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City of Tyler, Texas

Capital Improvements Project (CIP) Contract

CONTRACT DOCUMENTS FOR

City of Tyler Bid Number 23-022
Project Name LINDSEY PARK GCAA IMPROVEMENTS
Governor's Community Achievement Awards (GCAA)
Tyler, Smith County, Texas
FEDERAL, STATE, & LOCAL FUNDS
CSJ: 2833-01-015

CITY OFFICIALS:

Mayor Donald P. Warren

City Council

District 1: Central	Stuart Hene
District 2: West	Broderick McGee
District 3: Northwest	Shirley McKellar
District 4: Northeast	James Wynne
District 5: East	Bob Westbrook
District 6: South	Brad Curtis

City Manager Edward Broussard

Managing Director,
Utilities and Public
Works Kate Dietz

PREPARED BY:

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SPECIAL CONTRACT PROVISIONS

Disadvantage Business Enterprises Requirements

Item 1L: Abbreviations and definitions

Item 2L: Instructions to bidders

Item 3L: Award and execution of contract

Item 4L: Scope of work

Item 5L: Control of the work

Item 6L: Control of materials

Item 7L: Legal relations and responsibilities

Item 8L: Prosecution and progress

Item 9L: Measurement and payment

SPECIAL BID PROVISIONS

FHWA-1273: Required contract provisions

Wage rates

SP 000-002L: Nondiscrimination

SP 000-003L: Certification of nondiscrimination in employment

SP 000-004L: Notice of requirement for affirmative action to ensure equal employment opportunity

SP 000-005L: Standard federal equal employment opportunity construction contract

SP 000-241L: Cargo Preference Act requirements in federal aid contracts

SP 000-394L: Disadvantaged business enterprise in federal-aid contracts

SP 000-1243L: Schedule of liquidated damages (replaces sp 000-658l and sp 000-001l)

SP 002-009L: Instructions to bidders

SP 006-030L: Control of materials

SP 007-011L: Legal relations and responsibilities

SP 009-011L: Measurement and payment

TECHNICAL SPECIFICATIONS

Project shall incorporate "Texas Department of Transportation, Standard Specification for Construction and Maintenance of Highways, Streets, and Bridge. November 1, 2014"

<i>Item 5</i>	<i>Control of Work</i>
<i>Item 104</i>	<i>Removing Concrete</i>
<i>Item 105</i>	<i>Removing Treated and Untreated Base and Asphalt Pavement</i>
<i>Item 160</i>	<i>Topsoil</i>
<i>Item 162</i>	<i>Sodding for Erosion Control</i>
<i>Item 168</i>	<i>Vegetative Watering</i>
<i>Item 170</i>	<i>Irrigation Systems</i>
<i>Item 192</i>	<i>Landscape Planting</i>
<i>Item 360</i>	<i>Concrete Pavement</i>
<i>Item 427</i>	<i>Surface finishes for Concrete</i>
<i>Item 442</i>	<i>Metal for Structures</i>
<i>Item 459</i>	<i>Gabion and Gabion Mattresses</i>
<i>Item 496</i>	<i>Removing Structures</i>
<i>Item 500</i>	<i>Mobilization</i>
<i>Item 502</i>	<i>Barricades</i>
<i>Item 506</i>	<i>Temporary Erosion, Sedimentation, and Environmental Controls</i>
<i>Item 529</i>	<i>Concrete Curb, Gutter, and Combined Curb and Gutter</i>
<i>Item 550</i>	<i>Chain Link Fence</i>

Section 1 ADDENDA

[Insert Addenda Here If Applicable]

Section 2 NOTICE TO BIDDERS

NOTICE TO BIDDERS

Sealed bids addressed to the City of Tyler, Texas, will be received in the Purchasing Office, 304 North Border, Tyler, Texas 75702, Attention: Purchasing Manager, until 2:00 p.m., on **Tuesday, April 4, 2023** and will be publicly opened immediately afterwards in the City Council Chambers, 212 North Bonner, City Hall, 2nd Floor.

Sealed bids will be for furnishing all necessary materials, equipment, superintendence, and labor for construction of the following being improvements for the City of Tyler, Texas:

City of Tyler Bid Number: 23-022

Project Name: Lindsey Park GCAA Improvements

The project includes: Demolition of existing entryways. Coordinating and construction of new gateways including all lighting and landscape installation as described in design plans.

Forms of proposal, contract, bonds, insurance, plans and specifications may be obtained at the office of the Design Engineer, Erin Garner, 1718 W. Front Street Tyler TX 75701.

A Pre-Bid Conference will be held on Wednesday, March 29, 2023, at 10:00 a.m. located at the Project Site at 12557 TX-364 Spur W, Tyler, Texas 75709. The Pre-Bid Conference will be mandatory. Questions concerning this project shall be directed to Erin Garner, 903-531-1335 or egarner@tylertexas.com

Please Note: In accordance with House Bill 1295, for certain contracts entered into on or after January 1, 2016, the successful bidder must submit a Certificate of Interested Parties (Form 1295) at the time the signed contract is submitted to the CITY. See Section 19, "Certificate of Interested Parties".

City of Tyler,
Edward Broussard, City Manager

Publish: Tyler Morning Telegraph, Tyler, Texas

PUBLICATION DATES:

First (1st) Publication: Wednesday, March 8, 2023

Second (2nd) Publication: Wednesday, March 15, 2023

Third (3rd) Publication: Wednesday, March 22, 2023

Section 3

INSTRUCTIONS TO BIDDERS

3.1 PROPOSAL FORM

The **CITY** will furnish bidders with proposal forms which state the general location and description of the contemplated Work, an approximate estimate of the materials to be furnished and/or Work to be done and upon which bid prices are asked, and the time in which the Work is to be completed. The **Proposal** form will provide a space for entering the amount of proposal guaranty.

3.2 EXAMINATION OF PLANS, SPECIFICATIONS AND SITE OF THE WORK

Bidders are advised that the plans, specifications, and other documents on file with the **CITY** will constitute all the information furnished by the **CITY**. Bidders are required, prior to submitting any bid package, to read the specifications, **Proposal**, contract and bond forms carefully, to visit the site of the Work, to examine carefully local conditions, to inform themselves by their independent research, tests, and investigations of the difficulties to be encountered and assess for themselves the accessibility of the Work and all attending circumstances affecting the cost of doing the Work and time required for its completion, and obtain all information required to make an intelligent bid. No information given by the **CITY** or any officials thereof, other than that shown on plans and contained in the specifications, **Proposal** and other documents, will be binding upon the **CITY**. Bidders must rely exclusively upon their own estimates, investigations, tests, and other data which are necessary for full and complete information upon which the bid may be based. It is mutually agreed that submission of a bid package is evidence that the bidder has made the examinations, investigations, and tests required herein. Should a bidder find discrepancies in, or omissions from the plans, specifications or other documents, or be in doubt as to their meaning, the bidder should notify the **CITY** immediately and obtain a clarification prior to submitting any bid package. Claims for additional compensation due to variations between conditions actually encountered in construction and as indicated by the plans will not be allowed.

3.3 PRE-BID CONFERENCE

If a Pre-Bid Conference is scheduled, it will be set a minimum of four (4) working days prior to the bid opening time. If attendance at the Pre-Bid Conference is mandatory due to the size or nature of the project, bidders must attend to ensure their understanding of the project scope as well as the **CITY'S** bidding and contracting requirements; a bidder's absence from a mandatory Pre-Bid Conference shall result in disqualified from bidding.

3.4 ADDENDA

Should a bidder find discrepancies in, or omissions from the plans or specifications or other contract documents, or should he be in doubt as to their meaning, he should at once notify the Project Designer in order that a written addendum may be sent to all bidders. Bidders desiring further information or interpretations must make request for such information to the Project Designer prior to four (4) working days before the time of the bid opening. The person submitting the request will be responsible for its prompt delivery. Appropriate clarification and addenda will be issued at least forty-eight (48) hours prior to the time of the bid opening. Answers to all such requests will be given in writing to all bidders, in addendum form, and all addenda will be bound with and made a part of the contract documents. No other explanation or interpretation will be considered official or binding. Any addenda issued will be mailed, faxed or delivered to each person to whom a set of such documents has been furnished and receipt of same must be acknowledged by noting the addendum number and date of receipt of said addenda in the space

provided on the *Proposal* form. The proposal, as submitted by the **CONTRACTOR**, will be so constructed as to include any addenda if such are issued by the Project Designer (prior to forty-eight (48) hours of the bid opening).

3.5 QUANTITIES IN PROPOSAL FORM

The quantities of the Work and materials set forth in the *Proposal* form or on the plans approximately represent the Work to be performed and materials to be furnished, and are for the purpose of comparing the bids on a uniform basis. Payment will be made by the **CITY** to the **CONTRACTOR** only for the actual quantities of Work performed or materials furnished in accordance with the plans and specifications, and it is understood that the quantities may be increased or decreased as provided for in Section 16.13.2 "Estimated Quantities", without in any way invalidating the bid prices.

3.6 UNIT PRICES

Unit prices written in words will be the basis for the award of the proposal. Unit prices are used by the **CITY** in scheduling interim payments to the **CONTRACTOR**. The unit price written in words, multiplied by the estimated bid quantity, will be used to determine the item extension and the actual total bid price. All mathematical errors found when the bids are tabulated will be corrected by the **CITY**, and the bids will be revised to reflect the correct item extension and/or total bid price. The corrected total bid amount will then become the official proposal for that **CONTRACTOR**. All bidders will be notified of any errors in their bid, and will be notified and given the opportunity to review the official bid tabulation prior to award recommendation.

The unit prices shown in the proposals must be balanced to reflect actual cost of the item, including a fair and reasonable cost for overhead and profit. If the unit price is considered to be unbalanced, the **CITY** reserves the right to reject the entire proposal. If required by the **CITY**, the **CONTRACTOR** must provide documentation to substantiate that the unit prices reflect fair and reasonable material costs, labor costs, overhead and profit, as determined by industry standards.

3.7 PROJECT COMPLETION TIME

Project completion time will be established according to the requirements of the *Proposal*. The amount bid for the contract will adequately represent the effort required to complete the project within the specified time on the *Proposal*.

3.8 ASSIGNMENT AND SUBCONTRACTING

The **CONTRACTOR** will retain full control and will give personal attention to the fulfillment of this contract and will not assign by Power of Attorney or otherwise without the written consent of the **CITY**.

The **CONTRACTOR** may utilize the services of specialty subcontractors on those parts of the Work which, under normal contracting practices, are performed by specialty subcontractors. However, the **CONTRACTOR** shall not employ any subcontractor against whom the **CITY** may have a reasonable objection.

The **CONTRACTOR** must perform, with the **CONTRACTOR'S** own forces, at least thirty percent (30%) of the total contract, based on unit bid prices, unless this requirement is waived by the **CITY**.

Subcontracting any portion or feature of the Work, or materials required in the performance of this contract, shall not relieve the **CONTRACTOR** from his full obligations to the **CITY**, as provided by this AGREEMENT. The **CONTRACTOR** will be fully responsible to the **CITY** for the acts and omissions of subcontractors, and of persons either directly or indirectly employed by them, as the **CONTRACTOR** is for the acts and omissions of persons directly employed by the **CONTRACTOR**.

The **CONTRACTOR** must cause appropriate provisions to be inserted in all subcontracts relative to the Work, to bind subcontractors to the **CONTRACTOR** by the terms of the contract documents, insofar as applicable to the Work of the subcontractors, and to give the **CONTRACTOR** the same power as regards to terminating any subcontract that the **CITY** may exercise over the **CONTRACTOR** under any provision of the contract documents.

In the event that a portion of the Work is subcontracted, the **CITY** will not recognize such subcontractors in supervision of the construction or in making monthly payments for Work accomplished. The **CONTRACTOR** shall be primarily responsible for all Work, and shall receive all payments. Nothing contained in this contract shall create any contractual relation between any subcontractor and the **CITY**.

3.9 OUT-OF-STATE CONTRACTORS

All out-of-state **CONTRACTORS** are required to submit with their bid package a copy of any law from their state of residence which would give a preference to **CONTRACTORS** domiciled in their state over out-of-state **CONTRACTORS**.

3.10 NON-DISCRIMINATORY EMPLOYMENT

The City Council adopted on October 21, 1975, a Resolution requiring non-discriminatory employment by persons who contract with the **CITY** to supply labor, materials, goods, or services to the **CITY**. A copy of the latest City Manager's *Policy Statement On Equal Employment Opportunity* shall be included in the contract documents and is on file in the City Clerk's Office. The **CONTRACTOR** and **CONTRACTOR'S** subcontractors or agents must not engage in any discriminatory employment practices.

3.11 WAGE RATES

Wage rates for the various classes of labor involved in the project shall be not less than those prevailing for each class of labor in this area. Time and one-half shall be paid all workers, whether skilled or semi-skilled, for all labor done in excess of forty (40) hours weekly. The inclusion, if any, of a schedule of minimum wage does not relieve the **CONTRACTOR** from responsibility to comply with any State or Federal wage law that may be applicable.

The **CONTRACTOR** shall deduct from all workers' wages social security, withholding tax, and all deductions required by law and shall not make any deductions other than those required or authorized by law.

3.12 PROPOSAL GUARANTY (BID BOND)

Bidders must submit an acceptable Cashier's or Certified Check upon a national or state bank in the amount of five percent (5%) of the total maximum bid payable without recourse to the City of Tyler, Texas, or an acceptable *Bid Bond* in the same amount from a reliable surety company, registered by the State Board of Insurance to conduct business in the State of Texas, and acceptable

according to the most recent list of the companies holding Certificates of Authority from the Secretary of the Treasury of the United States, shown on the Treasury List, as a guarantee that the bidder will enter into a contract. The proposal guaranty must be enclosed in the same envelope containing the bid package. Bid packages without the required enclosed check or ***Bid Bond*** will not be considered. All proposal guaranties will be returned un-negotiated, after the bids are opened, except those of the three (3) lowest bidders, which the **CITY** may elect to hold until the successful bidder has executed the contract.

3.13 PREPARATION OF PROPOSAL

The bidder has the option of either submitting the proposal on the forms furnished by the **CITY** in the contract documents, or submitting a computer print-out proposal in lieu of the **CITY'S Proposal** form.

