticipated vehicles and equipment.

In lieu of a lime stabilized subgrade, and since the pavement/ramp areas for this project are relatively small, a flexible base meeting TxDOT Item 247, Type A, Grades 1 or 2 may be utilized. The flexible base should be compacted to at least 95 percent of Standard Proctor Density and at a moisture content between minus 2 and plus 5 percentage points of the optimum moisture value. The option of using a flexible base in lieu of lime stabilizing the subgrade presents a relatively quick, straight forward solution to preparing the materials prior to pavement placement. Alternatively, the recommended concrete pavement thicknesses presented in Section 6.2 may be increased by 2 inches, and placed atop a properly compacted subgrade.

Portions of the boat ramps will be within near saturated soils in the most portions of the year. Care should be taken to dewater this area and cause as minimal disturbance as possible during construction. If not dewatered, soils can act like a “quick” condition, in which soil strength reduces to very small magnitudes when vibratory construction equipment traverses this soil. If disturbance occurs or where soft or loose soil and ground-water conditions occur, the ramp should be constructed upon a minimum 1-foot crushed stone pad with a geotextile “separator” fabric below the stone pad. Otherwise, with minimal disturbance, the ramp may rest atop the flexible base or soils. Erosion protection, such as 6- to 12-inch inch size riprap also should be provided around the structure to limit undermining. The exact size riprap should be based on river flow velocities.

Each construction area should be shaped to allow drainage of surface water during earthwork operations, and surface water should be pumped immediately from each construction area after each rain and a firm subgrade condition maintained. Water should not be allowed to pond in order to prevent percolation and subgrade softening, and lime should be added to the subgrade after removal of all surface vegetation and debris. Sand should be specifically prohibited beneath pavement areas, since these more porous soils can allow water inflow, resulting in heave and strength loss of subgrade soils. After fine grading each area in preparation for paving, the subgrade surface should be lightly moistened, as needed, and recompact to obtain a tight non-yielding subgrade.

Prior to the flexible base or pavement placement, the subgrade should be proof rolled in accordance with the earthwork procedures presented in the following report section. Any loose/soft materials should be removed and replaced with acceptable fill materials.

Surface drainage is critical to the performance of this pavement. Water should be allowed to exit the pavement surface quickly. All pavement construction should be performed in accordance with the following procedures.

6.2 Pavement Sections

The project may include the construction of drives / boat ramps. At the time of this investigation, site paving plans or vehicle traffic studies were not available. Therefore, several rigid pavement sections are presented for a 20-year design life based on our experience with similar facilities for Medium-Duty Facilities, and Medium- to Heavy-Duty Facilities. In general, these areas are defined as follows:

Medium-Duty Facilities are those pavements subjected to a variety of light-duty vehicles to medium-duty vehicles and occasional heavy-duty equipment or truck (1 to 2 per week).

Medium- to Heavy-Duty Facilities are those pavements subjected to a variety of light to heavy-duty vehicles. These pavements include areas subject to significant truck traffic or heavy equipment vehicles.

We recommend that rigid pavements be utilized at this project whenever possible, since they tend to provide better long-term performance when subjected to significant slow moving and turning traffic.

For Portland cement concrete pavement, a minimum thickness of 6 inches is recommended for medium-duty facilities, and 7 inches for medium- to heavy-duty areas.

A California Bearing Ratio or other strength tests were not performed because they were not within the scope of our services on this project. A subgrade modulus of 100 psi was considered appropriate for the near-surface soils. If heavier vehicles are planned, the above cross sections can be confirmed by performing strength tests on the subgrade materials once the traffic characteristics are established. Periodic maintenance of pavement structures normally improves the durability of the overall pavement and enhances its expected life.

The above sections should be considered minimum pavement thicknesses and higher traffic volumes and heavy trucks may require thicker pavement sections. Additional recommendations can be provided after traffic volumes and loads are known. Periodic maintenance should be anticipated for minimum pavement thickness. This maintenance should consist of sealing cracks and timely repair of isolated distressed areas.

6.3 Pavement Material Requirements

Reinforced Portland Cement Concrete: Reinforced Portland cement concrete pavement should consist of Portland cement concrete having a 28-day compressive strength of at least 3,500 psi. The mix should be designed in accordance with the ACI Code 318 using 3 to 6 percent air entrainment. The pavement should be adequately reinforced with temperature steel and all construction joints or expansion/contraction joints should be provided with load transfer dowels. The spacing of the joints will depend primarily on the type of steel used in the pavement. We recommend using No. 3 steel rebar spaced at 18 inches on center in both the longitudinal and transverse direction. Control joints formed by sawing are recommended every 12 to 15 feet in both the longitudinal and transverse direction. The cutting of the joints should be performed as soon as the concrete has “set-up” enough to allow for sawing operations.

Flexible Base: Crushed Stone Flexible Base – Item 247, Type A, Grades 1 or 2, Texas Department of Transportation Standard Specifications for Construction of Maintenance of Highways, Streets, and Bridges, 2014 Edition.

6.4 General Pavement Considerations

The design of the pavement drainage and grading should consider the potential for differential ground movement due to future soil swelling of up to 2¾ inches. In order to minimize rainwater infiltration through the pavement surface, and thereby minimizing future upward movement of the pavement slabs, all cracks and joints in the pavement should be sealed on a routine basis after construction.

7.0 SEISMIC CONSIDERATIONS

Based on the conditions encountered in the borings for the above referenced project, the IBC-2015 site classification is TYPE D for seismic evaluation.

8.0 EARTHWORK

8.1 Site Preparation

The proposed landside construction areas should be stripped of vegetation, roots, old construction debris, and other organic material. It is estimated that the depth of stripping will be on the order of 6 to 8 inches. The actual stripping depth should be based on field observations with particular attention given to old drainage areas, uneven topography, and excessively wet soils. The stripped areas should be observed to determine if additional excavation is required to remove weak or otherwise objectionable materials that would adversely affect the fill placement or other construction activities.

The subgrade should be firm and able to support the construction equipment without displacement. Soft or yielding subgrade should be corrected and made stable before construction proceeds. The subgrade should be proof rolled to detect soft spots, which if exist, should be reworked to provide a firm and otherwise suitable subgrade. Proof rolling should be performed using a heavy pneumatic tired roller, loaded dump truck, or similar piece of equipment. The proof rolling operations should be observed by the project geotechnical engineer or his/her representative. Prior to fill placement, the subgrade should be scarified to a minimum depth of 8 inches, its moisture content adjusted, and recompacted to the moisture and density recommended for fill.

The on-site soils are suitable for use in general site grading. Imported fill material should be clean soil with a Liquid Limit less than 50 and no rock greater than 4 inches in maximum dimension. The fill materials should be free of vegetation and debris.

8.2 Placement and Compaction

Fill material should be placed in loose lifts not exceeding 8 inches in uncompacted thickness. The uncompacted lift thickness should be reduced to 4 inches for structure backfill zones requiring hand-operated power compactors or small self-propelled compactors. The fill material should be uniform with respect to material type and moisture content. Clods and chunks of material should be broken down and the fill material mixed by disking, blading, or plowing, as necessary, so that a material of uniform moisture and density is obtained for each lift. Water required for sprinkling to bring the fill material to the proper moisture content should be applied evenly through each layer.

The fill material should be compacted to a minimum of 95 percent of the maximum dry density determined by the Standard Proctor test, ASTM D 698. In conjunction with the compacting operation, the fill material should be brought to the proper moisture content. The moisture content for general earth fill should range from 2 percentage points below optimum to 5 percentage points above optimum (-2 to +5). These ranges of moisture contents are given as maximum recommended ranges. For some soils and under some conditions, the contractor may have to maintain a more narrow range of moisture content (within the recommended range) in order to consistently achieve the recommended density.

Field density tests should be taken as each lift of fill material is placed. As a guide, one field density test per lift for each 5,000 square feet of compacted area is recommended. For small areas or critical areas the frequency of testing may need to be increased to one test per 2,500 square feet. A minimum of 2 tests per lift should be required. The earthwork operations should be observed and tested on a continuing basis by an experienced geotechnician working in conjunction with the project geotechnical engineer.

Each lift should be compacted, tested, and approved before another lift is added. The purpose of the field density tests is to provide some indication that uniform and adequate compaction is being obtained. The actual quality of the fill, as compacted, should be the responsibility of the contractor and satisfactory results from the tests should not be considered as a guarantee of the quality of the contractor's filling operations.

8.3 Excavation

The side slopes of excavations through the overburden soils should be made in such a manner to provide for their stability during construction. Existing structures, pipelines or other facilities, which

are constructed prior to or during the currently proposed construction and which require excavation, should be protected from loss of end bearing or lateral support.

Temporary construction slopes and/or permanent embankment slopes should be protected from surface runoff water. Site grading should be designed to allow drainage at planned areas where erosion protection is provided, instead of allowing surface water to flow down unprotected slopes.

Trench safety recommendations are beyond the scope of this report. The contractor must comply with all applicable safety regulations concerning trench safety and excavations including, but not limited to, OSHA regulations.