Preparation of Proposal on forms supplied by CITY:

All blank spaces in the form must be correctly filled in and the bidder must state the prices, typed or written in ink, both in words and numerals, for which the bidder proposes to do the Work contemplated or furnish the material required. It will be the bidder's responsibility to ensure that all unit prices written in words will be clear and legible. Illegibly written unit prices will result in the proposal being rejected and will not be considered as an irregularity of the proposal. In case of a discrepancy between the unit price written in words, the unit price written in figures, and/or the item extension written in figures, the unit price written in words will govern.

The Total Bid Price must be shown in both numbers and words.

Acknowledgement of all addenda, typed name and title of person signing proposal, authorized signature and date shall also be included.

Preparation of Proposal on computer print-out supplied by bidder:

The computer print-out proposal shall be in spreadsheet format, using software of the bidder's selection. As a minimum, a computer print-out must include the following information: Bid Item Number, Approximate Quantities, Unit of Measure, Bid Item Description, Written Unit Price, Unit Bid Price, Extended Price (Amount), as well as Total Bid Price. Line items must be in the same order as on the **CITY'S Proposal** form (see example below).

Bid Item	Quantity	Unit	Item Description and Written Unit Price	Unit Price	Amount
----------	----------	------	--	------------	--------

The Total Bid Price must be shown in both numbers and words.

Acknowledgement of all addenda, typed name and title of person signing proposal, authorized signature and date shall also be included.

All computer print-out proposals shall be delivered, in hard copy (i.e. no fax or e-mail submittals) to the designated location, at or before the designated time and include the following certification:

(*Name of Bidder*) certifies that the unit prices shown on this complete computer print-out for all the bid items and alternates contained in this proposal are the unit prices intended and that its bid will be tabulated using these unit prices and no other information from this print-out. (*Name of Bidder*) acknowledges and agrees that the total bid amount shown will be read as its total bid and further agrees that the official total bid amount will be determined by multiplying the unit bid prices shown in this print-out by the respective estimated quantities shown in the City of Tyler issued proposal and totaling all of the extended amounts.

Typed Name: _____
 Title: _____
 Signature: _____
 Date: _____

3.14 SIGNATURE REQUIREMENTS OF PROPOSAL

1. If a proposal is submitted by an **individual**, the proposal must be signed by the individual or the individual's duly authorized agent.
2. If the proposal is submitted by a **firm, association, partnership or company**, the name and address of each member must be given and the proposal signed by a member of the firm, association, partnership, company or person duly authorized.
3. If the proposal is submitted by a **corporation**, the company or corporate name and address must be given and the proposal signed by an official or duly authorized agent and sealed with the corporate seal. Powers of attorney authorizing agents or others to sign proposals must be properly certified and must be in writing and submitted with the proposal.

3.15 FILING OF BID PACKAGES

No bid package will be considered unless it is received in the Water Utilities Administrative Office, Tyler, Texas within the time limit for receiving bid packages as stated in the advertisement. Each bid package must be in a sealed envelope, plainly marked with the word "proposal", and the project name and time and date the bid package is to be opened as designated in the ***Notice to Bidders***.

The bid package must consist of the following items to be considered complete:

1. Acknowledgment of all addenda
2. ***Proposal***
3. ***Bid Bond***

Any bid package received without each of the required items may be rejected and may not be read at the bid opening.

CONTRACTORS building public streets and drainage, water and/or sewer facilities (not including specialty work such as pipeline camera inspection, interior lining of pipes, etc.) shall have a fully executed ***Contractor's Qualification Statement*** on file with the **CITY** prior to bid opening or include it as part of the **CONTRACTOR'S** bid package. Forms are available for download at <https://www.cityoftyler.org/government/departments/engineering-services/engineering-and-construction-standards>. **CONTRACTORS** performing any other type of work (i.e., not public streets, drainage or utilities) are not required to have a ***Contractor's Qualification***

Statement on file or include it as part of the bid package unless required by a City Operational Department. Other information from the **CONTRACTOR** such as company history, relevant work experience, project references, etc. may be required in lieu of the **Contractor's Qualification Statement**.

3.16 WITHDRAWING OR MODIFYING BID PACKAGES

A bidder may withdraw a bid package provided a written request to do so is in the hands of the official indicated in the **Notice to Bidders** by the time set for opening of bid packages. A bidder may change the unit prices in the proposal provided a written request to do so is in the hands of the Purchasing Agent prior to the time set for opening of bid packages. Requests by telephone or FAX for changes in bid prices or for withdrawal of bid packages will not be considered. No bid packages will be withdrawn within thirty (30) calendar days after the bid opening.

3.17 OPENING BID PACKAGES

The bid package filed with the Purchasing Agent will be opened at the time stated in the **Notice to Bidders** and publicly read aloud, and will thereafter remain on file with the **CITY**. Bidders or their agents are invited to be present.

3.18 IRREGULAR PROPOSALS

Proposals will be considered irregular if they show any omissions, alterations of form, additions, or conditions not called for, unauthorized alternate bids, or irregularities of any kind. However, the **CITY** reserves the right to waive any irregularities and to make the award in the best interests of the **CITY**.

3.19 DISQUALIFICATION OF BIDDERS

Bidders may be disqualified and their bid package not considered for any of the following specific reasons:

1. Reason to believe collusion exists among the bidders.
2. The bidder is in arrears on any existing contract or has defaulted on a previous contract.
3. The bidder is interested in any litigation against the **CITY**.
4. Uncompleted Work which in the judgment of the **CITY** will prevent or hinder the prompt completion of additional Work if awarded.
5. Poor performance in the execution of Work under previous contracts.
6. The bidder is determined to have an unacceptable safety record.
7. Incomplete bid packages (*see* Section 3.15, "Filing of Bid Packages").
8. Proposals in which prices are obviously unbalanced (*see* Section 3.6, "Unit Prices").
9. Proposals which are irregular (*see* Section 3.18, "Irregular Proposals").
10. **CONTRACTORS** not qualified to perform this Work, as determined by the **CITY**.
11. **CONTRACTOR** is not on **CITY'S** Approved Contractors List or **Contractor's Qualification Statement** is not on file with the **CITY** prior to bid opening nor included as part of the bid package.
12. Failure to have an authorized agent of the bidder at a Pre-Bid Conference, when attendance is mandatory.

3.20 CONSIDERATION OF PROPOSALS

After bid packages are opened, the proposals will be tabulated for comparison on the basis of the bid prices and quantities shown in the proposal.

3.21 CITY MAY REJECT BID PACKAGES

Until final award of the contract, the **CITY** reserves the right to reject any or all bid packages, to waive technicalities, and to re-advertise for new bids, or proceed to do the Work otherwise in the best interests of the **CITY** (TEX. LOC. GOV'T CODE ANN. §252.043(f); §271.027(a)).

3.22 AWARD OF CONTRACT

After all submitted bid packages have been opened and read aloud, the proposals submitted will be reviewed and tabulated in order from low to high bid. Upon request, a copy of the tabulation will be forwarded to each bidder submitting a qualified bid package.

The award of the contract, if it is awarded, will be to the lowest responsible bidder in accordance with the **General Conditions**. The tabulated bids, along with the recommendation of the Project Designer shall be placed on the agenda of a regularly scheduled City Council Meeting within thirty (30) calendar days of bid opening.

If the contract is awarded, it will be awarded to the lowest responsible bidder, but the contract may not be awarded to a bidder who is not the **lowest bidder** unless before the award, the **CITY** gives notice to each lower bidder of the proposed award and each lower bidder is given an opportunity to appear before the City Council, or the designated representative of the City Council, and present evidence concerning the bidder's responsibility. TEX. LOC. GOV'T CODE ANN. § 271.027. Notification of the City Council action will be issued to the affected bidders.

3.23 RETURN OF BIDDER'S BOND

As soon as bid prices have been tabulated for comparison of bids, the **CITY** may, at its discretion, return the proposal guaranties accompanying the bid packages which, in its judgment, would not be considered in the award; all other proposal guaranties will be retained by the **CITY** until the required contract and bonds have been executed, after which they will be returned. No proposal guaranties will be returned until at least two (2) calendar days have elapsed from time of opening bid packages.

3.24 SUBMISSION OF POST BID INFORMATION

Upon request by the **CITY**, the selected bidder must, within seven (7) calendar days thereafter, submit the following:

1. A designation of the Work to be performed by the bidder with the bidder's own forces.
2. A list of names of the subcontractors or other persons or organizations (including those who are to furnish materials or equipment fabricated to a special design) proposed for such portions of the Work as may be designated in the bidding documents or, if no portions are so designated, the names of the subcontractors proposed for stated portions of the Work.

The bidder will be required to establish to the satisfaction of the Project Designer and the **CITY** the reliability and responsibility of the proposed subcontractors to furnish and perform such portions of the Work. Prior to the award of the contract, the Project Designer will notify the bidder in writing if either the **CITY** or the Project Designer, after due investigation, has reasonable and substantial objection to any person or organization on such list. Subcontractors and other persons and organizations proposed by the bidder and accepted by the **CITY** and the Project Designer must be used on the Work for which they were proposed and accepted and will not be changed except

with the written approval of the **CITY** and the Project Designer.

3.25 CONTRACT BONDS

The **CONTRACTOR** is required, pursuant to TEX. GOV'T CODE ANN. § 2253.021, and/or the *Standard Form of Agreement* to execute all bonds before commencing the work. The contract shall not be in effect until **CONTRACTOR** executes the AGREEMENT and files with the **CITY** a good and sufficient *Statutory Performance and Maintenance Bond and Payment Bond* (when applicable) or *Payment Bond* on standard forms and in the amount equal to one hundred percent (100%) of the total amount of the contract. Such bonds are furnished by the **CONTRACTOR** and approved by the **CITY**.

A *Performance and Maintenance Bond and Payment Bond* shall be required for contract amounts in excess of one hundred thousand dollars (\$100,000).

Payment Bond shall be required for all projects regardless of value.

Within fifteen (15) calendar days after written notification of the award of the contract, the **CONTRACTOR** shall submit *Statutory Performance and Maintenance Bond and Payment Bond* (when applicable) or *Payment Bond* to **CITY** on standard forms as required by the AGREEMENT.

3.26 INSURANCE

CONTRACTOR agrees, at its sole expense, to maintain on a primary basis during the life of the Contract and the performance of Work, required insurance coverages, limits, and endorsements. Insurance required by the AGREEMENT for the **CITY** as additional insured shall be primary insurance and not contributing with any other insurance available to **CITY**.

CONTRACTOR agrees to provide evidence of the required coverages at execution of contract. In the event the **CONTRACTOR** performs any site work, other than testing, then all the insurance required will need to be evidenced prior to commencement of said site work.

3.27 EXECUTION OF CONTRACT

The person(s), partnership, company, firm, association or corporation to whom a contract is awarded must, within fifteen (15) calendar days after receipt of the contract, sign the necessary agreements entering into the required contract with the **CITY**. No contract will be binding on the **CITY** until it has been approved by the City Attorney, executed by the City Manager, attested by the City Clerk, and delivered to the **CONTRACTOR**.

3.28 FAILURE TO EXECUTE CONTRACT

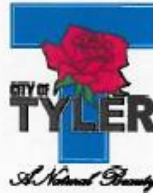
The failure of the bidder to execute the required bonds or to sign the required contract within fifteen (15) calendar days after receipt of the contract will be considered by the **CITY** as an abandonment of the proposal and the **CITY** may annul the award. By reason of the uncertainty of the market prices of materials and labor, and it being impracticable and difficult to determine accurately the amount of damages accruing to the **CITY** by reason of said bidder's failure to execute said bonds and contract within said fifteen (15) calendar days, the proposal guaranty accompanying the proposal will be the agreed amount of damages which the **CITY** will suffer by reason of such failure on the part of the bidder, and will thereupon immediately be forfeited to the **CITY**. The filing of a bid package will be considered as an acceptance of this provision.

3.29 BEGINNING OF WORK

The **CONTRACTOR** will not begin Work until notified in writing by the **CITY** to do so.

Section 4 POLICY STATEMENT ON EEO

Edward Broussard
City Manager



The City of Tyler
Office of the City Manager
P.O. Box 2039
Tyler, Texas 75710-2039

Phone: (903) 531-1253
Fax: (903) 531-1166
www.cityoftyler.org

POLICY STATEMENT ON EQUAL EMPLOYMENT OPPORTUNITY

The City of Tyler takes positive steps to maintain and promote equal opportunity for all individuals. The following policy statement is to keep you advised of the commitment of the City of Tyler, Texas, toward equal employment opportunity and to ensure that none of its personnel policies, procedures or practices unlawfully discriminate against any individual.

You are urged to share this commitment in your employment practices and procedures.

2-1

Need for a policy

Equal opportunity for all people, without regard to race, color, religion, sex, age, disability, national origin or other protected status, is part of the American ideal. Local governments, as a mirror of public policy, can make vital contributions toward this ideal by taking affirmative action to provide equal employment opportunities for all.

Statement of Policy

It is the policy of the City to recruit, employ and provide compensation, promotion and other conditions of employment without regard to race, color, religion, sex, age, national origin, disability, genetic information or status as a Vietnam era or special disabled veteran, recently separated veteran and other protected veteran. The City affirms that employment decisions shall be made only on the basis of a person's ability to perform essential functions of the job. The City shall continually review its employment practices and personnel procedures to take positive steps to ensure that equality of employment opportunity in the City of Tyler, Texas is a fact as well as an ideal.

Application

Rose Ray, (rray@tylertexas.com) (903-531-1103), has been designated as EEO Coordinator with authority and responsibility to develop and recommend strategies to ensure the achievement of the intent of the Policy. This Policy shall be uniformly applied by all levels of management in every department, work unit and other component of the City.

Responsibility

Each department leader and supervisor is responsible for the application of this Policy within his/her component. This includes all supporting programs and practices developed in accordance with this Policy. All employees of the City are responsible for cooperating with any reviews, investigations and other activities initiated within the framework of this Policy. To achieve ultimate effectiveness in the application of this Policy, the cooperation, support and commitment of every employee is essential.

Edward Broussard
City Manager

Section 5 PROPOSAL

Proposal for CIP Contract to The City of Tyler, Texas

Date of Bid: 04/04/2023

The undersigned, as bidder, in compliance with CITY'S *Notice To Bidders* for construction of:

City of Tyler Bid Number: 23-022

Project Name: Lindsey Park GCAA Improvements

for the City of Tyler, Smith County, Texas, declares that the only person or parties interested in this proposal as principals are those named herein, that this proposal is made without collusion with any other person, firm, or corporation, that he has carefully examined the form of contract, *Instructions to Bidders*, specifications, and the plans therein referred to, and has carefully examined the locations, conditions, and classes of materials of the proposed work; and agrees that he will provide all the necessary labor, machinery, tools, apparatus, and other items incidental to construction, and will do all the work and furnish all the materials called for in the contract and specifications in the manner prescribed therein and according to the requirements of the Engineer as therein set forth, for the following unit prices.

It is understood that the following quantities of work to be done at unit prices are approximate only, and are intended principally to serve as a guide in evaluating bids.

It is further agreed that the following quantities of work to be done at unit prices and materials to be furnished may be increased or decreased as may be considered necessary, in the opinion of the Engineer, to complete the work fully as planned and contemplated, and that all quantities of work, whether increased or decreased are to be performed at the unit prices set forth below except as provided for in the specifications.

It is further agreed that lump sum prices may be increased by change order to cover additional work ordered by the Engineer, but not when on the plans or required by the specifications, or in accordance with the *General Conditions* and *Special Conditions* and requirements. Similarly, they may be decreased to cover deletion of work so ordered.

It is further agreed that the unit and lump sum prices shall be shown in words and figures for each item listed in this proposal, and in the event of discrepancy, the words shall control, and should the bid price on any item be completely omitted, the proposal will be considered incomplete, and the proposal will be disqualified. It is understood and agreed that the work is to be completed in full either:

- 1) ☒ within thirty, (30) working days after the date specified in the written *Notice to Proceed*,
or
- 2) ☐ on or before the **mandatory completion** date of Enter mandatory completion date,
subject to such extensions of time as are provided by the *General Conditions*.

Accompanying this proposal is a ☒ **Bid Bond**, ☐ Certified Check, or ☐ Cashier's Check payable to the City of Tyler for:

AMOUNT:

and _____ Dollars
_____ Cents

\$ _____

The undersigned certifies that the bid prices contained in this proposal have been carefully checked and are submitted as correct and final.

Receipt is hereby acknowledged of the following addenda to the Contract Documents:

ADDENDUM NO. 1 _____ Received _____

ADDENDUM NO. 2 _____ Received _____

ADDENDUM NO. 3 _____ Received _____

ADDENDUM NO. 4 _____ Received _____

ADDENDUM NO. 5 _____ Received _____

Bidder

Street Address

Signature

City, State, Zip

Printed Name

Telephone Number

Title

Date

BASE BID:**BASE BID:**

Bid Item	Quantity	Unit	Item Description and Written Unit Price	Unit Price	Amount
1	1	LS	Mobilization (TXDOT 0500-6001)		
			Dollars		
			Cents	\$	\$
2	1	LS	Construction Survey (TXDOT 5)		
			Dollars		
			Cents	\$	\$
3	3	MO	Barricades, Signs & Traffic Handling (TXDOT 0502-6001)		
			Dollars		
			Cents	\$	\$
4	4	CY	Concrete Removal (TXDOT 0104-6017)		
			Dollars		
			Cents	\$	\$
5	38	LF	Concrete Curb Removal (TXDOT 0104-6022)		
			Dollars		
			Cents	\$	\$
6	30	SY	Tree Protection (TXDOT 0192-6017)		
			Dollars		
			Cents	\$	\$
7	50	LF	Removal & Relocation of Pipe Rail Fence (TXDOT 0496-6051)		
			Dollars		
			Cents	\$	\$
8	590	LF	Erosion Control Silt Fence, Install (TXDOT 0506-6038)		
			Dollars		
			Cents	\$	\$

Bid Item	Quantity	Unit	Item Description and Written Unit Price	Unit Price	Amount
9	590	LF	Erosion Control Silt Fence, Removal (TXDOT 0506-6039)		
			Dollars		
			Cents	\$	\$
10	30	LF	8" Erosion Control Log, Install (TXDOT 0506-6040)		
			Dollars		
			Cents	\$	\$
11	30	LF	8" Erosion Control Log, Removal (TXDOT 0506-6043)		
			Dollars		
			Cents	\$	\$
12	100	LF	Removal, Existing Chain Link Fence (TXDOT 0550-6003)		
			Dollars		
			Cents	\$	\$
13	180	CY	Gabion Basket wall with Dry Stack Stone (TXDOT 0459-6002)		
			Dollars		
			Cents	\$	\$
14	54	LF	6" Curb with 24" gutter (TXDOT 0529-6013)		
			Dollars		
			Cents	\$	\$
15	2	EA	Archway with poles, compete in place (TXDOT 0442-6007)		
			Dollars		
			Cents	\$	\$
16	1700	SY	Fine Grading with Top Soil finish (TXDOT 0160-6006)		
			Dollars		
			Cents	\$	\$
17	15635	SF	Block Sod (TXDOT 0162-6002)		
			Dollars		
			Cents	\$	\$

Bid Item	Quantity	Unit	Item Description and Written Unit Price	Unit Price	Amount
18	30	MG	Vegetative Watering, 2 Weeks (TXDOT 0168-6001)		
			Dollars		
			Cents	\$	\$
19	3	MO	Plant Maintenance (TXDOT 0193-6001)		
			Dollars		
			Cents	\$	\$
20	84	CY	Gabion Soil Type 1 (TXDOT 0192-6088)		
			Dollars		
			Cents	\$	\$
21	84	CY	Gabion Soil Type 2 (TXDOT 0192-6089)		
			Dollars		
			Cents	\$	\$
22	14	CY	Gabion Hardwood Mulch (TXDOT 0192-6012)		
			Dollars		
			Cents	\$	\$
23	2400	SF	Gabion Planter Bed Preparation (TXDOT 0192-6016)		
			Dollars		
			Cents	\$	\$
24	136	EA	Shrubs, 1 gal (TXDOT 0192-6028)		
			Dollars		
			Cents	\$	\$
25	12	EA	Shrubs, 3 gal (TXDOT 0192-6030)		
			Dollars		
			Cents	\$	\$

Bid Item	Quantity	Unit	Item Description and Written Unit Price	Unit Price	Amount
26	64	EA	Shrubs, 5 gal (TXDOT 0192-6031)		
			Dollars		
			Cents	\$	\$
27	52	EA	Shrubs, 7 gal (TXDOT 0192-6072)		
			Dollars		
			Cents	\$	\$
28	292	EA	Groundcover, 1 gal (TXDOT 0192-6028)		
			Dollars		
			Cents	\$	\$
29	440	EA	Groundcover, 4" pots (TXDOT 0192-6001)		
			Dollars		
			Cents	\$	\$
30	4	EA	Ornamental Tree, 8' to 10' ht (TXDOT 0192-6038)		
			Dollars		
			Cents	\$	\$
31	2	LS	Drip Irrigation, Design Build (TXDOT 0170-6001)		
			Dollars		
			Cents	\$	\$

ADD ALTERNATES:

Bid Item	Quantity	Unit	Item Description and Written Unit Price	Unit Price	Amount
A1	42	CY	Full Depth Removal of Asphalt		
			Dollars		
			Cents	\$	\$
A2	42	TONS	Roadway Colorado 5-12" Pancake Rock paving material		
			Dollars		
			Cents	\$	\$
A3	400	CF	Compaction Grouting		
			Dollars		
			Cents	\$	\$
A4	80	LF	18" x 8" Concrete Edge		
			Dollars		
			Cents	\$	\$
			, for		
			Dollars		
			Cents	\$	\$
			, for		
			Dollars		
			Cents	\$	\$
			, for		
			Dollars		
			Cents	\$	\$
			, for		
			Dollars		
			Cents	\$	\$

BID SUMMARY**BASE BID TOTAL**

_____ Dollars
and _____ Cents

\$ _____

ADD ALTERNATES TOTAL

_____ Dollars
and _____ Cents

\$ _____

BASE BID TOTAL + ADD ALTERNATIVES = TOTAL BID

_____ Dollars
and _____ Cents

\$ _____

STATEMENT OF MATERIALS AND OTHER CHARGES

For purposes of complying with TEX. TAX CODE ANN. Title 2., Subtitle E., Chapter 151, Subchapter C. § 151.056; Subchapter H. § 151.301, § 151.309, § 151.311, the **CONTRACTOR** agrees that the charges for any material incorporated into the project in excess of the estimated quantity provided for herein will be no less than the invoice price for such material to the **CONTRACTOR**.

Value of Materials Incorporated Into the Project:	\$ _____
Value of All Other Charges:	\$ _____
*Total:	\$ _____

- * This statement may be submitted with ***Proposal*** and the total must agree with the **total bid** figure shown in the Bid Summary section above.

Section 6 BID BOND

Check Here if this Section is NOT Used ☐

THE STATE OF TEXAS

§

COUNTY OF SMITH

§

§

BID BOND

THAT, _____ [contractor], as **PRINCIPAL**,
and _____ [surety], as **SURETY**,
acknowledge their indebtedness and are held and firmly bound unto the City of Tyler (CITY),
Texas in Smith County, as **OBLIGEE**, in the amount of

_____ [insert
figure using written words], (\$ _____) [insert numerical figure]
payable to the City of Tyler, Texas for the payment of which, the said **PRINCIPAL** (Contractor)
and **SURETY** bind themselves, and their heirs, administrators, executors, successors, legal
representatives, and assigns, jointly and severally, firmly by these presents.

PRINCIPAL (Contractor) is about to submit to **OBLIGEE** (City) a bid or proposal for:

City of Tyler Bid Number 23-022

Project Name Lindsey Park GCAA Improvements

in accordance with plans and specifications filed in **OBLIGEE'S** (City's) office and under the
Request for Quotation (RFQ) / Request for Proposal (RFP) / Invitation to Bid therefor.

NOW THEREFORE:

THE CONDITION OF THIS OBLIGATION IS THAT IF:

- 1) the bid or proposal is rejected, or
- 2) the bid or proposal of **PRINCIPAL** (Contractor) is accepted; and
 - a. the contract for the work is awarded to **PRINCIPAL** (Contractor) by **OBLIGEE** (City),
 - b. **PRINCIPAL** (Contractor) enters into a written contract in the form of contract provided in these contract documents (properly completed in accordance with the bid),
 - c. **PRINCIPAL** (Contractor) furnishes a **Performance and Maintenance Bond** for the performance of the work as required by law and/or the AGREEMENT,
 - d. **PRINCIPAL** (Contractor) furnishes a **Payment Bond** for the payment of all persons performing labor or furnishing materials in connection therewith as required by law and/or the AGREEMENT, and
 - e. **PRINCIPAL** (Contractor) in all other respects performs the agreement created by the acceptance of the bid,

then this obligation will be null and void; otherwise, subject to the following limitation, it will remain in full force and effect.

The limitation referred to above is that surety, in any event, will not be liable for a greater amount than the difference between the amount of principal's bid or proposal and the lowest amount in excess of that bid or proposal for which **CITY** may be able to award the contract within a reasonable time.

The **SURETY**, for value received, hereby stipulates and agrees that the obligations of said

SURETY and its Bond shall be in no way impaired or affected by any extension of the time within which the **OBLIGEE** (City) may accept such bid; and said **SURETY** does hereby waive notice of any such extension.

I (WE) CERTIFY that the **SURETY** is registered by the State Board of Insurance to conduct business in the State of Texas, and acceptable according to the latest list of companies holding Certificates of Authority from the Secretary of the Treasury of the United States, shown on the Treasury List.

I (WE) CERTIFY that the **SURETY** has reviewed the financial condition of the **PRINCIPAL** and the **PRINCIPAL'S** qualification to perform the work required by this project.

IN WITNESS WHEREOF the **PRINCIPAL** (Contractor) and **SURETY** have hereunto set their hands and seals, and such of them as are corporations have caused their corporate seals to be hereunto affixed and these presents to be signed by their proper officers, the day and year set forth below.

Signed this _____ day of _____, 20_____.

BOND NUMBER: _____

PRINCIPAL (Contractor)

SURETY

Printed Name of Principal

Printed Name of Surety

Physical Address

Physical Address

Mailing Address

Mailing Address

Telephone Number

Telephone Number

By:

Signature

By:

Signature

Title

Title

SURETY'S SEAL:

******* NOTE *******

If signed by an Attorney-in-Fact a copy of the Power of Attorney shall be attached, or

If signed by an officer of the Surety Company a certified extract from the by-laws showing that this person has authority to sign obligation shall be attached.

Section 7**STANDARD FORM OF AGREEMENT**

THE STATE OF TEXAS	§	STANDARD FORM OF AGREEMENT
	§	FOR
	§	
	§	CITY OF TYLER
	§	
COUNTY OF SMITH	§	CAPITAL IMPROVEMENT PROJECT (CIP)

City of Tyler Bid Number 23-022
Project Name Lindsey Park GCAA Improvements

THIS AGREEMENT, made and entered into this _____ day of _____, 20_____, by and between the City of Tyler, Texas, of the County of Smith and State of Texas, hereinafter termed "CITY", acting through the City Manager, and _____ [insert name of Contractor], of the City of _____, the County of _____, the State of Texas, hereinafter termed "CONTRACTOR".

THAT FOR AND IN CONSIDERATION of the payments and mutual covenants set forth in this *Standard Form of Agreement* and under the conditions expressed in the contract documents and in the bond bearing even date herewith, **CONTRACTOR** hereby agrees with **CITY** as follows:

WITNESSETH:**7.1 DESCRIPTION OF WORK**

CONTRACTOR will perform all the work required by the contract documents and said work shall be done under the supervision of the representative of the **CITY**. The work will consist of the completion of construction of certain improvements and all extra work in connection therewith, in accordance with the prices and conditions stated in the contract documents and at **CONTRACTOR'S** cost and expense to furnish all materials, supplies, machinery, equipment, tools, superintendence, labor, insurance, and other accessories and services necessary to complete the said construction.