8.4 Acceptance of Imported Fill

Any soil imported from off-site sources should be tested for compliance with the recommendations for the particular application and approved by the project geotechnical engineer prior to the materials being used. The owner should also require the contractor to obtain a written, notarized certification from the landowner of each proposed off-site soil borrow source stating that to the best of the landowner's knowledge and belief there has never been contamination of the borrow source site with hazardous or toxic materials. The certification should be furnished to the owner prior to proceeding to furnish soils to the site. Soil materials derived from the excavation of underground petroleum storage tanks should not be used as fill on this project.

8.5 Soil Corrosion Potential

Specific testing for soil corrosion potential was not included in the scope of this study. However, based upon past experience on other projects in the vicinity, the soils at this site may be corrosive. Standard construction practices for protecting metal pipe and similar facilities in contact with these soils should be used.

8.6 Erosion and Sediment Control

All disturbed areas should be protected from erosion and sedimentation during construction, and all permanent slopes and other areas subject to erosion or sedimentation should be provided with permanent erosion and sediment control facilities. All applicable ordinances and codes regarding erosion and sediment control should be followed.

9.0 CONSTRUCTION OBSERVATIONS

In any geotechnical investigation, the design recommendations are based on a limited amount of information about the subsurface conditions. In the analysis, the geotechnical engineer must assume the subsurface conditions are similar to the conditions encountered in the borings. However, quite often during construction anomalies in the subsurface conditions are revealed. Therefore, it is recommended that CMJ Engineering, Inc. be retained to observe earthwork and perform materials evaluation during the construction phase of the project. This enables the geotechnical engineer to stay abreast of the project and to be readily available to evaluate unanticipated conditions, to conduct additional tests if required and, when necessary, to recommend alternative solutions to unanticipated conditions. Until these construction phase services are performed by the project geotechnical engineer, the recommendations contained in this report on such items as final foundation bearing elevations, proper soil moisture condition, and other such subsurface related recommendations should be considered as preliminary.

It is proposed that construction phase observation and materials testing commence by the project geotechnical engineer at the outset of the project. Experience has shown that the most suitable method for procuring these services is for the owner or the owner's design engineers to contract directly with the project geotechnical engineer. This results in a clear, direct line of communication between the owner and the owner's design engineers and the geotechnical engineer.

10.0 REPORT CLOSURE

The locations and elevations of the borings should be considered accurate only to the degree implied by the methods used in their determination. The boring logs shown in this report contain information related to the types of soil encountered at specific locations and times and show lines delineating the interface between these materials. The logs also contain our field representative's interpretation of conditions that are believed to exist in those depth intervals between the actual samples taken. Therefore, these boring logs contain both factual and interpretive information. Laboratory soil classification tests were also performed on samples from selected depths in the borings. The results of these tests, along with visual-manual procedures were used to generally classify each stratum. Therefore, it should be understood that the classification data on the logs of borings represent visual estimates of classifications for those portions of each stratum on which the full range of laboratory soil classification tests were not performed. It is not implied that these logs are representative of subsurface conditions at other locations and times.

With regard to ground-water conditions, this report presents data on ground-water levels as they were observed during the course of the field work. In particular, water level readings have been made in the borings at the times and under conditions stated in the text of the report and on the boring logs. It should be noted that fluctuations in the level of the ground-water table can occur with passage of time due to variations in rainfall, temperature and other factors. Also, this report does not include quantitative information on rates of flow of ground water into excavations, on pumping capacities necessary to dewater the excavations, or on methods of dewatering excavations. Unanticipated soil conditions at a construction site are commonly encountered and cannot be fully predicted by mere soil samples, test borings or test pits. Such unexpected conditions frequently require that additional expenditures be made by the owner to attain a properly designed and constructed project. Therefore, provision for some contingency fund is recommended to accommodate such potential extra cost.

The analyses, conclusions and recommendations contained in this report are based on site conditions as they existed at the time of our field investigation and further on the assumption that the exploratory borings are representative of the subsurface conditions throughout the site; that is, the subsurface conditions everywhere are not significantly different from those disclosed by the borings at the time they were completed. If, during construction, different subsurface conditions from those encountered in our borings are observed, or appear to be present in excavations, we must be advised promptly so that we can review these conditions and reconsider our recommendations where necessary. If there is a substantial lapse of time between submission of this report and the start of the work at the site, if conditions have changed due either to natural causes or to construction operations at or adjacent to the site, or if structure locations, structural loads or finish grades are changed, we urge that we be promptly informed and retained to review our report to determine the applicability of the conclusions and recommendations, considering the changed conditions and/or time lapse.

Further, it is urged that CMJ Engineering, Inc. be retained to review those portions of the plans and specifications for this particular project that pertain to earthwork and foundations as a means to determine whether the plans and specifications are consistent with the recommendations contained in this report. In addition, we are available to observe construction, particularly the compaction of structural fill, or backfill and the construction of foundations as recommended in the report, and such other field observations as might be necessary.

The scope of our services did not include any environmental assessment or investigation for the presence or absence of wetlands or hazardous or toxic materials in the soil, surface water, ground water or air, on or below or around the site.

This report has been prepared for use in developing an overall design concept. Paragraphs, statements, test results, boring logs, diagrams, etc. should not be taken out of context, nor utilized without a knowledge and awareness of their intent within the overall concept of this report. The reproduction of this report, or any part thereof, supplied to persons other than the owner, should indicate that this study was made for design purposes only and that verification of the subsurface conditions for purposes of determining difficulty of excavation, trafficability, etc. are responsibilities of the contractor.

This report has been prepared for the exclusive use of Enercon for specific application to design of this project. The only warranty made by us in connection with the services provided is that we have used that degree of care and skill ordinarily exercised under similar conditions by reputable members of our profession practicing in the same or similar locality. No other warranty, expressed or implied, is made or intended.

* * * *



CMJ ENGINEERING, INC.
 CMJ PROJECT No. 2878-2I-01

PLAN OF BORINGS
 PROPOSED TRASH WHEELS
 CLEAR FORK AND WEST FORK TRINITY RIVER
 FORT WORTH, TEXAS

PLATE
 A.1A




CMJ ENGINEERING, INC.
 CMJ PROJECT No. 2878-2I-01

PLAN OF BORINGS
 PROPOSED TRASH WHEELS
 CLEAR FORK AND WEST FORK TRINITY RIVER
 FORT WORTH, TEXAS

PLATE
 A.1B

Major Divisions		Grp. Sym.	Typical Names	Laboratory Classification Criteria			
Coarse-grained soils (more than half of the material is larger than No. 200 sieve size)	Gravels (More than half of coarse fraction is larger than No. 4 sieve size)	Clean gravels (Little or no fines)	GW	Well-graded gravels, gravel-sand mixtures, little or no fines	<p>Determine percentages of sand and gravel from grain size curve. Depending on percentage of fines (fraction smaller than No. 200 sieve size), coarse-grained soils are classified as follows:</p> <p>Less than 5 percent.....GW, GP, SW, SP More than 12 percent.....GM, GC, SM, SC 5 to 12 percent.....<i>Borderline</i> cases requiring dual symbols</p>	$C_u = \frac{D_{60}}{D_{10}}$ greater than 4: $C_c = \frac{(D_{30})^2}{D_{10} \times D_{60}}$ between 1 and 3	
		GP	Poorly graded gravels, gravel-sand mixtures, little or no fines	Not meeting all gradation requirements for GW			
		Gravels with fines (Appreciable amount of fines)	GM	Silty gravels, gravel-sand-silt mixtures		Liquid and Plastic limits below "A" line or P.I. greater than 4	Liquid and plastic limits plotting in hatched zone between 4 and 7 are borderline cases requiring use of dual symbols
			GC	Clayey gravels, gravel-sand-clay mixtures		Liquid and Plastic limits above "A" line with P.I. greater than 7	
	Sands (More than half of coarse fraction is smaller than No. 4 sieve size)	Clean sands (Little or no fines)	SW	Well-graded sands, gravelly sands, little or no fines		$C_u = \frac{D_{60}}{D_{10}}$ greater than 6: $C_c = \frac{(D_{30})^2}{D_{10} \times D_{60}}$ between 1 and 3	
			SP	Poorly graded sands; gravelly sands, little or no fines		Not meeting all gradation requirements for SW	
		Sands with fines (Appreciable amount of fines)	SM	Silty sands, sand-silt mixtures		Liquid and Plastic limits below "A" line or P.I. less than 4	Liquid and plastic limits plotting between 4 and 7 are borderline cases requiring use of dual symbols
			SC	Clayey sands, sand-clay mixtures		Liquid and Plastic limits above "A" line with P.I. greater than 7	
		Fine-grained soils (More than half of material is smaller than No. 200 sieve)	Sils and clays (Liquid limit less than 50)	ML		Inorganic silts and very fine sands, rock flour, silty or clayey fine sands, or clayey silts with slight plasticity	<p>Plasticity Index</p> <p>Liquid Limit</p> <p>Plasticity Chart</p>
				CL		Inorganic clays of low to medium plasticity, gravelly clays, sandy clays, silty clays, and lean clays	
OL	Organic silts and organic silty clays of low plasticity						
Sils and clays (Liquid limit greater than 50)	MH		Inorganic silts, micaceous or diatomaceous fine sandy or silty soils, elastic silts				
	CH		Inorganic clays of high plasticity, fat clays				
	OH		Organic clays of medium to high plasticity, organic silts				
Highly Organic soils	Pt		Peat and other highly organic soils				