7.1.1 If the Project is a "civil works" project, as defined by Sec. 2269.351 of Tex. Gov. Code Ann., then the *PROCEDURE FOR CORRECTING CONSTRUCTION DEFECTS* herein does NOT apply. "Civil works" projects are those related to roads, streets, bridges, utilities, water supply projects, water plants, waste water plants, water distribution and wastewater conveyance facilities, desalination projects, wharves, docks, airport runways and taxiways, storm drainage, flood control projects and transit projects.

7.1.2 If the Project is related to "public works" projects or construction contracts affecting City-owned buildings, then this contract IS SUBJECT TO ADDITIONAL PROVISIONS FOUND IN the *PROCEDURE FOR CORRECTING CONSTRUCTION DEFECTS* herein. "Public Works" is defined by Tex. Gov. Code Ann., Sec. 2269.001 (6) as a contract for constructing, altering, or repairing a public building or carrying out any public work.

7.1.3 If the *PROCEDURE FOR CORRECTING CONSTRUCTION DEFECTS* is applicable and there is a conflict between any other clause in this Agreement and the *PROCEDURE*, the *PROCEDURE* shall control.

7.2 CONTRACT DOCUMENTS

The contract documents constitute the entire AGREEMENT between the **CITY** and **CONTRACTOR**, and all are as fully a part of the AGREEMENT as if attached to or repeated in this *Standard Form of Agreement*.

The contract documents are as follows:

- *Notice to Bidders*,
- All addenda issued prior to execution of this *Standard Form of Agreement*,
- *Instructions to Bidders*,
- *CITY Policy Statement on Equal Opportunity Employment*,
- *Proposal*,
- Bid Bond and Special Bonds (if any),
- *Standard Form of Agreement*,
- *Statutory Performance and Maintenance Bond* and *Payment Bond* (if applicable),
- *Payment Bond*,
- Certificate(s) of Insurance,
- Endorsements,
- *Contractor's Affidavit of Bills Paid and Waiver and Lien Releases*,
- *Procedure for Correcting Construction Defects* (if applicable)
- *General Conditions*,
- *Special Conditions*,
- **CITY** specifications governing water and/or sanitary sewer installation within the **CITY** titled *City of Tyler Standard Specifications*,
- *Trench Safety Systems*,
- Plans and other drawings and printed or written explanatory matter thereof, and
- All field orders and change orders issued after execution of this *Standard Form of Agreement*.

In case of conflict between any of the contract documents, priority of interpretation shall be in the following order:

1. Signed *Standard Form of Agreement*,
2. *Performance and Maintenance Bond and Payment Bond* (if applicable) and/or *Payment Bond*,
3. Special Bonds (if any),
4. *Proposal*,
5. *Special Conditions*,
6. *Special Specifications*,
7. *City of Tyler Standard Specifications*,
8. *Technical Specifications*,
9. Plans, and
10. *General Conditions*.

7.3 TIME OF COMMENCEMENT AND COMPLETION

CONTRACTOR hereby agrees to commence work within ten (10) calendar days after the date specified in the *Notice to Proceed*, to diligently pursue the work without extended interruption and to **complete in full** the same either:

- 1) ☐ within Enter amount using words, (Enter amount using figures) Choose an item after the date specified in the written *Notice to Proceed*, or
- 2) ☐ on or before the **mandatory completion** date of Enter mandatory completion date, subject to such extensions of time as are provided by the *General Conditions*.

7.4 CONTRACT PRICE

CITY agrees to pay to the **CONTRACTOR** the contract amount of _____ [insert figure using written words], (\$_____) [insert numerical figure] such payments to be subject to the *General Conditions* of the contract.

7.5 BONDS

The **CONTRACTOR** is required, pursuant to TEX. GOV'T CODE ANN. § 2253.021, and/or this *Standard Form of Agreement* to execute all bonds before commencing the work. The contract shall not be in effect until **CONTRACTOR** executes the AGREEMENT and files with the **CITY** a good and sufficient *Statutory Performance and Maintenance Bond and Payment Bond* (when applicable) or *Payment Bond* on standard forms and in the amount equal to one hundred percent (100%) of the total amount of the contract. Such bonds are furnished by the **CONTRACTOR** and approved by the **CITY**.

A *Performance and Maintenance Bond and Payment Bond* shall be required for contract amounts in excess of one hundred thousand dollars (\$100,000).

Payment Bond shall be required for all projects regardless of value.

Within fifteen (15) calendar days after written notification of the award of the contract, the **CONTRACTOR** shall submit *Statutory Performance and Maintenance Bond and Payment Bond* (when applicable) or *Payment Bond* to **CITY** on standard forms as required by the AGREEMENT.

See Section 16.7, "Bonds" in the *General Conditions* for a description and explanation of the bonds required for this AGREEMENT.

7.6 INSURANCE

CONTRACTOR agrees, at its sole expense, to maintain on a primary basis during the life of this Contract and the performance of Work hereunder, insurance coverages, limits, and endorsements. Insurance required by this AGREEMENT for the **CITY** as additional insured shall be primary insurance and not contributing with any other insurance available to **CITY**.

CONTRACTOR agrees to provide evidence of the required coverages at execution of contract. In the event the **CONTRACTOR** performs any site work, other than testing, then all the insurance required by AGREEMENT will need to be evidenced prior to commencement of said site work.

See Section 16.8, “Insurance Required” in the *General Conditions* for the contractual types and amounts of insurance and endorsements required for this AGREEMENT.

See Section 10, “Certificate(s) of Insurance” for a chart and checklist providing a summary and overview of the insurance requirements.

See Section 11, “Endorsements” for a chart providing a summary and overview of the endorsement requirements.

In case of conflict between Section 10 and/or Section 11 and/or the insurance requirements described in the *General Conditions*, priority of interpretation shall be given first to the *General Conditions*.

7.7 CITY AND OTHERS INDEMNIFIED

CONTRACTOR AGREES TO INDEMNIFY, HOLD HARMLESS AND DEFEND THE **CITY**, ITS **PROJECT DESIGNER**, AND THEIR OFFICERS, DIRECTORS, EMPLOYEES, AND AGENTS, (COLLECTIVELY REFERRED TO AS THE “INDEMNIFIED PARTIES”) FROM AND AGAINST ALL LIABILITY FOR ANY AND ALL CLAIMS, LIENS, DEMANDS, AND DAMAGES OF EVERY KIND FOR INJURIES TO PERSONS INCLUDING DEATH, PROPERTY DAMAGE INCLUDING LOSS OF USE, AND EXPENSES INCLUDING ATTORNEY’S FEES (COLLECTIVELY, THE “HARM”) ARISING OUT OF OR RESULTING FROM THE PERFORMANCE OF THIS AGREEMENT, BUT ONLY PROPORTIONALLY TO THE EXTENT THAT THE HARM WAS CAUSED BY THE NEGLIGENT OR INTENTIONAL ACTS OR OMISSIONS OF (I) **CONTRACTOR**, (II) ANY PERSON OR ENTITY ACTING BY OR THROUGH THE AUTHORITY OF THE **CONTRACTOR** IN FURTHERANCE OF THE PERFORMANCE OF THIS CONTRACT, AND/OR (III) ANY SUBCONTRACTOR, OR ANYONE FOR WHOSE ACTS THE **CONTRACTOR** OR SUBCONTRACTOR IS LIABLE, REGARDLESS OF WHETHER OR NOT SUCH HARM OCCURRED ON PROPERTY BELONGING TO THE **CITY**. THE **CONTRACTOR**’S INDEMNIFICATION OBLIGATION PROVIDED HEREIN SHALL SURVIVE THE EXPIRATION OR TERMINATION OF THIS AGREEMENT. TO THE EXTENT PERMITTED BY APPLICABLE LAW, THE **CONTRACTOR**’S INDEMNIFICATION OBLIGATIONS PROVIDED HEREIN SHALL SURVIVE AND BE ENFORCEABLE BY THE INDEMNIFIED PARTIES (SUBJECT TO THE PROPORTIONALITY LIMITATIONS SET FORTH IN THIS PARAGRAPH) DESPITE A DETERMINATION OR FINDING OF CONCURRENT, COMPARATIVE, OR CONTRIBUTORY NEGLIGENCE OF EITHER THE **CONTRACTOR** OR THE INDEMNIFIED PARTIES.

CONTRACTOR agrees to comply with the Worker’s Compensation Act of the State of Texas and to pay or cause to be paid all compensation, medical or hospital bills which may become due and payable thereunder, and to indemnify, hold harmless and defend **CITY** from and against any and all liability by reason of injury of employees of **CONTRACTOR**. **CONTRACTOR** shall furnish **CITY** with a Certificate from its Insurance Carrier evidencing **CONTRACTOR**’S compliance therewith (*see* Section 16.8, “Insurance Required”).

CONTRACTOR AGREES TO COMPLY WITH ABOVE REQUIREMENTS IN CONNECTION WITH SERVICES AND/OR WORK COVERED UNDER THIS PROJECT.

7.8 VENUE

This agreement shall be construed in accordance with the laws of the State of Texas and the ordinances of the City of Tyler. Venue for any action brought to enforce or interpret this agreement

shall lie exclusively in a court of competent jurisdiction in Smith County, Texas for actions in state court, and in the Eastern District of Texas, Tyler Division, for actions in federal court.

7.9 AFFIDAVIT OF BILLS PAID AND FINAL PAYMENT TO CONTRACTOR

Pursuant to TEX. PROP. CODE ANN. § 53.085(a) and this *Standard Form of Agreement* **CONTRACTOR** shall furnish a *Contractor's Affidavit of Bills Paid* and executed *Waiver and Lien Release forms* to **CITY** stating that the work for the construction of said project has been satisfactorily completed; and that all bills for materials, supplies, apparatus, fixtures, machinery, labor, subcontractors, laborers and materialmen used in connection with the construction of this project have been fully paid.

Upon receipt of the notification of completion, the Project Designer shall proceed to make final measurements and prepare a final statement of the value of all work performed and materials furnished under the terms of the AGREEMENT and shall certify same to **CITY**, who shall pay to the **CONTRACTOR**, the balance due the **CONTRACTOR** under the terms of this *Standard Form of Agreement*, provided he has fully performed his contractual obligations under the terms of the AGREEMENT; and said payment shall become due in any event upon said performance by the **CONTRACTOR**. Neither the *Certificate of Acceptance* nor the final payment, nor any provision in the contract documents, shall relieve the **CONTRACTOR** of the obligation for fulfillment of any warranty which may be required.

7.10 RESERVED

7.11 NOTICES

Any notices provided under this *Standard Form of Agreement* shall occur in writing. For purposes of such notice, the addresses of the parties, until changed by written notice, shall be:

CITY'S CONTACT:

Name	<u>Ms. Erin Garner</u>
Address	<u>City of Tyler</u>
	<u>P.O. Box 2039</u>
	<u>Tyler, TX 75710</u>
Phone	<u>(903) 531-1335</u>
FAX	<u>(903) 531-1372</u>
E-mail	<u>egarner@tylertexas.com</u>

CONTRACTOR'S CONTACT:

Name	<u></u>
Address	<u></u>
	<u></u>
	<u></u>
Phone	<u></u>
FAX	<u></u>
E-mail	<u></u>

CITY and **CONTRACTOR** hereby bind themselves, their heirs, successors and assigns and representatives for the faithful and full performance of the terms and provisions of this contract, jointly and severally.

IN WITNESS WHEREOF, the parties to these presents have executed this *Standard Form of Agreement* in the year and day first above written.

FOR THE CITY OF TYLER, TEXAS:

ATTEST:

By:

City Manager

Edward Broussard

Printed Name

By:

City Clerk

Cassandra Brager

Printed Name

APPROVED:

RECOMMENDED:

By:

City Attorney's Office

Deborah Pullum

Printed Name

By:

Department Leader

Leanne Robinette

Printed Name

City of Tyler Bid Number 23-022

Project Name Lindsey Park GCAA Improvements

AGENDA ITEM NUMBER: _____

DATE CITY COUNCIL APPROVED: _____

FOR THE CONTRACTOR:**By:** __________
Title_____
Printed Name

THE STATE OF TEXAS

§

COUNTY OF SMITH

§

§

CONTRACTOR'S ACKNOWLEDGEMENT

BEFORE ME, the undersigned authority, a Notary Public in and for the State of Texas, on this day personally appeared _____, who is known to me, or who was proved to me through _____ to be the person whose name is subscribed to the foregoing instrument, and acknowledged to me that he/she executed same for the purposes and consideration therein expressed.

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

Notary Public In and For The State of Texas

My Commission Expires: _____

Notary's Printed Name

Section 8 PERFORMANCE AND MAINTENANCE BOND AND PAYMENT BOND

Check Here if this Section is NOT Used ☐

THE STATE OF TEXAS	§	STATUTORY
	§	PERFORMANCE AND MAINTENANCE BOND
	§	AND
	§	PAYMENT BOND
	§	
	§	PURSUANT TO
	§	
	§	CITY POLICY, AGREEMENT
	§	AND/OR
COUNTY OF SMITH	§	TEX. GOV'T CODE, TITLE 10, CHAPTER § 2253

THAT, _____ [contractor], as
PRINCIPAL, and _____ [surety], a
 corporation organized and existing under the laws of the State of Texas, licensed to do business
 in the State of Texas and admitted to write bonds, as **SURETY**, are held and firmly bound unto
 the City of Tyler (**CITY**), Texas in Smith County, as **OBLIGEE**, in the amount of
 _____ [insert
figure using written words], (\$ _____) [insert numerical figure]
 payable to the City of Tyler, Texas for the payment of which, the said **PRINCIPAL** (Contractor)
 and **SURETY** bind themselves, and their heirs, administrators, executors, successors, legal
 representatives, and assigns, jointly and severally, firmly by these presents.