SOIL OR ROCK TYPES											
	GRAVEL		LEAN CLAY		LIMESTONE						
	SAND		SANDY		SHALE						
	SILT		SILTY		SANDSTONE						
	CLAYEY		HIGHLY PLASTIC CLAY		CONGLOMERATE						

TERMS DESCRIBING CONSISTENCY, CONDITION, AND STRUCTURE OF SOIL

Fine Grained Soils (More than 50% Passing No. 200 Sieve)

Descriptive Item	Penetrometer Reading, (tsf)
Soft	0.0 to 1.0
Firm	1.0 to 1.5
Stiff	1.5 to 3.0
Very Stiff	3.0 to 4.5
Hard	4.5+

Coarse Grained Soils (More than 50% Retained on No. 200 Sieve)

Penetration Resistance (blows/foot)	Descriptive Item	Relative Density
0 to 4	Very Loose	0 to 20%
4 to 10	Loose	20 to 40%
10 to 30	Medium Dense	40 to 70%
30 to 50	Dense	70 to 90%
Over 50	Very Dense	90 to 100%

Soil Structure

Calcareous	Contains appreciable deposits of calcium carbonate; generally nodular
Slickensided	Having inclined planes of weakness that are slick and glossy in appearance
Laminated	Composed of thin layers of varying color or texture
Fissured	Containing cracks, sometimes filled with fine sand or silt
Interbedded	Composed of alternate layers of different soil types, usually in approximately equal proportions

TERMS DESCRIBING PHYSICAL PROPERTIES OF ROCK

Hardness and Degree of Cementation

Very Soft or Plastic	Can be remolded in hand; corresponds in consistency up to very stiff in soils
Soft	Can be scratched with fingernail
Moderately Hard	Can be scratched easily with knife; cannot be scratched with fingernail
Hard	Difficult to scratch with knife
Very Hard	Cannot be scratched with knife
Poorly Cemented or Friable	Easily crumbled
Cemented	Bound together by chemically precipitated material; Quartz, calcite, dolomite, siderite, and iron oxide are common cementing materials.

Degree of Weathering

Unweathered	Rock in its natural state before being exposed to atmospheric agents
Slightly Weathered	Noted predominantly by color change with no disintegrated zones
Weathered	Complete color change with zones of slightly decomposed rock
Extremely Weathered	Complete color change with consistency, texture, and general appearance approaching soil

Project No. 2878-21-01	Boring No. CF-1	Project Proposed Trash Wheels West Fork and Clear Fork Trinity River - Fort Worth, Texas
Location See Plate A.1		Water Observations Seepage at 22' during drilling; wet rotary drilling below 40'
Completion Depth 50.0'	Completion Date 6-23-21	

Depth, Ft.	Symbol	Samples	Surface Elevation	Type	REC %	RQD %	Blows/Ft. or Pen Reading, T.S.F.	Passing No 200 Sieve, %	Liquid Limit, %	Plastic Limit, %	Plasticity Index	Moisture Content, %	Unit Dry Wt. Lbs./Cu. Ft.	Unconfined Compression Pounds/Sq. Ft.
			CME-75, w/ HSA											
Stratum Description														
				SILTY CLAY , brown, w/ calcareous nodules and occasional ironstone nodules, stiff to hard			2.75		33	17	16	11		
							4.5+					16		
5				CLAY / SILTY CLAY , dark brown, w/ calcareous nodules and occasional ironstone nodules, very stiff			4.25		50	17	33	18		
				-firm below 6'			1.25					21		
				SILTY CLAY / SANDY SILTY CLAY , dark brown and tan, w/ calcareous nodules and occasional ironstone nodules, soft to firm			0.25					23	109	840
10														
15							9	76	42	16	26	21		
20							1.0					23	106	1570
25				CLAY / SILTY SANDY CLAY , gray, w/ gravel and calcareous nodules, firm to stiff			1.75					21	108	2100
30							6	78	51	16	35	24		
35				CLAYEY SAND / SILTY CLAYEY SAND , tan and gray, w/ gravel, ironstone nodules, iron stains, and calcareous nodules, dense			38	23	29	15	14	10		
40				LIMESTONE , tan, weathered, moderately hard			50/2.75"					13		
				LIMESTONE , gray, very hard, w/ moderately hard shale seams and layers	87	7	100/0.5"							
45					83	60	100/0.5"							
												7	142	41660
50							100/0.5"							

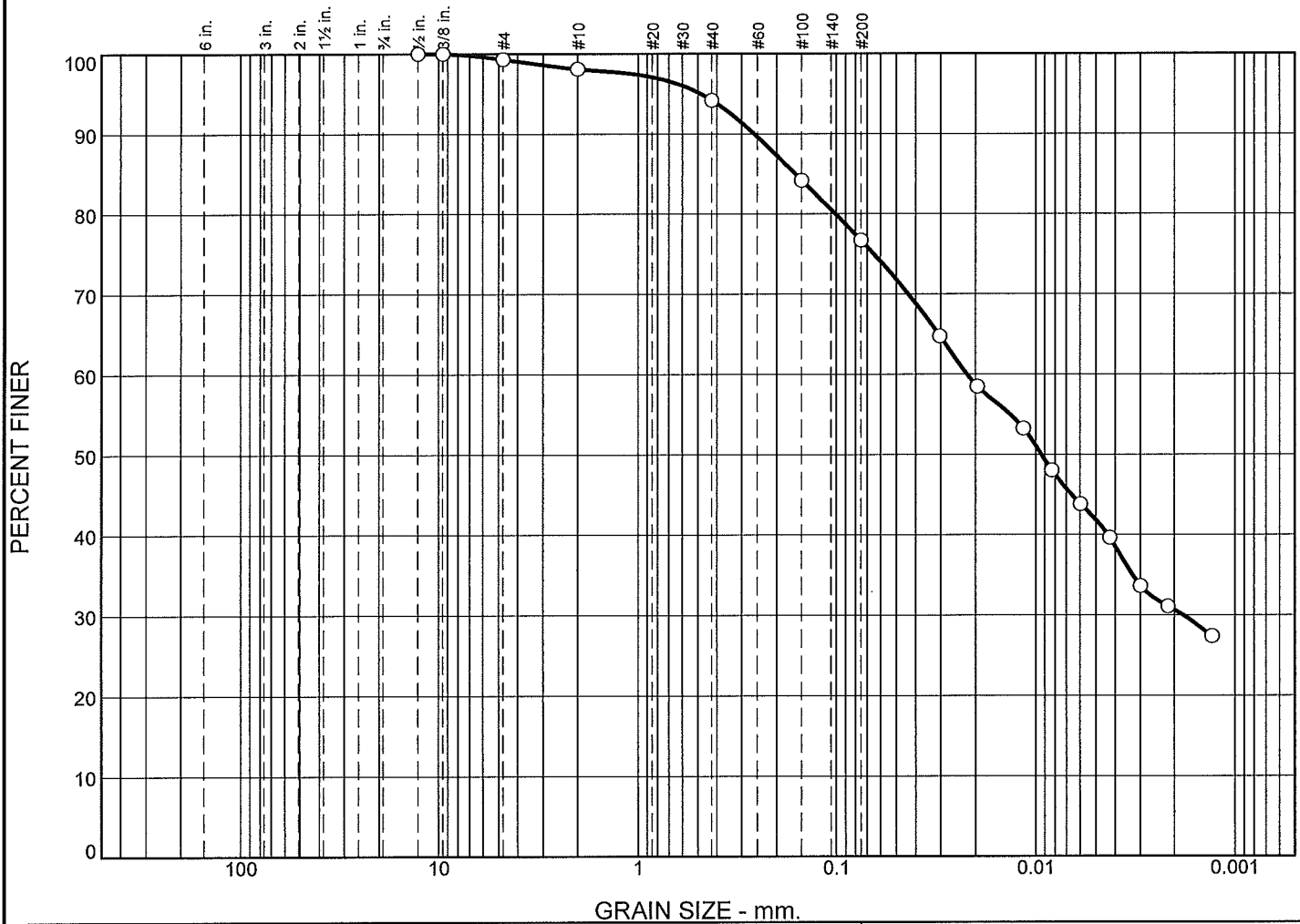
LOG OF BORING 2878-21-01.GPJ CMJ.GDT 7/16/21

Project No. 2878-21-01	Boring No. WF-1	Project Proposed Trash Wheels West Fork and Clear Fork Trinity River - Fort Worth, Texas
Location See Plate A.1		Water Observations Seepage at 17' during drilling; wet rotary drilling below 45'
Completion Depth 55.0'	Completion Date 6-23-21	

Depth, Ft.	Symbol	Samples	Surface Elevation	Type	REC %	RQD %	Blows/Ft. or Pen Reading, T.S.F.	Passing No 200 Sieve, %	Liquid Limit, %	Plastic Limit, %	Plasticity Index	Moisture Content, %	Unit Dry Wt. Lbs./Cu. Ft.	Unconfined Compression Pounds/Sq. Ft.
			CME-75, w/ HSA											
Stratum Description														
4.5+				SILTY CLAY , dark brown, w/ calcareous nodules and gravel, very stiff to hard			4.5+					14		
4.5+				-w/ ironstone nodules below 4'			4.5+					8		
3.5							3.5					20	112	5800
2.0				SILTY CLAY , reddish brown, w/ ironstone nodules, iron stains, and calcareous nodules, stiff			2.0	89	48	18	30	20		
2.0							2.0					18		
0.75				CLAYEY SANDY SILT , tan, soft to firm			0.75	58	28	14	14	18	123	980
0.75				-w/ ironstone nodules and calcareous nodules above 15'			0.75							
5							5					20		
4				CLAYEY SILTY SAND , tan, loose			4	58	22	16	6	20		
4							4	36				20		
5							5					23		
23				SILTY CLAYEY SAND , tan, w/ gravel, medium dense			23	34				19		
50/1.5"				LIMESTONE , gray, hard to very hard, w/ moderately hard shale seams and layers			50/1.5"					18		
100/0.5"					63	33	100/0.5"					7	138	211250
100/2"					95	33	100/2"					6	138	77480
100/0.5"							100/0.5"							

LOG OF BORING 2878-21-01.GPJ CMJ.GDT 7/16/21

Particle Size Distribution Report



	% +3"	% Gravel		% Sand			% Fines			
		Coarse	Fine	Coarse	Medium	Fine	Silt	Clay		
○	0.0	0.0	0.7	1.2	3.9	17.5	34.8	41.9		
⊗	LL	PL	D ₈₅	D ₆₀	D ₅₀	D ₃₀	D ₁₅	D ₁₀	C _c	C _u
○	42	16	0.1616	0.0221	0.0094	0.0018				

Material Description	USCS	AASHTO
○	CL	A-7-6(19)

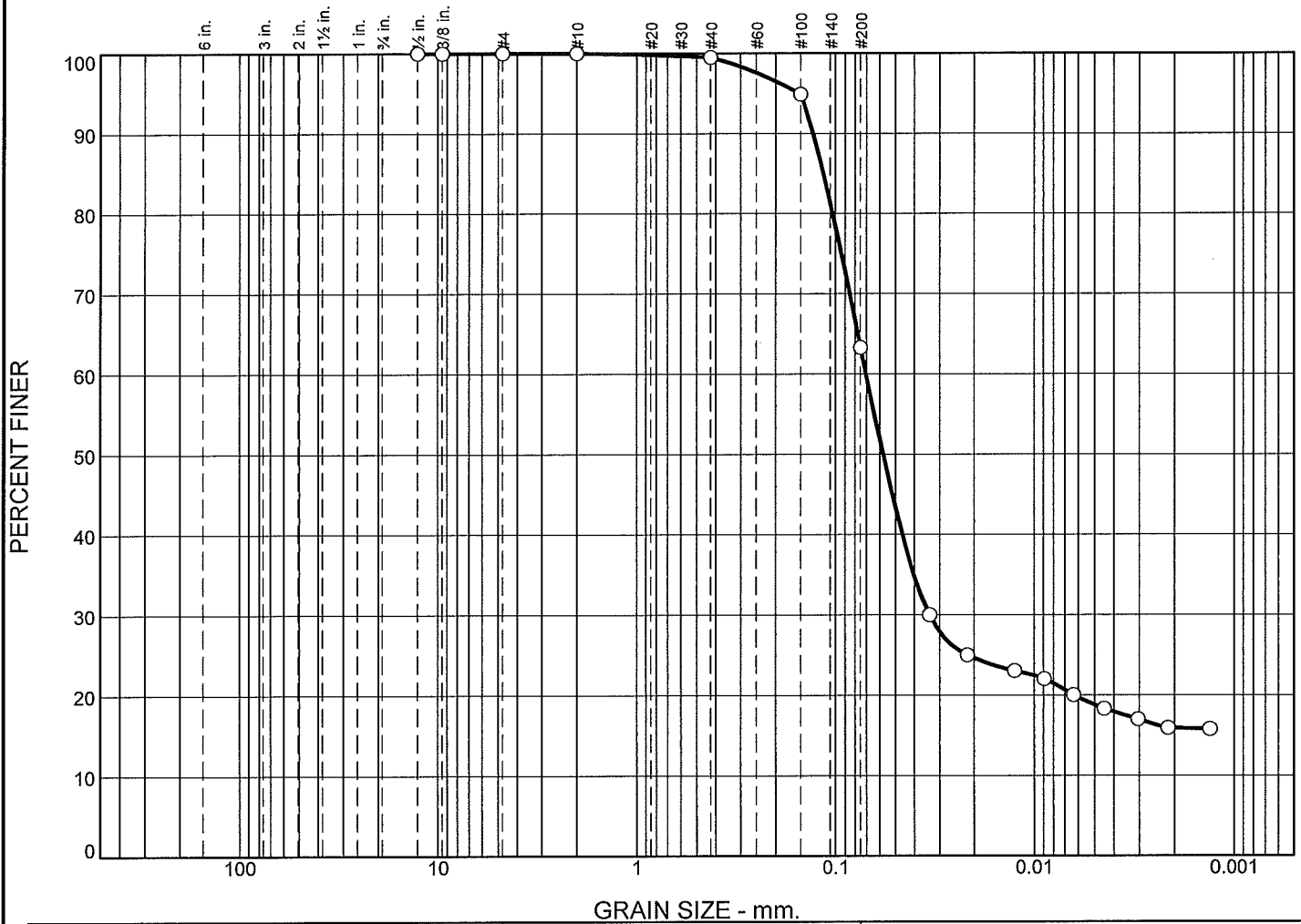
Project No. 2878-21-01 **Client:** Enercon
Project: Prop. Trash Wheels - W. Fork & Clear Fork TR-FW, TX
 ○ **Depth:** 13.5-15 **Sample Number:** CF-1

CMJ ENGINEERING, INC.
Fort Worth, Texas

Remarks:

PLATE A.6

Particle Size Distribution Report



% +3"		% Gravel		% Sand			% Fines		
		Coarse	Fine	Coarse	Medium	Fine	Silt	Clay	
○ 0.0		0.0	0.0	0.0	0.5	36.2	44.5	18.8	
⊗ LL		PL		D ₈₅		D ₆₀		D ₅₀	
○ 22		16		0.1152		0.0704		0.0578	

Material Description							USCS	AASHTO
○							CL-ML	A-4(1)

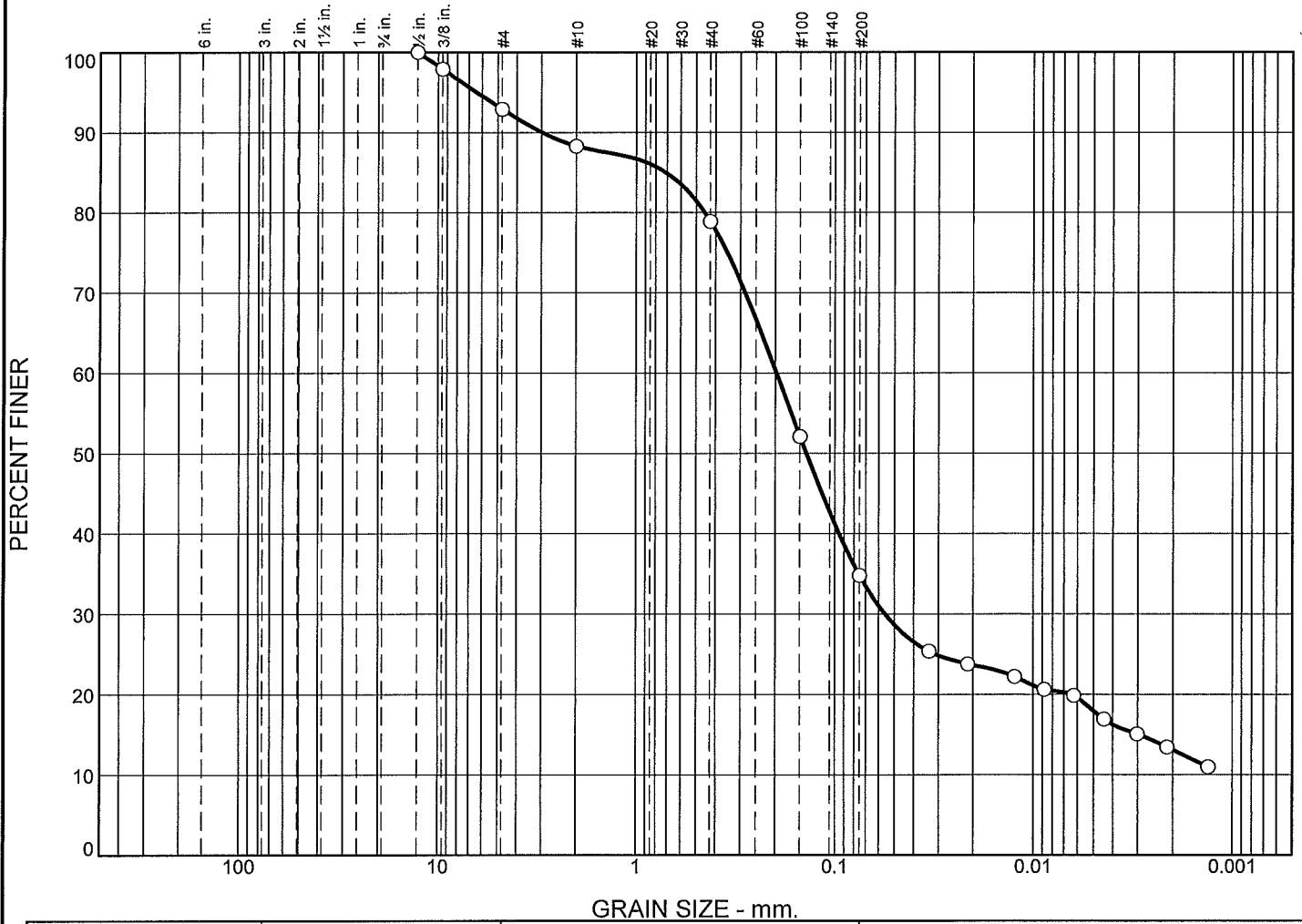
Project No. 2878-21-01 **Client:** Enercon
Project: Prop. Trash Wheels - W. Fork & Clear Fork TR-FW, TX
 ○ **Depth:** 23.5-25 **Sample Number:** WF-1