WHEREAS, the **PRINCIPAL** (Contractor) has entered into a certain contract with the **OBLIGEE**
 (City), dated the _____ day of _____, 20____ [insert date from *Standard Form*
of Agreement], for:

City of Tyler Bid	23-022
Number	
Project Name	Lindsey Park GCAA Improvements

which contract is hereby referred to as the AGREEMENT and made a part hereof as fully and to
 the same extent as if copied at length herein;

WHEREAS, the performance bond guarantees the **OBLIGEE** (City) that the **PRINCIPAL**
 (Contractor) will fully and faithfully execute the Work and performance of the AGREEMENT
 according to its terms including price and time and is solely for the protection of the **OBLIGEE**
 (City) in the amount of the contract and conditioned on the faithful performance of the work in
 accordance with the plans, specifications, and contract documents;

WHEREAS, pursuant to TEX. GOV'T CODE ANN. § 2253.021 and the *Standard Form of*
Agreement, a performance bond is required when the contract amount is in excess of one hundred
 thousand dollars (\$100,000);

WHEREAS, the maintenance bond guarantees the **OBLIGEE** (City) that the **PRINCIPAL**

(Contractor) will guarantee the Work against faulty workmanship and/or materials for a specified period of time following completion of the AGREEMENT;

WHEREAS, pursuant to **CITY** policy and the *Standard Form of Agreement* a maintenance bond shall accompany the performance bond for the **PRINCIPAL** (Contractor) to guarantee the Work against faulty workmanship and/or materials for a maintenance period of a specified period of one (1) year after the date of final acceptance of the Work;

WHEREAS, the payment bond guarantees the **OBLIGEE** (City) that the **PRINCIPAL** (Contractor) shall pay all bills for materials and labor for work provided for in said AGREEMENT and is solely for the protection and use of payment bond beneficiaries who have a direct contractual relationship with the prime contractor or a subcontractor to supply public work, labor or material and in the amount of the contract;

WHEREAS, pursuant to TEX. GOV'T CODE ANN. § 2253.021, for contracts in excess of \$25,000 a payment bond is required; however, pursuant to **CITY** Policy and the *Standard Form of Agreement* a payment bond shall be required for ALL projects regardless of value;

WHEREAS, the **PRINCIPAL** (Contractor), is required by law, pursuant to TEX. GOV'T CODE ANN. § 2253.021 and/or the *Standard Form of Agreement*, to execute all bonds before commencing the Work.

NOW THEREFORE:

THE FIRST (1st) CONDITION OF THIS OBLIGATION IS SUCH, that if the said **PRINCIPAL** shall faithfully perform the Work required by and in accordance with the AGREEMENT then this obligation shall be null and void; otherwise it shall remain in full force and effect;

THE SECOND (2nd) CONDITION OF THIS OBLIGATION IS SUCH, that if the said **PRINCIPAL** (Contractor) shall faithfully perform the Work required by and in accordance with the AGREEMENT including any performance required of said **PRINCIPAL** (Contractor) for a maintenance period of one (1) year after the date of final acceptance of the work, then this obligation shall be null and void; otherwise it shall remain in full force and effect;

THE THIRD (3rd) CONDITION OF THIS OBLIGATION IS SUCH, that if the said **PRINCIPAL** (Contractor) shall pay all claimants supplying the labor and material to him or a subcontractor in the prosecution of the Work provided for in said AGREEMENT, then this obligation shall be null and void; otherwise it shall remain in full force and effect;

PROVIDED, HOWEVER, that this bond is executed pursuant to the provisions of Chapter 2253 of the TEX. GOV'T CODE ANN. and all liabilities on this bond shall be determined in accordance with the provision, conditions and limitations of said Chapter to the same extent as if it were copied at length herein.

SURETY, for value received, stipulates and agrees that no change, extension of time, alteration or addition to the terms of the AGREEMENT, or to the Work performed hereunder, or the plans, specifications, or drawings accompanying the same, shall in anywise affect its obligation on this bond, and **SURETY** does hereby waive notice of any such change, extension of time, alteration or addition to the terms of the AGREEMENT, or to the Work performed thereunder.

The undersigned **SURETY** company represents that it is duly qualified to do business in Texas and is registered by the State Board of Insurance to conduct business in the State of Texas, and acceptable according to the latest list of the companies holding Certificates of Authority from the Secretary of the Treasury of the United States and hereby designates

_____ [insert Agent's name], an agent in Smith County to whom any requisite notices may be delivered and on whom service of process may be had in matters arising out of such suretyship and to establish venue in Smith County, Texas.

IN WITNESS WHEREOF, the said **PRINCIPAL** (Contractor) and **SURETY** have signed and sealed this instrument this _____ day of _____, 20_____.

DATE OF BONDS MUST NOT BE PRIOR TO DATE ON *Standard Form of Agreement*

BOND NUMBER: _____

PRINCIPAL (Contractor)

SURETY

Printed Name of Principal

Printed Name of Surety

Physical Address

Physical Address

Mailing Address

Mailing Address

Telephone Number

Telephone Number

By:

Signature

By:

Signature

Title

Title

SURETY'S SEAL:

***** NOTE *****

If signed by an Attorney-in-Fact a copy of the Power of Attorney shall be attached, or

If signed by an officer of the Surety Company a certified extract from the by-laws showing that this person has authority to sign obligation shall be attached.

Section 9 PAYMENT BOND ONLY

Check Here if this Section is NOT Used ☒

THE STATE OF TEXAS	§	PAYMENT BOND
	§	
	§	
	§	PURSUANT TO
	§	
	§	CITY POLICY, AGREEMENT
	§	AND/OR
COUNTY OF SMITH	§	TEX. GOV'T CODE, TITLE 10, CHAPTER § 2253

THAT, _____ [Contractor], as **PRINCIPAL**, and _____ [surety], a corporation organized and existing under the laws of the State of Texas, licensed to do business in the State of Texas and admitted to write bonds, as **SURETY**, are held and firmly bound unto the City of Tyler (**CITY**), Texas in Smith County, as **OBLIGEE**, in the amount of _____ [insert figure using written words], (\$ _____) [insert numerical figure] payable to the City of Tyler, Texas for the payment of which, the said **PRINCIPAL** (Contractor) and **SURETY** bind themselves, and their heirs, administrators, executors, successors, legal representatives, and assigns, jointly and severally, firmly by these presents.

WHEREAS, the **PRINCIPAL** (Contractor) has entered into a certain contract with the **OBLIGEE** (City), dated the _____ day of _____, 20____ [insert date from *Standard Form of Agreement*], for:

City of Tyler Bid	23-022
Number	
Project Name	Lindsey Park GCAA Improvements

which contract is hereby referred to as the AGREEMENT and made a part hereof as fully and to the same extent as if copied at length herein;

WHEREAS, the payment bond guarantees the **OBLIGEE** (City) that subcontractors and suppliers will be paid monies that they are due from the **PRINCIPAL** (Contractor) and is solely for the protection and use of payment bond beneficiaries who have a direct contractual relationship with the prime contractor or a subcontractor to supply public work, labor or material and in the amount of the contract;

WHEREAS, pursuant to TEX. GOV'T CODE ANN. § 2253.021, for contracts in excess of \$25,000 a payment bond is required; however, pursuant to **CITY** Policy and the *Standard Form of Agreement* a payment bond shall be required for ALL projects regardless of value;

WHEREAS, the **PRINCIPAL** (Contractor), is required, pursuant to TEX. GOV'T CODE ANN. § 2253.021, and/or the *Standard Form of Agreement*, to execute the payment bond before commencing the Work.

NOW THEREFORE:

THE CONDITION OF THIS OBLIGATION IS SUCH, that if the said **PRINCIPAL** (Contractor) shall **pay** all claimants supplying the labor and material to him or a subcontractor in the prosecution of the Work provided for in said AGREEMENT, then this obligation shall be null and void; otherwise it shall remain in full force and effect;

PROVIDED, HOWEVER, that this bond is executed pursuant to the provisions of TEX. GOV'T CODE ANN. Chapter 2253 and all liabilities on this bond shall be determined in accordance with the provision, conditions and limitations of said Chapter to the same extent as if it were copied at length herein.

SURETY, for value received, stipulates and agrees that no change, extension of time, alteration or addition to the terms of the AGREEMENT, or to the Work performed hereunder, or the plans, specifications, or drawings accompanying the same, shall in anywise affect its obligation on this bond, and **SURETY** does hereby waive notice of any such change, extension of time, alteration or addition to the terms of the AGREEMENT, or to the Work performed thereunder.

The undersigned **SURETY** company represents that it is duly qualified to do business in Texas and is registered by the State Board of Insurance to conduct business in the State of Texas, and acceptable according to the latest list of the companies holding Certificates of Authority from the Secretary of the Treasury of the United States and hereby designates

_____ [*insert Agent's name*], an agent in Smith County to whom any requisite notices may be delivered and on whom service of process may be had in matters arising out of such suretyship and to establish venue in Smith County, Texas.

IN WITNESS WHEREOF, the said **PRINCIPAL** (Contractor) and **SURETY** have signed and sealed this instrument this _____ day of _____, 20_____.

DATE OF BONDS MUST NOT BE PRIOR TO DATE ON *Standard Form of Agreement*

BOND NUMBER: _____

PRINCIPAL (Contractor)

SURETY

Printed Name of Principal

Printed Name of Surety

Physical Address

Physical Address

Mailing Address

Mailing Address

Telephone Number

Telephone Number

By:

Signature

By:

Signature

Title

Title

SURETY'S SEAL:

******* NOTE *******

If signed by an Attorney-in-Fact a copy of the Power of Attorney shall be attached, or

If signed by an officer of the Surety Company a certified extract from the by-laws showing that this person has authority to sign obligation shall be attached.

Section 10 CERTIFICATE(S) OF INSURANCE

[Certificate of Liability Insurance Shall Be Inserted Here]

INSURANCE COVERAGE REQUIRED		* Endorsement Required
TYPE	AMOUNT	
1) COMMERCIAL GENERAL LIABILITY * Policy shall include (but not limited to) the following: a) Products - Completed Operations b) Independent Contractors c) Broad Form Property Damage d) X-C-U Coverage X = Explosion Hazard C = Collapse Hazard U = Underground Damage e) Contractual Liability or Cross Liability	Not Less than: \$1,000,000 (1 million) Each Occurrence \$2,000,000 (2 million) General Aggregate Per Project Any Self-Insured-Retention or Deductible shall not exceed \$25,000.	
2) BUSINESS AUTOMOBILE LIABILITY Policy shall include (but not limited to) bodily injury and property damage liability for the following: a) Any Auto; OR b) All Owned Autos, and c) Hired Autos, and d) Non-Owned Autos.	Not Less than: \$1,000,000 (1 million) Each Occurrence	
3) ♦ CONTRACTOR'S PROFESSIONAL ERRORS & OMISSIONS LIABILITY Policy shall include (but not limited to) the following: a) A minimum three (3) year Discovery (tail) Reporting period, and b) A Retroactive Date that equals or precedes the effective date of the Contract, or the performance of services hereunder.	♦ <input type="checkbox"/> Check Here If Contract Includes Professional/Design Liability Exposures or If Coverage is otherwise required by a City Operational Department Not Less than: \$1,000,000 (1 million) Each Occurrence \$2,000,000 (2 million) General Aggregate Any Self-Insured-Retention or Deductible shall not exceed \$25,000.	
4) ♦ INLAND MARINE BUILDER'S RISK INSURANCE * Policy shall include (but not limited to) the following: a) Amended Policy period of no less than twenty-two (22) months or estimated project length whichever is longer.	♦ <input type="checkbox"/> Check Here If Coverage is Required by a City Operational Department An amount at least equal to one-hundred percent (100%) of the projected completed value of the Work, as well as subsequent modifications of that sum due to Change Orders.	
5) ♦ CONTRACTOR'S POLLUTION LIABILITY INSURANCE *	♦ <input type="checkbox"/> Check Here If Coverage is Required by a City Operational Department Not Less than: \$1,000,000 (1 million) Each Occurrence \$2,000,000 (2 million) General Aggregate	
6) COMMERCIAL UMBRELLA / EXCESS LIABILITY *	Not Less than: \$5,000,000 (5 million) Each Occurrence \$5,000,000 (5 million) General Aggregate Any Self-Insured-Retention or Deductible shall not exceed \$25,000.	

INSURANCE COVERAGE REQUIRED		* Endorsement Required
TYPE	AMOUNT	
7) WORKERS' COMPENSATION AND EMPLOYER'S LIABILITY	Statutory Limits for Workers' Compensation TEX. LAB. CODE ANN. Title 5, Subtitle A, Chapter 401 TEX. ADMIN. CODE, Title 28, Part 2 Employer's Liability Limits \$1,000,000 (1 million) Bodily Injury by Accident \$1,000,000 (1 million) Bodily Injury by Disease Each Occurrence \$1,000,000 (1 million) Bodily Injury by Disease Aggregate Limit	

Checklist: Certificate(s) of Insurance

*** Provided only as a courtesy ***

[See generally Section 16.8 General Conditions for contract insurance requirements]

1.	All pages of the <i>Certificate of Liability Insurance</i> shall be attached. <i>See</i> lower right corner of certificate for <i>ex toto</i> pagination. E.g. Page 1 of 2
2.	Policy Effective and Expiration Dates (for each type of coverage) Policy effective date is ON or BEFORE Contract date, and Policy expiration date should extend at least 6 months into the future OR for the estimated project length, whichever is greater.
3.	General Liability [<i>See</i> Section 16.8.3] <input checked="" type="checkbox"/> Occurrence Box is Checked <input checked="" type="checkbox"/> Per Project Box is Checked for General Aggregate Limit.
4.	Automobile Liability [<i>See</i> Section 16.8.4] At a minimum each of the following boxes should be checked: <input checked="" type="checkbox"/> Any Auto OR <input checked="" type="checkbox"/> All Owned Autos, and <input checked="" type="checkbox"/> Hired Autos, and <input checked="" type="checkbox"/> Non-Owned Autos.
5.	Excess/Umbrella Liability [<i>See</i> Section 16.8.8] <input checked="" type="checkbox"/> Occurrence Box is Checked
6.	Workers Compensation and Employers Liability [<i>See</i> Section 16.8.15] <input checked="" type="checkbox"/> WC Statutory Limits Box is Checked
7.	Look at the “Description of Operations . . . Special Provisions” Box. [<i>See</i> Section 16.8.9] [<i>See also</i> Section 16.8.11] Clearly indicate the CITY has been endorsed by using this language: “The City of Tyler (i.e. Certificate Holder) shall be named as Additional Insured as respects to General Liability and Auto and shall have a Waiver of Subrogation as respects to General Liability, Auto and Workers’ Compensation all as required by written contract subject to policy terms, conditions and exclusions. Coverage is primary, non-contributory as respects to General Liability and Auto as required by written contract.”
8.	Clearly identify each policy’s limits, flat & percentage deductibles, sub-limits, or self-insured retentions, which exceed the amounts or percentages set forth herein.
9.	Certificate Holder: [<i>See generally</i> Section 16.8] [<i>See</i> Section 16.8.9] <div style="text-align: center;"> City of Tyler P.O. Box 2039 Tyler, TX 75710 </div>