CMJ ENGINEERING, INC.
 Fort Worth, Texas

Remarks:

PLATE A.7

Particle Size Distribution Report



	% +3"	% Gravel		% Sand			% Fines			
		Coarse	Fine	Coarse	Medium	Fine	Silt	Clay		
○	0.0	0.0	7.1	4.6	9.4	44.1	16.8	18.0		
×	LL	PL	D ₈₅	D ₆₀	D ₅₀	D ₃₀	D ₁₅	D ₁₀	C _c	C _u
○			0.7100	0.1972	0.1393	0.0558	0.0030			

Material Description	USCS	AASHTO
○		

Project No. 2878-21-01 **Client:** Enercon
Project: Prop. Trash Wheels - W. Fork & Clear Fork TR-FW, TX
 ○ **Depth:** 38.5-40 **Sample Number:** WF-1

CMJ ENGINEERING, INC.
 Fort Worth, Texas

Remarks:

PLATE A.8

**GC-6.06.D Minority and Women Owned Business
Enterprise Compliance**

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City of Fort Worth Business Equity Utilization Form

Disadvantaged Business Enterprise Utilization Form (Applicable if Federally-Funded)

PRIME/OFFEROR/OWNER COMPANY NAME:									
PROJECT NAME:									
PROJECT NUMBER:	BID DATE:	City's Business Equity Goal: (Check if addressing DBE Goal) %				Offeror's Business Equity (or DBE) Commitment: %			
Check all applicable boxes to describe Prime/Offeror/Owner's Classification:		Not Certified	MBE	WBE	DBE	HUB	VOSB	Section 3	
Certifying Agency:	NCTRCA	D/FW MSDC	TX DOT	WBCS	Other:				
Ethnicity:	African American	Hispanic	Caucasian	Asian	Native American	Gender:	Male	Female	Non-Binary
Definitions: Business Equity Firm: Certified MBE Minority Business Enterprise or WBE Women Business Enterprise DBE: Disadvantaged Business Enterprise HUB: Historically Under Utilized Business VOSB: Veteran Owned Small Business Section 3: Certified Housing Urban Development Vendors									

ALL BUSINESS EQUITY FIRMS MUST BE CERTIFIED BEFORE CONTRACT AWARD

Failure to complete this form, in its entirety, and received by the Purchasing Division no later than 2:00 p.m. on the **third** City business day after bid opening, exclusive of bid opening date, will result in the bid being considered non-responsive to bid specifications. Exception: CFA, ICA, and CDBG projects, documents will be submitted to the City Project Manager if publicly bid or to the Developer if privately bid.

The undersigned Prime/Offeror agrees to enter into a formal agreement with the Business Equity firm(s) listed in this utilization schedule, conditioned upon execution of a contract with the City of Fort Worth (Exception: Developer projects). The intentional and/or knowing misrepresentation of facts is grounds for consideration of disqualification and will result in the bid being considered non-responsive to bid specifications.

Business Equity firms listed toward meeting the project goal must be located in the City's marketplace at the time of bid or the business has a Significant Business Presence in the Marketplace. The marketplace is the City of Fort Worth including portions of Denton, Parker, Wise, and all of Tarrant, Dallas, and Johnson counties.

Certified means those Business Equity Firms, located within the Marketplace, that have been determined to be a bona-fide minority or women business enterprise by the North Central Texas Regional Certification Agency (NCTRCA), Dallas/Fort Worth Minority Supplier Development Council (D/FW MSDC) and Women's Business Council-Southwest (WBCS).

If hauling services are utilized, the Prime/Offeror will be given credit as long as the Business Equity firm listed owns and operates at least one fully licensed and operational truck to be used on the contract. The Business Equity firms may lease trucks from another Business Equity firm, including Business Equity owner-operated, and receive full Business Equity credit. The Business Equity firm may lease trucks from non-Business Equity firms, including owner-operated, but will only receive credit for the fees and commissions earned by the Business Equity as outlined in the lease agreement.

Federally-funded Projects (ONLY), Counting DBE Participation: If materials or supplies are obtained from a DBE manufacturer, count 100 percent of the cost of the materials or supplies towards the goal. If the **materials or supplies are purchased** from a **DBE regular dealer**, count 60 percent of the cost of the materials and supplies toward the DBE goal. When materials or supplies are purchased from a **DBE neither a manufacturer nor a regular dealer**, count the entire amount of fees or commissions charged for assistance in the procurement of the materials and supplies or fees or transportation charges for the delivery of the materials or supplies delivered to the job site. In all cases, the Prime/Offeror is responsible to identify the amounts to be used toward the committed DBE goal. **Note: For DBE Goals, 60% of the services count towards the goal.**

Please note that only certified Business Equity firms will be counted to meet the Business Equity goal. Prime/Offerors are required to identify **ALL** subcontractors/suppliers, regardless of status; i.e., Business Equity firms and non-Business Equity firms. Prime/Offerors must identify by tier level all subcontractors/suppliers. Tier: means the level of subcontracting below the Prime/Offeror i.e. a direct payment from the Prime/Offeror to a subcontractor is considered 1st tier, a payment by a subcontractor to its supplier is considered 2nd tier. Business Equity firms are to be listed before non-Business Equity firms. The Prime/Offeror is responsible to provide proof of payment of all tiered sub-contractors/suppliers identified as a Business Equity firm and counting those dollars towards meeting the contract committed goal.

Certified Business Equity Prime/Offeror Contractors counting their self-performance towards meeting the contract goal, must be certified within those NAICS commodity codes with a certifying agency acceptable by the City of Fort Worth. Certified Business Equity Prime/Offeror counting self-performing services towards the goal, the service(s) to be performed should be listed first on the Utilization form.

Check this box if certified Prime Contractor services will be counting towards the Business Equity contracting goal. Please list services first below.

Please list certified Business Equity firm names as listed on their certification, including DBA names.

NAMES AND ADDRESSES OF CONTRACTORS/SUPPLIERS	TYPE OF SERVICES/SUPPLIES PROVIDED (NAICS Required)	Specify Tier Name 1st Tier	Certification Agency	Gender and Ethnicity:
Business Name: Address: Phone: Email: Contact Person:	Type of Service/Supplies: NAICS Code: \$ AMOUNT:		Certified By: D/FW MSDC NCTRCA TXDOT WBCS Other:	Male Female Non-Binary African American Hispanic Asian Caucasian Native American
Business Name: Address: Phone: Email: Contact Person:	Type of Service/Supplies: NAICS Code: \$ AMOUNT:		Certified By: DFW MSDC NCTRCA TXDOT WBCS Other:	Male Female Non-Binary African American Hispanic Asian Caucasian Native American
Business Name: Address: Phone: Email: Contact Person:	Type of Service/Supplies: NAICS Code: \$ AMOUNT:		Certified By: DFW MSDC NCTRCA TXDOT WBCS Other:	Male Female Non-Binary African American Hispanic Asian Caucasian Native American

Business Equity Utilization Form

Please include multiple copies of this page if needed to list all contractors and suppliers.