Section 11 ENDORSEMENTS

[Endorsements Shall Be Inserted Here]

* ENDORSEMENT(S) REQUIRED	
Name of Additional Insured Person(s) or Organization(s): <div style="text-align: center;"> City of Tyler P.O. Box 2039 Tyler, TX 75710 </div>	Location(s) of Covered Operations: Project <i>[insert project name]</i> , City of Tyler Bid Number <i>[insert bid number]</i> , Dated <i>[insert month and year of contract]</i> .
Contractor shall choose one of the three Endorsement Option stated below. All Endorsements shall be in the form required. All pages of the Endorsement(s) shall be attached.	
COMMERCIAL GENERAL LIABILITY	
CONTRACTOR agrees to endorse the CITY as an “Additional Insured” on the Commercial General Liability with: <i>[Select Option 1, Option 2 or Option 3 below]</i> <i>[See Section 16.8.3 and 16.8.9]</i>	
Option 1	FORM: CG 20 10 10 01 <u>Additional Insured - Owners, Lessees, or Contractors – Scheduled Person or Organization</u> AND FORM: CG 20 37 07 04 <u>Additional Insured – Owners, Lessees, or Contractors – Completed Operations</u>
OR	
Option 2	FORM: CG 20 10 07 04 <u>Additional Insured – Owners, Lessees, or Contractors – Scheduled Person or Organization</u> AND FORM: CG 20 37 07 04 <u>Additional Insured – Owners, Lessees, or Contractors – Completed Operations</u>
OR	
Option 3	FORM: ISO/PROPRIETARY FORM STATING SAME OR SUBSTANTIALLY SIMILAR LANGUAGE AS CG 20 10 07 04 /CG 20 10 10 01 AND THAT PROVIDES THE SAME OR BETTER COVERAGE. <u>Additional Insured – Owners, Lessees, or Contractors – Scheduled Person or Organization – Your Work</u> AND FORM: ISO/PROPRIETARY FORM STATING SAME OR SUBSTANTIALLY SIMILAR LANGUAGE AS CG 20 37 07 04 AND THAT PROVIDES THE SAME OR BETTER COVERAGE. <u>Contractors’ Commercial General Liability Broadened – with coverage for Completed Operations in conformance to specific written contract</u>
COMMERCIAL UMBRELLA / EXCESS LIABILITY	
CONTRACTOR agrees to endorse the CITY as an “Additional Insured” under the Commercial Umbrella / Excess Liability as also provided herein. <i>[See Section 16.8.8 and 16.8.9]</i>	
INLAND MARINE BUILDER’S RISK INSURANCE	
♦ If applicable CONTRACTOR agrees to endorse the CITY as an “Additional Insured” under the Inland Marine Builders Risk Insurance as also provided herein. <i>[See Section 16.8.6 and 16.8.9]</i>	

Section 12 CONTRACTOR'S AFFIDAVIT OF BILLS PAID

THE STATE OF TEXAS §
 §
 §
 §
 §
 COUNTY OF SMITH §
 § **Tex. Prop. Code Ann. § 53.085(a)**

THIS AFFIDAVIT is made for the purpose of obtaining balance due from City of Tyler, "CITY", on the construction work described herein provided the **CONTRACTOR** has fully performed his contractual obligations under the terms of the AGREEMENT.

I, _____ [*Name of Affiant*], do solemnly swear or affirm that I am the legal representative of _____ [*Contractor's Company / Corporation Name*], the City of _____, the County of _____, the State of _____, and that the work for the construction of the project designated below has been satisfactorily completed:

City of Tyler Bid Number 23-022
Project Name Lindsey Park GCAA Improvements

Additionally, I do solemnly swear or affirm:

☐ All bills for materials, supplies, apparatus, fixtures, machinery, labor, subcontractors, laborers and materialmen used in connection with the construction of this project have been fully paid.

OR

☐ The following bills have **not** been fully paid (☐ attach additional pages if necessary):

<u>Name</u>	<u>Amount Owed</u>	<u>Telephone</u>	<u>Address</u>
	\$		
	\$		
	\$		

 Signature of Contractor

Sworn to and subscribed before me by *Affiant* on the _____ day of _____, 20____.

 Notary Public In and For The State of Texas

My Commission Expires: _____ Notary's Printed Name

Section 13 RESERVED

Section 14 WAIVER AND RELEASE

THE STATE OF TEXAS	§	CONDITIONAL WAIVER AND RELEASE ON FINAL PAYMENT
	§	
	§	PURSUANT TO
	§	
	§	AGREEMENT
	§	AND/OR
COUNTY OF SMITH	§	PURSUANT TO TEX. PROPERTY CODE § 53.284 FORMS FOR WAIVER AND RELEASE OF LIEN OR PAYMENT BOND CLAIM

CONDITIONAL WAIVER AND RELEASE ON FINAL PAYMENT

City of Tyler Bid	23-022
Number	
Project Name	Lindsey Park GCAA Improvements

On receipt by the signer of this document of a check from _____ *[Maker of Check]* in the sum of \$ _____ payable to _____ *[Payee(s) of Check]* and when the check has been properly endorsed and has been paid by the bank on which it is drawn, this document becomes effective to release any mechanic's lien right, any right arising from a payment bond that complies with a state or federal statute, any common law payment bond right, any claim for payment, and any rights under any similar ordinance, rule, or statute related to claim or payment rights for persons in the signer's position that the signer has on the property of _____ *[Owner]* located at _____ *[Location]* to the following extent: _____ *[Job Description]*.

This release covers the final payment to the signer for all labor, services, equipment, or materials furnished to the property or to _____ *[Person with Whom Signer Contracted]*.

Before any recipient of this document relies on this document, the recipient should verify evidence of payment to the signer.

The signer warrants that the signer has already paid or will use the funds received from this final payment to promptly pay in full all of the signer's laborers, subcontractors, materialmen, and suppliers for all work, materials, equipment, or services provided for or to the above referenced project up to the date of this waiver and release.

Date _____
 _____ (Company name)

By _____ (Signature)
 _____ (Title)

THE STATE OF TEXAS § **UNCONDITIONAL WAIVER AND RELEASE ON
FINAL PAYMENT**

 §

 § **PURSUANT TO**

 §

 § **AGREEMENT**

 § **AND/OR**

COUNTY OF SMITH § **PURSUANT TO TEX. PROPERTY CODE § 53.284**
FORMS FOR WAIVER AND RELEASE OF LIEN OR PAYMENT
BOND CLAIM

NOTICE:

This document waives rights unconditionally and states that you have been paid for giving up those rights. It is prohibited for a person to require you to sign this document if you have not been paid the payment amount set forth below. If you have not been paid, use a conditional release form.

UNCONDITIONAL WAIVER AND RELEASE ON FINAL PAYMENT

**City of Tyler Bid
Number**

23-022

Project Name

Lindsey Park GCAA Improvements

The signer of this document has been paid in full for all labor, services, equipment, or materials furnished to the property or to _____ *[Person with Whom Signer Contracted]* on the property of _____ *[Owner]* located at _____ *[Location]* to the following extent: _____ *[Job Description]*. The signer therefore waives and releases any mechanic's lien right, any right arising from a payment bond that complies with a state or federal statute, any common law payment bond right, any claim for payment, and any rights under any similar ordinance, rule, or statute related to claim or payment rights for persons in the signer's position.

The signer warrants that the signer has already paid or will use the funds received from this final payment to promptly pay in full all of the signer's laborers, subcontractors, materialmen, and suppliers for all work, materials, equipment, or services provided for or to the above referenced project up to the date of this waiver and release.

Date _____
_____ (Company name)

By _____ (Signature)
_____ (Title)

Section 15 PROCEDURE FOR CORRECTING CONSTRUCTION DEFECTS

Check Here if this Section IS Applicable to This Contract ☐

****ONLY APPLICABLE FOR CONSTRUCTION ACTIVITIES AFFECTING CITY-OWNED BUILDINGS AND OTHER PUBLIC WORKS PROJECTS AS DEFINED IN TEX. GOV. CODE ANN., SEC. 2269.001 (6)****

This PROCEDURE is not applicable to “civil works” projects as defined in Tex. Gov. Code Ann., Sec. 2269.351

I. DEFINITIONS

- A. **“Public Works”** projects, as defined in Tex. Gov. Code Ann., Sec. 2269.001 (6), are those related to constructing, altering, or repairing a public building or carrying out any public work.
- B. **“Civil works”** projects, as defined in Tex. Gov. Code Ann., Sec. 2269.351 are those related to roads, streets, bridges, utilities, water supply projects, water plants, waste water plants, water distribution and wastewater conveyance facilities, desalination projects, wharves, docks, airport runways and taxiways, storm drainage, flood control projects and transit projects.

II. NOTIFICATION OF DEFECT

- A. **ENGINEER/ARCHITECT SHALL NOTIFY OWNER IN WRITING OF ANY CONSTRUCTION DEFECT** of which the ENGINEER is aware, and which shall include any deficiency in the construction of an improvement to real property, including a deficiency in or arising out of the design, specifications, surveying, planning or supervision of the construction that is a result of:
 - i. The use of defective materials, products, or components in the construction;
 - ii. A violation of a building code applicable by law to the construction;
 - iii. A failure of the design of an improvement to real property to meet the professional standards of care applicable at the time of governmental approval of the design or as otherwise applicable if no governmental approval of the design was required or obtained; and/or
 - iv. A failure to perform the construction in accordance with the accepted trade standards for good and workmanlike construction.
- B. The E/A’s writing shall identify the specific construction defect, describe the present physical condition of the affected structure; and describe any modification, maintenance, or repairs to the affected structure made by the governmental entity or others since the affected structure was initially occupied or used.

III. PROCEDURE TO CORRECT CONSTRUCTION DEFECTS

- A. Before bringing an action asserting a claim for a construction defect under this Agreement, the OWNER must:
 - i. Provide a written report. A written report shall be provided to each party with whom the OWNER has a contract for the design, construction or construction oversight of an affected structure by certified mail, return receipt requested.
 - ii. Contents of Report. The report shall clearly identify the specific construction defect(s) of which the claim is based, which shall include any deficiency in the construction of an

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- improvement to real property, including a deficiency in or arising out of the design, specifications, surveying, planning, or supervision of the construction that is a result of:
- a. The use of defective materials, products, or components in the construction;
 - b. A violation of a building code applicable by law to the construction;
 - c. A failure of the design of an improvement to real property to meet the professional standards of care applicable at the time of governmental approval of the design or as otherwise applicable if no governmental approval of the design was required or obtained; and/or
 - d. A failure to perform the construction in accordance with the accepted trade standards for good and workmanlike construction.
- iii. The report shall:
- a. Identify the specific construction defect on which the claim is based;
 - b. Describe the present physical condition of the affected structure; and
 - c. Describe any modification, maintenance, or repairs to the affected structure made by the governmental entity or others since the affected structure was initially occupied or used.
- B. OWNER shall allow each party with whom the OWNER has a contract for the design or construction of an affected structure and who is subject to the claim, and any known subcontractor or supplier who is subject to the claim a reasonable opportunity to inspect any construction defect or related condition identified in the report for a period of 30 days after receiving the report.
- C. OWNER shall allow at least 120 days *after* the inspection to:
- i. Correct any construction defect or related condition identified in the report; or
 - ii. Enter into a separate agreement with the governmental entity to correct any construction defect or related condition identified in the report.
- D. OWNER is not required to allow a party to make a correction or repair under Subsection B. if the party:
- i. Is a contractor and cannot provide payment and performance bonds to cover the corrective work; and or
 - ii. Cannot provide liability insurance or workers' compensation insurance; and/or
 - iii. Has been previously terminated for cause by OWNER; and/or
 - iv. Has been convicted of a felony; or
- E. OWNER is not required to allow a party to make a correction or repair under Subsection II.C.i. if OWNER previously complied with the process required by Subsection II.A. regarding a construction defect or related condition identified in the report and:
- i. The defect or condition was not corrected as required by Subsection II.C.i. or by an agreement under Subsection II.C.ii.; or
 - ii. The attempt to correct the construction defect or related condition identified in the report resulted in a new construction defect or related condition.
- F. Recovery of Report Costs. If the report described in Subsection II.A. identifies a construction defect that is corrected or for which the OWNER recovers damages, the party responsible for that construction defect shall pay the reasonable amounts incurred by OWNER to obtain the report with respect to identification of that construction defect.
- G. These provisions do not prohibit or limit the OWNER from making emergency repairs to the property as necessary to protect the health, safety, and welfare of the public or a building occupant.

Section 16 GENERAL CONDITIONS

General Conditions of Agreement for Capital Improvement Project (CIP) Contracts

16.1 DEFINITIONS OF TERMS

16.1.1 Addenda

Written or graphic instrument issued prior to the opening of bid packages which clarify, correct or change the bidding requirements or contract documents.

16.1.2 Agreement

The entire “AGREEMENT” between the **CITY** and **CONTRACTOR** including all contract documents.

16.1.3 Calendar Day

Any day of the week or month, no days being excepted.

16.1.4 Change Order

A document recommended by the Project Designer, which is signed by the **CONTRACTOR** and **CITY** and which authorizes an addition, deletion or revision of the Work which requires an adjustment in the contract price or contract times, issued on or after the effective date of the AGREEMENT.

16.1.5 City

The word “**CITY**” in these documents shall be understood as referring to the City of Tyler, Texas, a municipal corporation acting through the City Manager or his/her designee, officers, agents or employees.

16.1.6 Contract Documents

The contract documents constitute the entire AGREEMENT between the **CITY** and **CONTRACTOR**.

16.1.7 Contract Price

The moneys payable by **CITY** to **CONTRACTOR** for completion of the Work in accordance with the contract documents as stated in the *Standard Form of Agreement*.

16.1.8 Contract Time

The number of days stated in the *Standard Form of Agreement* to achieve final completion so that it is ready for final payment as evidenced by the Project Designer’s written recommendation of final payment.

16.1.9 Contractor

The individual, firm, corporation, or other business entity with whom **CITY** has entered into this AGREEMENT for performance of the Work (*see* Section 16.3, “Responsibilities of the Contractor”).

16.1.10 Extra Work

All work that may be required by the **CITY** to be done by the **CONTRACTOR** to accomplish

any addition, deletion or revision to the Work not originally shown on the plans, reasonably implied by the specifications or covered by the **CONTRACTOR'S** proposal (*see* Section 16.14, "Extra Work and Claims").

16.1.11 Field Order

A written order issued by the Project Representative which orders minor changes in the Work but which does not involve a change in the contract price or contract time.

16.1.12 Final Completion (a.k.a. Complete in Full or Completed in Full)

The point when the **CITY** determines that all Work has been completed and final payment to **CONTRACTOR** will be made in accordance with the contract documents.

16.1.13 Notice to Proceed

A written notice by the **CITY** to the **CONTRACTOR** fixing the date on which the contract time will commence and run and which on or before **CONTRACTOR** shall start to perform.

16.1.14 Reserved

16.1.15 Ozone Action Day

Any day between May 3 through September 30, inclusive, in which the eight (8)-hour concentration of ozone is expected to reach or exceed a target level of seventy-six (76) parts per billion (ppb), as determined by the Texas Commission on Environmental Quality (TCEQ). Notification of an Ozone Action Day will result in the implementation of the City of Tyler's Ozone Action Plan (*see* Section 16.11.4, "Ozone Action Day").

16.1.16 Proposal

The offer of the bidder submitted on the prescribed form setting forth the prices for the Work to be performed.

16.1.17 Project Designer

The individual, firm or corporation, including their representatives, retained by the **CITY** to design and/or engineer the project. Nothing contained in the contract documents shall create any contractual or agency relationship between the Project Designer and the **CONTRACTOR** (*see* Section 16.4, "Responsibilities of the Project Designer").

16.1.18 Project Representative

The authorized representative of the **CITY** during the performance of the Work by the **CONTRACTOR** (*see* Section 16.5, "Responsibilities of the Project Representative").

16.1.19 Rain Day

Under a calendar day contract, a rain day is a day of normal precipitation for which no extension of time will be granted (*see* Section 16.12.5, "Inclement Weather").

16.1.20 Standard Specifications

The standard specifications for the **CITY** are the City of Tyler Standard Specifications, the latest edition in effect at time of bidding and the Texas Department of Transportation Standard Specifications for Construction of Highways, Streets and Bridges, the latest edition in effect at time of bidding except where specifically superseded in the City of Tyler Standard Specifications

and/or City of Tyler Standard Details, both of which are hereby made a part of this contract by reference, unless otherwise specified, and in such force and effect as if contained at length herein.

16.1.21 Sub-Contractor

An individual, firm, corporation, or other business entity having a direct contract with the **CONTRACTOR** for the performance of a portion of the Work under the contract.

16.1.22 Substantial Completion

The point when the Work has been made suitable for use or occupancy or is in a condition to serve its intended purpose, but still may require minor miscellaneous work and adjustment.

16.1.23 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 into the Work by **CONTRACTOR** or Subcontractor.

16.1.24 Traffic Engineer

The person employed by, and named as such by, the City of Tyler, or his/her designee.

16.1.25 Work

The entire completed construction required to be furnished under the contract documents. Work includes, and is the result of furnishing, all materials, supplies, machinery, equipment, tools, superintendence, labor, services, insurance, and all water, light, power, fuel, transportation and other facilities necessary for the execution and completion of the Work covered by the contract documents. Unless otherwise specified, all materials shall be new and both workmanship and materials shall be of a good quality. The **CONTRACTOR** shall, if required, furnish satisfactory evidence as to the kind and quality of materials. Materials or work described in words which so applied have a well-known technical or trade meaning shall be held to refer to such recognized standards.

16.1.26 Working Day

Any day not including Saturdays, Sundays or any legal holidays as designated by the City of Tyler, in which weather or other conditions, not under the control of the **CONTRACTOR**, will permit construction of the principal units of the Work for a period of not less than seven (7) continuous hours between 7:00 a.m. and 6:00 p.m. A "Principal Unit of Work" is hereby defined as any item of work for which there is a bid item specifically set up for payment in the contract.

16.1.27 Working Hours

All Work shall be done between 7:00 a.m. and 6:00 p.m., Monday through Friday excluding holidays, unless authorized by the Project Representative. However, emergency Work may be done without prior permission. If night Work is authorized and conditions under **CONTRACTOR'S** control will permit Work for a continuous period of not less than seven (7) hours between 12:00 a.m. and 11:59 p.m. it will be considered a Working Day. Night Work may be revoked at any time by the **CITY** if the **CONTRACTOR** fails to maintain adequate equipment and supervision for the prosecution and control of the night Work.

16.1.28 Written Notice

Written notice shall be deemed to have been duly served if delivered in person to the individual or

to a member of the firm or to an officer of the corporation for whom it is intended, or if delivered at or sent by mail to the last business address known to the party by whom notice is given.

16.2 RESPONSIBILITIES OF THE CITY

16.2.1 Collateral Contracts

The **CITY** agrees to provide by separate contract or otherwise, all labor and material essential to the completion of the Work specifically excluded from this contract, in such manner as not to delay the progress of the Work, or damage said **CONTRACTOR**, except where such delays are specifically mentioned elsewhere in the contract documents.

16.2.2 Easements and Right-of-Way

Easements and right-of-way, where required, will be provided by the **CITY**.

16.3 RESPONSIBILITIES OF THE CONTRACTOR

16.3.1 Contractor's Understanding

It is understood and agreed that the **CONTRACTOR** is, after careful examination, satisfied as to the nature and location of the Work, the conformation of the ground, the character, quality and quantity of the materials to be encountered, the character of equipment and facilities needed preliminary to and during the prosecution of the Work, the general and local conditions, and all other matters which can in any way affect the Work under this contract. No verbal agreement or conversation with any officer, agent or employee of the **CITY** or Project Designer either before or after the execution of this contract shall affect or modify any of the terms or obligations herein contained.

16.3.2 Keeping Plans and Specifications Accessible

The Project Designer shall furnish the **CONTRACTOR** with an adequate and reasonable number of copies of all plans and specifications without expense to the **CONTRACTOR**, and the **CONTRACTOR** shall keep a minimum of one copy of the same constantly accessible on the Work, with the latest revisions noted thereon.

16.3.3 Right of Entry

The **CITY** reserves the right to enter the property or location on which the Works herein contracted for are to be constructed or installed, by such agent or agents as the **CITY** may elect, for the purpose of inspecting the Work, or for the purpose of constructing or installing such collateral work as said **CITY** may desire.

16.3.4 Contractor's Duty and Superintendence

The **CONTRACTOR** shall give adequate attention to the faithful prosecution and completion of this contract and shall keep on the Work, during its progress, a competent superintendent and any necessary assistants. The superintendent shall represent the **CONTRACTOR** in the **CONTRACTOR'S** absence and all directions given to the superintendent shall be as binding as if given to the **CONTRACTOR**. In the absence of the superintendent from the job site, an acting-superintendent shall be appointed to be in full charge of the Work.

The **CONTRACTOR** is and at all times shall remain an independent contractor, solely responsible for the manner and method of completing the Work under this contract, with full power and authority to select the means, method and manner of performing such Work, so long as such methods do not adversely affect the completed improvements, with the **CITY** and Project Representative being interested only in the result obtained and conformity of such completed improvements to the plans, specifications and contract.

Likewise, the **CONTRACTOR** shall be solely responsible for the safety all employees and other persons, as well as for the protection of the safety of the improvements being erected and the property of the **CONTRACTOR** or any other person, as a result of the operations hereunder. Engineering and/or supplemental construction drawings and specifications, as well as any additional information concerning the Work to be performed, passing from or through the Project Designer shall not be interpreted as requiring or allowing the **CONTRACTOR** to deviate from the plans and specifications, the intent of such drawings, specifications or any other such instructions being to define with particularity the agreement of the parties as to the Work the **CONTRACTOR** is to perform. The **CONTRACTOR** shall be fully and completely liable, at the **CONTRACTOR'S** own expense, for design, construction, installation and use, or non-use, of all items and methods incident to performance of the contract, and for all loss, damage or injury, including death, incident thereto, either to person or property, including, without limitation, the adequacy of all temporary supports, shoring, bracing, scaffolding, machinery or equipment, safety precautions or devices, and similar items or devices used by the **CONTRACTOR** during construction.

Any review of Work in process, or any visit or observation during construction, or any clarification of plans and specifications, by the **CITY** or Project Designer, or any agent, employee, or representative of them, whether through personal observation on the project site or by means of approval of shop drawings for temporary construction or construction processes, or by other means or method, is agreed by the **CONTRACTOR** to be for the purpose of observing the extent and nature of Work completed or being performed, as measured against the drawings and specifications constituting the contract, or for the purpose of enabling the **CONTRACTOR** to more fully understand the plans and specifications so that the completed construction Work will conform thereto, and shall in no way relieve the **CONTRACTOR** from full and complete responsibility for the proper performance of the Work on the project, including but without limitation the propriety of means and methods of the **CONTRACTOR** in performing said contract, and the adequacy of any designs, plans or other facilities for accomplishing such performance. Deviation by the **CONTRACTOR** from the plans and specifications that may have been in evidence during any such visitation or observation by the **CITY** or Project Designer, or any of their representatives, whether called to the **CONTRACTOR'S** attention or not shall in no way relieve the **CONTRACTOR** from the responsibility to complete all Work in accordance with said plans and specifications.

16.3.5 Character of Workers

The **CONTRACTOR** agrees to employ only orderly and competent workers, skillful in the performance of the type of work required under this contract to do the Work; and agrees that whenever the Project Representative shall inform the **CONTRACTOR** in writing that any worker or workers are, in the Project Representative's opinion, incompetent or disorderly, such worker or workers shall be discharged from the Work and shall not again be employed on the Work without the Project Representative's written consent.

16.3.6 Assignment and Subcontracting

The **CONTRACTOR** may assign or subcontract portions of the Work in accordance with the *Instructions to Bidders*. However, the **CONTRACTOR** shall not employ any subcontractor against whom the **CITY** may have a reasonable objection.

16.3.7 Subsurface Conditions

Unless otherwise noted in the plans or specifications, the **CITY** has made no investigation of subsurface conditions within the project limits and makes no representation regarding the presence or absence of groundwater, unstable soils, or any other unfavorable hydrologic or geologic conditions within the project area. It shall be the **CONTRACTOR'S** sole responsibility to perform any investigations the **CONTRACTOR** deems necessary and to provide all equipment, labor, and materials needed to complete the project including, but not limited to, sheeting, shoring, bracing, pumps, and/or well pointing. The provision of all labor, equipment, and materials necessary to alleviate unfavorable subsurface conditions shall be subsidiary to the various pay items established in the proposal for furnishing and installing the Work. The **CONTRACTOR** shall be due no additional compensation relative to subsurface conditions.

16.3.8 Protection of Materials, Equipment and Work

The **CONTRACTOR** shall be responsible for the care, preservation, conservation, and protection of all materials, supplies, machinery, equipment, tools, apparatus, accessories, facilities, all means of construction, and any and all parts of the Work, whether the **CONTRACTOR** has been paid, partially paid, or not paid for such Work, until the entire Work is completed and accepted.

The **CONTRACTOR** shall arrange for storage of materials on or near the job site. Materials shall be stored at a place which shall not inconvenience the public or interfere with job progress and to best preserve the material to the satisfaction of the **CITY**. Materials shall be sorted and stacked neatly for ease of count and observation for compliance with material specifications. Improperly stored materials will not be eligible for inclusion in partial estimates.

16.3.9 Protection Against Accident to Employees and the Public

The **CONTRACTOR** shall at all times exercise reasonable precautions for the safety of employees and others on or near the Work and shall comply with all applicable provisions of Federal, State, and Municipal safety laws and building and construction codes. All machinery and equipment and other physical hazards shall be guarded in accordance with the Manual of Accident Prevention in Construction of the Associated General Contractors of America, except where incompatible with Federal, State, or Municipal laws or regulations. The **CONTRACTOR** shall provide such machinery guards, safe walkways, ladders, bridges, gangplanks, and other safety devices. The safety precautions actually taken and their adequacy shall be the sole responsibility of the **CONTRACTOR**, acting at the **CONTRACTOR'S** discretion as an independent contractor.

The right of the Project Representative to conduct construction review or observation of the **CONTRACTOR'S** performance or Work will not include review or observation of the adequacy of the **CONTRACTOR'S** safety measures in, on, or near the construction site.

16.3.10 Shop Drawings and Other Submittals

The **CONTRACTOR** shall submit to the Project Designer with such promptness as to cause no delay in the Work or in that of any other contractor, five (5) checked copies, unless otherwise specified, of all shop and/or setting drawings and schedules required for the work of the various trades, and the Project Designer shall pass upon them with reasonable promptness, making desired

corrections. The **CONTRACTOR** shall make any corrections required by the Project Designer, file with the Project Designer four (4) corrected copies and furnish such other copies as may be needed. The Project Designer's approval of such drawings or schedules shall not relieve the **CONTRACTOR** from responsibility for deviations from drawings or specifications, unless the **CONTRACTOR** has in writing called the Project Designer's attention to such deviations at the time of submission, nor shall it relieve the **CONTRACTOR** from responsibility for errors of any sort in shop drawings or schedules. It shall be the **CONTRACTOR'S** responsibility to fully and completely review all shop drawings to ascertain their effect on the **CONTRACTOR'S** ability to perform the required contract Work in accordance with the plans and specifications and within the contract time.

Such review by the Project Designer shall be for the sole purpose of determining the sufficiency of said drawings or schedules to result in finished improvements in conformity with the plans and specifications, and shall not relieve the **CONTRACTOR** of the **CONTRACTOR'S** duty as an independent contractor as previously set forth, it being expressly understood and agreed that the Project Designer does not assume any duty to pass upon the propriety or adequacy of such drawings or schedules, or any means or methods reflected thereby, in relation to the safety of either person or property during **CONTRACTOR'S** performance hereunder.