NAMES AND ADDRESSES OF CONTRACTORS/SUPPLIERS	TYPE OF SERVICES/SUPPLIES PROVIDED (NAICS Required)	Specify Tier Name 1st Tier	Certification Agency	Gender and Ethnicity:
Business Name: Address: Phone: Email: Contact Person:	Type of Service/Supplies: NAICS Code: \$ AMOUNT:		Certified By: D/FW MSDC NCTRCA TXDOT WBCS Other:	Male Female Non-Binary African American Hispanic Asian Caucasian Native American
Business Name: Address: Phone: Email: Contact Person:	Type of Service/Supplies: NAICS Code: \$ AMOUNT:		Certified By: DFW MSDC NCTRCA TXDOT WBCS Other:	Male Female Non-Binary African American Hispanic Asian Caucasian Native American
Business Name: Address: Phone: Email: Contact Person:	Type of Service/Supplies: NAICS Code: \$ AMOUNT:		Certified By: DFW MSDC NCTRCA TXDOT WBCS Other:	Male Female Non-Binary African American Hispanic Asian Caucasian Native American
Business Name: Address: Phone: Email: Contact Person:	Type of Service/Supplies: NAICS Code: \$ AMOUNT:		Certified By: DFW MSDC NCTRCA TXDOT WBCS Other:	Male Female Non-Binary African American Hispanic Asian Caucasian Native American



Business Equity Utilization Form

Total Dollar Amount of Certified Prime/Offeror Services towards contract goal	\$
Total Dollar Amount of Business Equity (or DBE if applicable) Subcontractors/Suppliers	\$
Total Dollar Amount of Non-Business Equity Subcontractors/Suppliers	\$
TOTAL DOLLAR AMOUNT OF CERTIFIED PRIME/ALL SUBCONTRACTORS/SUPPLIERS	\$

The Prime/Offeror will not make additions, deletions, or substitutions to this certified list without the prior approval of the Business Equity Division through the submittal of a ***Request for Approval of Change/Addition online***. Any unjustified change or deletion shall be a material breach of contract and may result in debarment in accord with the procedures outlined in the ordinance. The Prime/Offeror shall submit a detailed explanation of how the requested change/addition or deletion will affect the committed Business Equity goal. If the detail explanation is not submitted, it will affect the final compliance determination.

By affixing a signature to this form, the Prime/Offeror further agrees to provide, directly to the City upon request, complete and accurate information regarding actual work performed by all subcontractors, including non-Business Equity firms. The Prime/Offeror also agrees to allow an audit and/or examination of any books, records and files held by their company. The Prime/Offeror agrees to allow the transmission of interviews with owners, principals, officers, employees and applicable subcontractors/suppliers participating on the contract that will substantiate the actual work performed by the Business Equity firms on this contract, by an authorized officer or employee of the City. A Prime/Offeror who intentionally and/or knowingly misrepresents material facts shall be Debarred for a period of time of not less than three (3) years.

Authorized Signature

Title

Company Name

Address

City/State/Zip Code

Printed Signature

Contact Name and Title (if different)

Phone Number

Email Address

Date



CITY OF FORT WORTH
M/WBE Joint Venture Eligibility Form

All questions must be answered; use "N/A" if not applicable.

Name of City project: _____

A joint venture form must be completed on each project

RFP/Bid/Purchasing Number: _____

1. Joint venture information:

Joint Venture Name:			
Joint Venture Address: <i>(If applicable)</i>			
Telephone:	Facsimile:	E-mail address:	
Cellular:			
Identify the firms that comprise the joint venture: <i>Please attach extra sheets if additional space is required to provide detailed explanations of work to be performed by each firm comprising the joint venture</i>			
M/WBE firm name:		Non-M/WBE firm name:	
Business Address:		Business Address:	
City, State, Zip:		City, State, Zip:	
Telephone	Facsimile	E-mail	
Cellular			Facsimile
Certification Status:		E-mail address	
Name of Certifying Agency:			

2. Scope of work performed by the Joint Venture:

Describe the scope of work of the M/WBE:	Describe the scope of work of the non-M/WBE:

3. What is the percentage of M/WBE participation on this joint venture that you wish to be counted toward meeting the project goal? _____

4. Attach a copy of the joint venture agreement.

5. List components of ownership of joint venture: *(Do not complete if this information is described in joint venture agreement)*

Profit and loss sharing:	
Capital contributions, including equipment:	
Other applicable ownership interests:	

6. Identify by name, race, sex and firm those individuals (with titles) who are responsible for the day-to-day management and decision making of the joint venture:

Financial decisions (to include Account Payable and Receivable):	
Management decisions: a. Estimating	
b. Marketing and Sales	
c. Hiring and Firing of management personnel	
d. Purchasing of major equipment and/or supplies	
Supervision of field operations	

The City's Business Equity Division will review your joint venture submission and will have final approval of the M/WBE percentage applied toward the goal for the project listed on this form.

NOTE:

From and after the date of project award, if any of the participants, the individually defined scopes of work or the dollar amounts/percentages change from the originally approved information, then the participants must inform the City's Business Equity Division immediately for approval. Any unjustified change or deletion shall be a material breach of contract and may result in debarment in accord with the procedures outlined in the City's Business Equity Ordinance [25165-10-2021](#) .

AFFIDAVIT

The undersigned affirms that the foregoing statements are true and correct and include all material information necessary to identify and explain the terms and operation of the joint venture. Furthermore, the undersigned shall agree to provide to the joint venture the stated scope of work, decision-making responsibilities and payments herein.

The City also reserves the right to request any additional information deemed necessary to determine if the joint venture is eligible. Failure to cooperate and/or provide requested information within the time specified is grounds for termination of the eligibility process.

The undersigned agree to permit audits, interviews with owners and examination of the books, records and files of the joint venture by any authorized representatives of the City of Fort Worth. Failure to comply with this provision shall result in the termination of any contract, which may be awarded under the provisions of this joint venture's eligibility and may initiate action under Federal, State and/or Local laws/ordinances concerning false statements or willful misrepresentation of facts.

Name of MBE firm	Name of non-MBE firm
Printed Name of Owner	Printed Name of Owner
Signature of Owner	Signature of Owner
Printed Name of Owner	Printed Name of Owner
Signature of Owner	Signature of Owner
Title	Title
Date	Date

Notarization

State of _____ County of _____

On this _____ day of _____, 20____, before me appeared

_____ and _____

to me personally known and who, being duly sworn, did execute the foregoing affidavit and did state that they were properly authorized to execute this affidavit and did so as their free act and deed.

Notary Public _____
Print Name

Notary Public _____
Signature

Commission Expires _____

(seal)



City of Fort Worth Business Equity (M/WBE) Specifications Prime Contractor Waiver Form

OFFEROR COMPANY NAME:		Check applicable block to describe Prime
PROJECT NAME:		<input type="checkbox"/> M/WBE <input type="checkbox"/> NON-M/WBE
		BID DATE
City's MBE Project Goal: %	Offeror's MBE Project Commitment: %	PROJECT NUMBER

If both answers to this form are **YES**, do not complete ATTACHMENT 1C (Good Faith Effort Form). All questions on this form must be completed and a detailed explanation provided, if applicable. If the answer to either question is **NO**, then you must complete ATTACHMENT 1C. This form is only applicable if **both** answers are yes.

Failure to complete this form in its entirety and be received by the Purchasing Division no later than 2:00 p.m., on the second City business day after bid opening, exclusive of the bid opening date, will result in the bid being considered non-responsive to bid specifications.

Will you perform this entire contract without subcontractors?	<input type="checkbox"/> YES
If yes, please provide a detailed explanation that proves based on the size and scope of this project, this is your normal business practice and provide an operational profile of your business.	<input type="checkbox"/> NO
Will you perform this entire contract without suppliers?	<input type="checkbox"/> YES
If yes, please provide a detailed explanation that proves based on the size and scope of this project, this is your normal business practice and provide an inventory profile of your business.	<input type="checkbox"/> NO

The Offeror further agrees to provide, directly to the City upon request, complete and accurate information regarding actual work performed by all subcontractors, including certified M/WBE(s) on this contract, the payment thereof and any proposed changes to the original M/WBE(s) arrangements submitted with this bid. The Offeror also agrees to allow an audit and/or examination of any books, records and files held by their company that will substantiate the actual work performed by the M/WBEs on this contract, by an authorized officer or employee of the City. Any intentional and/or knowing misrepresentation of facts will be grounds for terminating the contract or debarment from City work for a period of not less than three (3) years and for initiating action under Federal, State or Local laws concerning false statements. Any failure to comply with this ordinance creates a material breach of contract and may result in a determination of an irresponsible Offeror and barred from participating in City work for a period of time not less than one (1) year.

Authorized Signature

Printed Signature

Title

Contact Name (if different)

Company Name

Phone Number Fax Number

Address

Email Address

City/State/Zip

Date



City of Fort Worth
Business Equity Division
Good Faith Effort Form

Table with 3 columns: PRIME/OFFEROR COMPANY NAME, PROJECT NAME, Business Equity Goal; Check applicable box to describe Prime/Offeror's Certification; Offeror's Business Equity Goal Commitment; BID DATE; PROJECT NUMBER.

If the Offeror did not meet or exceed the Business Equity Goal for this project, the Prime/Offeror must complete this form.

If the Prime/Offeror's method of compliance with the Business Equity Goal is based upon demonstration of a "Good Faith Effort", the Prime/Offeror will have the burden of correctly and accurately preparing and submitting the documentation required by the City.

Failure to complete this form, in its entirety with supporting documentation, and received by the Purchasing Division no later than 2:00 p.m. on the third City business day after bid opening, exclusive of bid opening date, will result in the bid being considered non-responsive to bid specifications.

- 1.) Please list each and every subcontracting and/or supplier opportunity for the completion of this project, regardless of whether it is to be provided by a Business Equity firm or non-Business Equity firm. (DO NOT LIST NAMES OF FIRMS).

(Use additional sheets, if necessary)

Table with 2 columns: List of Subcontracting Opportunities, List of Supplier Opportunities. Multiple empty rows for data entry.

2.) Obtain a current (not more than two (2) months old from the bid open date) list of Business Equity subcontractors and/or suppliers from the City's Business Equity Division.

Yes

Date of Listing _____

No

3.) Did you solicit bids from Business Equity firms, within the subcontracting and/or supplier areas previously listed, at least ten calendar days prior to bid opening by telephone, exclusive of the day the bids are opened?

Yes (If yes, attach list to include name of Business Equity firm, person contacted, phone number and date and time of contact.)

No

4.) Did you solicit bids from Business Equity firms, within the subcontracting and/or supplier areas previously listed, at least ten calendar days prior to bid opening by fax, exclusive of the day the bids are opened?

Yes (If yes, attach list to include name of Business Equity firm, fax number and date and time of contact. In addition, if the fax is returned as undeliverable, then that "undeliverable confirmation" received must be printed directly from the facsimile for proper documentation. Failure to submit confirmation and/or "undeliverable confirmation" documentation may render the GFE non-responsive.)

No

5.) Did you solicit bids from Business Equity firms, within the subcontracting and/or supplier areas previously listed, at least ten calendar days prior to bid opening by email, exclusive of the day the bids are opened?

Yes (If yes, attach email confirmation to include name of Business Equity firm, date and time. In addition, if an email is returned as undeliverable, then that "undeliverable message" receipt must be printed directly from the email system for proper documentation. Failure to submit confirmation and/or "undeliverable message" documentation may render the GFE non-responsive.)

No

NOTE: The three methods identified above are acceptable for soliciting bids, and each selected method must be applied to the applicable contract. The Prime/Offeror must document that either at least two attempts were made using two of the three methods or that at least one successful contact was made using one of the three methods in order to be deemed responsive to the Good Faith Effort requirement.

NOTE: The Prime/Offeror must contact the entire Business Equity list specific to each subcontracting and supplier opportunity to be in compliance with questions 3 thru 5.

6.) Did you provide plans and specifications to potential Business Equity firms?

Yes

No

7.) Did you provide the information regarding the location of plans and specifications in order to assist the Business Equity firms?

Yes

No

8.) Did you prepare a quotation for the Business Equity firms to bid on goods/services specific to their skill set?

- Yes (If yes, attach all copies of quotations.)
- No

9.) Was the contact information on any of the listings not valid?

- Yes (If yes, attach the information that was not valid in order for the Business Equity Division to address the corrections needed.)
- No

10.) Submit documentation if Business Equity firms quotes were rejected. The documentation submitted should be in the firms forms of an affidavit, include a detailed explanation of why the Business Equity firms was rejected and any supporting documentation the Prime/Offeror wishes to be considered by the City. In the event of a bona fide dispute concerning quotes, the Prime/Offeror will provide for confidential in-camera access to an inspection of any relevant documentation by City personnel.

(Please use additional sheets, if necessary, and attach.)

Company Name	Telephone	Contact Person	Scope of Work	Reason for Rejection

ADDITIONAL INFORMATION:

Please provide additional information you feel will further explain your good and honest efforts to obtain Business Equity firm participation on this project.

The Prime/Offeror further agrees to provide, directly to the City upon request, complete and accurate information regarding actual work performed on this contract, the payment thereof and any proposed changes to the original arrangements submitted with this bid. The Prime/Offeror also agrees to allow an audit and/or examination of any books, records and files held by their company that will substantiate the actual work performed on this contract, by an authorized officer or employee of the City.

A Prime/Offeror who intentionally and/or knowingly misrepresents material facts shall be Debarred for a period of time of not less than three (3) years.

The undersigned certifies that the information provided and the Business Equity firms listed was/were contacted in good faith. It is understood that any Business Equity firms listed in Attachment 1C will be contacted and the reasons for not using them will be verified by the City's Business Equity Division.

Authorized Signature

Printed Signature

Title

Contact Name and Title (if different)

Company Name

Phone Number

Address

Email Address

City/State/Zip

Date

Business Equity Division
Email: DVIN_BEOffice@fortworthtexas.gov
Phone: (817) 392-2674



PROJECT # _____ BID # _____
 (If Applicable Please Check One)
 Amendment Change Order

Business Equity Division LETTER OF INTENT

A. Business Equity Sub-Contractor/Consultant Information:

A certified Business Equity firm is owned by a Minority or Woman Business Enterprise (M/WBE)

[Pursuant to the City of Fort Worth's Business Equity Ordinance, certified Business Equity firms participating under the Ordinance must be certified prior to recommendation of award in order to be counted towards the Business Equity contract goal. Certifying agencies acceptable by the City: North Central Texas Regional Certification Agency (NCTRCA), Dallas/Fort Worth Minority Supplier Development Council, Inc. (DFW MSDC), Women's Business Council - Southwest (WBCS), or the Texas Department of Transportation (TXDOT). **Note:** For Federally-Funded projects the firm must be certified as a Disadvantaged Business Enterprise (DBE) by the NCTRCA and/or TXDOT only.] **All Fields are Required - Do not leave blank.**

1. Name of Project: _____
2. Name of Offeror/Prime Contractor: _____
3. Name of Business Equity Firm: _____
 Address: _____ Firm Contact Name/Phone: _____
4. The undersigned is prepared to perform the following described work and/or supply the material listed in connection with the above project (where applicable specify "supply" or "install" or both):

NAICS Code:	In the amount of \$ _____
(Owner/ Authorized Agent) Type or Print Name	(Name of Certified Business Equity Firm)
(Signature of Owner /Authorized Agent of Certified Business Equity Firm)	(Date)
(Email Address)	(Phone Number)

B. Affidavit of Offeror/Prime

I HEREBY DECLARE AND AFFIRM that _____ am the duly authorized representative of
 (Owner/Authorized Agent)

_____ and that I have personally reviewed the material and facts
 (Name of Offeror/Prime)

set forth in this Letter of Intent. To the best of my knowledge, information and belief, the facts in this form are true, and no material facts have been omitted.

Pursuant to the City of Fort Worth's Business Equity Ordinance, any person/entity that makes a false or fraudulent statement in connection with participation of a certified firm in any City of Fort Worth contract may be referred for debarment procedures under the City of Fort Worth's Business Equity Ordinance.

I do solemnly swear or affirm that the signatures contained herein and the information provided by the Offeror/Prime are true and correct, and that I am authorized on behalf of the Offeror/Prime to make the affidavit.

(Owner/ Authorized Agent) Type or Print Name	(Name of Offeror/Prime)
(Signature of Owner/Authorized Agent)	(Date)
(Email Address)	(Phone Number)

GC-6.07 Wage Rates

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2013 PREVAILING WAGE RATES
(Heavy and Highway Construction Projects)

CLASSIFICATION DESCRIPTION	Wage Rate
Asphalt Distributor Operator	\$ 15.32
Asphalt Paving Machine Operator	\$ 13.99
Asphalt Raker	\$ 12.69
Broom or Sweeper Operator	\$ 11.74
Concrete Finisher, Paving and Structures	\$ 14.12
Concrete Pavement Finishing Machine Operator	\$ 16.05
Concrete Saw Operator	\$ 14.48
Crane Operator, Hydraulic 80 tons or less	\$ 18.12
Crane Operator, Lattice Boom 80 Tons or Less	\$ 17.27
Crane Operator, Lattice Boom Over 80 Tons	\$ 20.52
Crawler Tractor Operator	\$ 14.07
Electrician	\$ 19.80
Excavator Operator, 50,000 pounds or less	\$ 17.19
Excavator Operator, Over 50,000 pounds	\$ 16.99
Flagger	\$ 10.06
Form Builder/Setter, Structures	\$ 13.84
Form Setter, Paving & Curb	\$ 13.16
Foundation Drill Operator, Crawler Mounted	\$ 17.99
Foundation Drill Operator, Truck Mounted	\$ 21.07
Front End Loader Operator, 3 CY or Less	\$ 13.69
Front End Loader Operator, Over 3 CY	\$ 14.72
Laborer, Common	\$ 10.72
Laborer, Utility	\$ 12.32
Loader/Backhoe Operator	\$ 15.18
Mechanic	\$ 17.68
Milling Machine Operator	\$ 14.32
Motor Grader Operator, Fine Grade	\$ 17.19
Motor Grader Operator, Rough	\$ 16.02
Off Road Hauler	\$ 12.25
Pavement Marking Machine Operator	\$ 13.63
Pipelayer	\$ 13.24
Reclaimer/Pulverizer Operator	\$ 11.01
Reinforcing Steel Worker	\$ 16.18
Roller Operator, Asphalt	\$ 13.08
Roller Operator, Other	\$ 11.51
Scraper Operator	\$ 12.96
Servicer	\$ 14.58
Small Slipform Machine Operator	\$ 15.96
Spreader Box Operator	\$ 14.73
Truck Driver Lowboy-Float	\$ 16.24
Truck Driver Transit-Mix	\$ 14.14
Truck Driver, Single Axle	\$ 12.31
Truck Driver, Single or Tandem Axle Dump Truck	\$ 12.62
Truck Driver, Tandem Axle Tractor with Semi Trailer	\$ 12.86
Welder	\$ 14.84
Work Zone Barricade Servicer	\$ 11.68

The Davis-Bacon Act prevailing wage rates shown for Heavy and Highway construction projects were determined by the United States Department of Labor and current as of September 2013. The titles and descriptions for the classifications listed are detailed in the AGC of Texas' Standard Job Classifications and Descriptions for Highway, Heavy, Utilities, and Industrial Construction in Texas.

GC-6.09 Permits and Utilities

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**TARRANT COUNTY
FLOODPLAIN DEVELOPMENT PERMIT APPLICATION**

INSTRUCTIONS: Complete all questions. If any item does not apply, indicate by place "NA" in the blank. **DO NOT LEAVE ANY BLANK EMPTY.**

SECTION 1. OWNER INFORMATION

PROPERTY OWNER'S FULL NAME:

Address:

City:

State:

Zip Code:

Home Phone:

Work Phone:

Cell Phone:

eMail Address:

Is the Owner a Corporation or Partnership? Yes No

If Yes, attach a letter on company stationery, signed by an authorized individual, authorizing the Applicant to file an Application on behalf of the company.

SECTION 2. APPLICANT INFORMATION

Same as Owner (if checked, skip to Section 3)

APPLICANT'S FULL NAME:

Applicant's Address:

City:

State:

Zip Code:

Home Phone:

Work Phone:

Cell Phone:

eMail Address:

SECTION 3. SUBJECT PROPERTY INFORMATION

Street Address for the Subject Property (if established)¹:

City:

Zip Code:

Legal Description:

Lot:

Block:

Subdivision

Section or Phase:

If not located in a subdivision:

Survey:

Abstract:

Recorded (Vol/Page):

List the names of all roads by which the property can be accessed:

Total Current Land Area:

Vicinity Map Attached? Yes No

Located in City ETJ: Yes

No

City Name:

¹ If a 911 street address has not been assigned to the Subject Property, the Applicant must contact the 911 Coordinator at (817) _____ to obtain an address.

SECTION 4. PROPOSED DEVELOPMENT:

DEVELOPMENT OF LAND (Check all that are applicable):

- Clearing
- Fill
- Mining
- Drilling
- Grading
- Excavating (except for structural development checked above)
- Watercourse Alteration (including dredging and channel modifications)
- Road, Street or Bridge Construction
- Subdividing Name of Subdivision: _____
- Construction of Utility Type of Utility: _____
- Other (please specify): _____

DEVELOPMENT OF STRUCTURES (Check all that are applicable):

- | | | |
|---|--------------------------------------|---------------------------------------|
| <input type="checkbox"/> New Construction | <input type="checkbox"/> Relocation | <input type="checkbox"/> Demolition |
| <input type="checkbox"/> Addition | <input type="checkbox"/> Alteration | <input type="checkbox"/> Repair |
| <input type="checkbox"/> Remodel | <input type="checkbox"/> Replacement | <input type="checkbox"/> Other: _____ |

STRUCTURE TYPE (Check all that are applicable):

- Habitable Structure: Living Area: _____sf # of Bedrooms: _____

- Single Family Residence (1 family)
- Multi-Family Residence (2-4 families)
- Multi-Family Residence (more than 4 families)
- Mobile/Manufactured Home Located in MHRC? Yes No
- Recreational Vehicle
- Commercial Type: _____
- Combined Use (Residential and Commercial): Type: _____
- Non-Residential Floodproofing Type: _____
- Floodproofing Certification Attached
- Non-Inhabitable Structure (specify):
 - Garage
 - Storage Building
 - Barn
 - Other: _____

TYPE OF FOUNDATION:

- Building on Slab
- Building on Piers, Piles or Columns
- Building with Basement

PROJECT COSTS:

Estimated market value of the existing Structure: \$ _____

Estimated cost of proposed construction: \$ _____

If the cost of the proposed construction equals or exceeds fifty percent (50%) of the market value of the existing Structure, "Substantial Improvement" provisions shall apply. Contact the Floodplain Administrator at (817)884-1250 before proceeding.

SECTION 5. ENGINEERING STUDIES AND DOCUMENTATION

FIRM Map Panel: _____	<input type="checkbox"/> Zone A	<input type="checkbox"/> Zone AE
Site Plan attached?	<input type="checkbox"/> Yes	<input type="checkbox"/> No
Construction Plans attached?	<input type="checkbox"/> Yes	<input type="checkbox"/> No
Certification by Registered Engineer or Architect attached?	<input type="checkbox"/> Yes	<input type="checkbox"/> No
Base Flood Elevation: _____		
Elevation of Lowest Floor: _____		
How was BFE determined?		
<input type="checkbox"/> Flood Insurance Study (FIS)	Date: _____	
<input type="checkbox"/> Flood Insurance Rate Map (FIRM)	Date: _____	
<input type="checkbox"/> Flood Elevation Study	Date: _____	
<input type="checkbox"/> Two-Foot Contour Map		

SECTION 6. CONSULTANTS: List all professionals involved in the preparation of this Application or any of the supplemental information provided herewith. Attach additional sheets, if necessary.

REGISTERED PROFESSIONAL LAND SURVEYOR:			
Name: _____			
Mailing Address: _____			
City: _____	State: _____	Zip Code: _____	
Work Phone: _____	Cell Phone: _____	Fax Number: _____	
eMail Address: _____			
PROFESSIONAL ENGINEER:			
Name: _____			
Mailing Address: _____			
City: _____	State: _____	Zip Code: _____	
Work Phone: _____	Cell Phone: _____	Fax Number: _____	
eMail Address: _____			
OTHER:			
Name: _____			
Mailing Address: _____			
City: _____	State: _____	Zip Code: _____	
Work Phone: _____	Cell Phone: _____	Fax Number: _____	
eMail Address: _____			
OTHER:			
Name: _____			
Mailing Address: _____			
City: _____	State: _____	Zip Code: _____	
Work Phone: _____	Cell Phone: _____	Fax Number: _____	
eMail Address: _____			

SECTION 7. OWNER/APPLICANT'S ACKNOWLEDGMENT AND CERTIFICATION:

By my signature below, I acknowledge that I have read and understand the following:

1. No work of any kind may start until a Floodplain Development Permit is issued by Tarrant County.
2. The Development Authorization Permit may be revoked if any false statements are made in this Application or its attachments.
3. The Development Authorization Permit expires if work in accordance with this Application is not **commenced** within 12 months of issuance or if the work is not **completed** within 24 months of issuance.
4. If the Development Authorization Permit expires or is revoked for any reason, all work must cease until a new Permit is issued. The Applicant will be required to submit a new Application with accompanying fees.
5. It shall be unlawful to use, occupy, or permit the use or occupancy of any building, development, or premises, or any part thereof, hereafter created, erected, changed, converted, altered, or enlarged until the development is in compliance with the Tarrant County Subdivision and Land Use Regulations and Tarrant County Manufactured Housing Rental Community Regulations.
6. Applicant may need other permits to fulfill local, state, and federal regulatory requirements. It is Applicant's responsibility to determine what permits are needed and to obtain these permits from the appropriate authorities.
7. Construction costs undertaken in accordance with this Application are Applicant's responsibility. Applicant is not permitted to erect permanent structures or signs on or over any portion of Tarrant County's right-of-way or within any established setbacks.
8. Applicant must construct the improvements in strict conformance with the plans and specifications submitted with this Application and as approved by Tarrant County. Failure to do so will result in Applicant being required to modify or reconstruct the improvements at Applicant's cost.
9. Maintenance of improvements remains the Applicant's responsibility, and the County retains the right to require any changes, maintenance, or repairs as necessary to protect life or property.

I hereby certify to the following:

1. I have carefully read the complete Application and all its attachments and certify that all documents submitted are true and correct.
2. There is no outstanding tax liability to Tarrant County on the Subject Property.
3. The Owner of the Subject Property, if different from the Applicant, has authorized the submittal of this Application.
4. As the Owner of the Subject Property or a duly authorized Applicant, I hereby grant permission to representatives of Tarrant County to enter the premises and make all necessary inspections and to take all other actions necessary to review and act upon this Application.

Signature: _____

Print Name: _____

Date: _____