Prior to beginning the Work, the **CONTRACTOR** shall submit to the **CITY**, a list of all valves, hydrants, pumps, and other pieces of major equipment to be installed under this contract that includes the number used, the manufacturer and model, and the location installed of each piece of equipment. If requested by the **CITY**, the **CONTRACTOR** shall also submit manufacturer's product data for each piece of equipment.

16.3.11 Water for Construction

The **CONTRACTOR** must make arrangements for water required for construction and shall furnish tank trucks, pumps, pipe, hose, water storage tanks, or whatever else the **CONTRACTOR** needs to secure the water and store it for use on the Work. If the **CONTRACTOR** desires to use **CITY** water from a fire hydrant, the **CONTRACTOR** must rent a hydrant meter from Tyler Water Utilities. The **CONTRACTOR** shall furnish a proper fire hydrant wrench with a five (5)-sided socket to fit the hydrant operating nuts. Opening and closing of fire hydrants with a pipe or crescent wrench or any tool not made especially for the five (5)-sided hydrant nuts will not be permitted. The **CONTRACTOR** shall replace all fire hydrant caps after the **CONTRACTOR'S** tank truck is loaded with water. The **CONTRACTOR** shall not use any water from the municipal water system until the **CONTRACTOR** obtains a hydrant meter and prior authorization for such use from Tyler Water Utilities.

16.3.12 Contractor's Buildings

The erection of temporary structures for the use of field offices, will be permitted only at such places as approved by the Project Representative and shall at all times be maintained in a manner satisfactory to the Project Representative.

16.3.13 Sanitation

Necessary sanitary conveniences for the use of laborers on the Work, properly secluded from public observation, shall be constructed and maintained by the **CONTRACTOR** in such manner and at such points as shall be approved by the Project Representative, and their use shall be strictly enforced.

16.3.14 Protection Against Claims

The **CONTRACTOR** will indemnify, hold harmless and defend the **CITY** and its Project Designer from and against all claims arising from demand for payment of all lawful sums due based upon the provision of labor or materials in the furtherance of the performance of this contract by sub-contractors, laborers, workmen, mechanics, materialmen and furnishers of machinery and parts thereof, equipment, power tools, and all supplies, including commissary. When so desired by the **CITY**, the **CONTRACTOR** shall furnish satisfactory evidence that all obligations of the nature herein above designated have been paid, discharged or waived.

16.3.15 Intellectual Property - Payment of Royalties and License Fees

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** or Project Designer 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** and Project Designer in the Contract Documents.

CONTRACTOR shall indemnify, hold harmless and defend **CITY** and its officers, directors, employees, Project Designer and agents from and against all claims, costs, losses and damages arising out of or resulting from any infringement by **CONTRACTOR** 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.

16.3.16 Compliance with Laws and Ordinances

The **CONTRACTOR** shall at all times observe and comply with all Federal, State and local laws, ordinances and regulations, which in any manner affect the contract or the Work. **CONTRACTOR SHALL INDEMNIFY, HOLD HARMLESS AND DEFEND CITY AND ITS PROJECT DESIGNER FROM AND AGAINST ALL CLAIMS ARISING FROM THE VIOLATION OF ANY SUCH LAWS, ORDINANCES, AND REGULATIONS BY THE CONTRACTOR OR THE CONTRACTOR'S EMPLOYEES.** If the **CONTRACTOR** observes that the plans and specifications are at variance therewith, the **CONTRACTOR** shall promptly notify the Project Designer in writing, and any necessary changes shall be adjusted as provided in the contract for changes in the Work. If the **CONTRACTOR** performs any work knowing it to be contrary to such laws, ordinances, rules and regulations, and without such notice to the Project Designer, the **CONTRACTOR** shall bear all costs arising therefrom.

The City of Tyler is a home-rule municipality acting under its Charter adopted by the electorate pursuant to the Texas Constitution, Article 11, Section 5 and the TEX. LOC. GOV'T CODE ANN. Chapter 9. The **CITY** has full power of self-government under TEX. LOC. GOV'T CODE ANN. § 51.072(a). The **CITY** shall retain and exercise all powers, whether express or implied, that now are, or hereafter may be, granted to municipalities by the Texas Constitution or laws of the State of Texas. The laws from which the **CITY** derives its powers shall be considered a part of this Contract, as if embodied herein, to the extent that such laws regulate the manner or conditions under which the **CITY** may enter into a Contract.

16.3.17 OSHA Requirements

The **CONTRACTOR** will be required to adhere to, and all mechanical equipment and construction procedures shall conform to, all of the applicable requirements of the Federal Occupational Safety and Health Act of 1930 (OSHA) which is made a part of this contract by reference. Particular attention should be given to requirements relating to trench safety.

16.3.18 Trench Safety Systems

The **CONTRACTOR** shall retain the sole responsibility for the design, fabrication, erection, and removal of trench safety systems for excavation and construction of all trenches. Trench safety systems shall be designed and installed in accordance with the City of Tyler Standard Specification for Trench Safety Systems. Prior to issuance of the *Notice to Proceed* the **CONTRACTOR** shall submit two (2) copies of a Trench Safety Plan to the **CITY** which shall be written documentation of the **CONTRACTOR'S** proposed trench safety system.

16.4 RESPONSIBILITIES OF THE PROJECT DESIGNER

16.4.1 Project Designer-City Relationship

The duties, responsibilities and limitations of authority of the Project Designer as the **CITY'S** representative during construction are as set forth in the contract documents and shall not be extended or limited without written consent of the **CITY** and Project Designer. Generally, unless otherwise specifically provided in the *Special Conditions*, the Project Designer will perform the following functions:

- A. Design the project and prepare all projects plans and specifications.
- B. Assist in bidding, respond to pre-bid questions and requests for clarifications.
- C. Attend the pre-bid conference.
- D. Issue any necessary addenda.
- E. Attend pre-construction conferences, progress meetings and other job conferences as may be required.
- F. Review **CONTRACTOR'S** initial cost breakdown with schedule of values and/or bid schedule unit price list and recommend approval.
- G. Review construction progress schedule, schedule of shop drawings, and other schedules prepared by the **CONTRACTOR** and determine their acceptability.
- H. Receive and record the date of receipt, and monitor transmission of shop drawings, samples, and test data submitted by the **CONTRACTOR**, review and approve shop drawings, and transmit them back to **CONTRACTOR** as necessary. All such transmittal dates shall be recorded in the submittal log.
- I. Respond to Requests for Information (RFI's) and issue such written clarifications or interpretations of the contract documents which shall be consistent with or reasonably inferable from the overall intent of the contract documents. If **CONTRACTOR** believes that a written clarification or interpretation justifies an increase in the contract price or contract time, **CONTRACTOR** may make a claim therefor as provided in Section 16.14, "Extra Work and Claims".
- J. Verify and approve quantities of Work put in place during the preceding month, verify **CONTRACTOR'S** reimbursable field costs, if any, for authorized overtime, and review the **CONTRACTOR'S** application for payment and certify that the Work has progressed to the point indicated by the **CONTRACTOR**, that to the best of the knowledge, information and belief of Project Designer, based on observations and review, the Work is in accordance with the contract documents, and that the **CONTRACTOR** is entitled to the

- payment of the amount certified.
- K. Correct design defects.
 - L. Prepare all change orders and supplemental agreements in the form and manner approved by the **CITY**, for authorized alterations to the Work as provided for under the contract documents. Recommend to and obtain from the **CITY** approval or denial of changes to the contract times or price.
 - M. In the event of a claim or dispute by **CONTRACTOR**, interpret the requirements of the contract documents and judge the acceptability of the Work thereunder.
 - N. Assist Project Representative in preparation of punch list items.
 - O. Assist Project Representative with final inspection.
 - P. Recommend to **CITY** final completion.

16.4.2 Lines and Grades

Unless otherwise specified in the *Special Conditions*, all lines and grades shall be furnished by the Project Designer or the Project Designer's representative. Whenever necessary, construction Work shall be suspended to permit performance of this work, but such suspension will be as brief as practicable and the **CONTRACTOR** shall be allowed no extra compensation therefore. The **CONTRACTOR** shall give the Project Designer reasonable notice of the time and place where lines and grades will be needed. All stakes, marks, etc. shall be carefully preserved by the **CONTRACTOR**, and in case of careless destruction or removal by the **CONTRACTOR** or the **CONTRACTOR'S** employees, such stakes, marks, etc. shall be replaced at the **CONTRACTOR'S** expense.

16.4.3 Initial Determinations

The Project Designer initially shall determine all claims, disputes and other matters in question between the **CONTRACTOR** and the **CITY** relating to the execution or progress of the Work or the interpretation of the contract documents, and the Project Designer's decision shall be rendered in writing within a reasonable time.

16.4.4 Payments for Work

The Project Designer shall review **CONTRACTOR'S** applications for payment and supporting data, determine the amount owed to the **CONTRACTOR** and approve, in writing, payment to **CONTRACTOR** in such amounts; such approval of payment to **CONTRACTOR** constitutes a representation to the **CITY** of Project Designer's professional judgment that the Work has progressed to the point indicated to the best of the Project Designer's knowledge, information and belief, but such approval of an application for payment to **CONTRACTOR** shall not be deemed as a representation by Project Designer that Project Designer has made any examination to determine how or for what purpose **CONTRACTOR** has used the moneys paid on account of the contract price.

16.4.5 Objections

In the event the Project Designer renders any decision which, in the opinion of either party hereto, is not in accordance with the meaning and intent of this contract, either party may file with the Project Designer within thirty days their written objection to the decision.

16.5 RESPONSIBILITIES OF THE PROJECT REPRESENTATIVES

16.5.1 Project Representative-City Relationship

The term Project Representative refers to the person or firm appointed by the **CITY** to be on the project site daily to oversee the construction on the **CITY'S** behalf. The Project Representative performs those functions of the person sometimes referred to as the "owner's representative," "resident engineer," "resident project representative," "onsite construction manager," or the "construction administrator." Sometimes the Project Representative will be a City employee, sometimes the Project Representative will be the same person or firm that designed the project, i.e., the Project Designer, and sometimes a different architect or engineer, but in any case, the Project Representative will represent the **CITY** and has only the authority granted by **CITY**, whether through an employment relationship or through a contract for professional services. The duties and responsibilities and the limitations of authority of the Project Representative during construction are set forth in the contract documents. Generally, unless otherwise specifically stated in the *Special Conditions*, the Project Representative may perform the following functions:

- A. Attend pre-construction conferences, progress meetings and other job conferences as may be required.
- B. Provide "on-site" observation regarding conformance of the Work with the contract documents. Observe and document Work and any delays and identify and reject defective or deficient Work. Observe and approve or reject construction materials and equipment to determine their general compliance with the contract documents.
- C. Assist **CONTRACTOR** in acquiring materials testing laboratory and inspection services.
- D. Schedule, assist and accompany other City staff, the Project Designer and inspectors representing other agencies having jurisdiction over the Project that are visiting the Work and record and report the outcome of these inspections.
- E. Prepare and furnish **CITY** with monthly reports of the progress of the Work and of the **CONTRACTOR'S** compliance with the approved progress schedule.
- F. Review the Project Designer's interpretation of the contract documents for subsequent presentation to **CONTRACTOR** and resolve unanticipated field problems by "on-site" inspections.
- G. Respond to general RFI's for general clarification and interpretation and consult, when appropriate, with Project Designer or refer RFI to Project Designer for response.
- H. Issue field orders.
- I. Advise the Project Designer when it is believed Work should be corrected, rejected, uncovered for observations, or requires special tests or inspections.
- J. Furnish to **CITY** information, as required, relating to the **CONTRACTOR'S** claims including documents, calculations and other information relevant to such claims together with recommendations with regard to payment of such claims.
- K. Maintain orderly files for correspondence, reports or job conferences, reproductions of original contract documents including addenda, authorized alterations to the contract documents, change orders, field orders, additional drawings issued subsequent to the execution of the AGREEMENT, clarification letters, and other alterations to the contract documents, interpretations of the contract documents, progress reports, and other project related documents.
- L. Prepare, with assistance from the Project Designer, punch list items.
- M. Recommend to **CITY** substantial completion.
- N. Perform final inspection with assistance from the Project Designer.
- O. Review **CONTRACTOR'S** completion documents.
- P. Recommend to **CITY**, with concurrence of the Project Designer, final completion.

16.5.2 Professional Inspection by Project Representative

The Project Representative shall make periodic visits to the site to become familiar generally with the progress of the executed Work and to determine if such Work generally meets the essential performance and design features and the technical and functional engineering requirements of the contract documents; provided and except, however, that the Project Representative shall not be responsible for making any detailed, exhaustive, comprehensive or continuous on-site inspection of the quality or quantity of the Work or be in any way responsible, directly or indirectly, for the construction means, methods, techniques, sequences, quality, procedures, programs, safety precautions or lack of same incident thereto or in connection therewith. Notwithstanding any other provision of this AGREEMENT or any other contract document, the Project Representative shall not be in any way responsible or liable for any acts, errors, omissions or negligence of the **CONTRACTOR**, any subcontractor or any of the **CONTRACTOR'S** or subcontractor's agents, servants or employees or any other person, firm or corporation performing or attempting to perform any of the Work.

16.6 CONTRACT DOCUMENTS

16.6.1 Ownership of Drawings

The **CONTRACTOR**, and any subcontractor or supplier or other person or organization performing or furnishing any of the Work under a direct or indirect contract with the **CITY**, shall not 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 the Project Designer or Project Designer's consultant, and the **CONTRACTOR** shall not reuse any of such drawings or specifications, other documents or copies on extensions of the Work or any other project without written consent of the **CITY** and Project Designer and specific verification or adaption by the Project Designer.

16.6.2 Adequacy of Design

It is understood that the **CITY** believes it has employed competent engineers, architects and designers. It is, therefore, agreed that the **CITY** shall be responsible for the adequacy of the design, sufficiency of the contract documents, the safety of the structure and the practicability of the operations of the completed project; provided the **CONTRACTOR** has complied with the requirements of the said contract documents, all approved modifications thereof, and additions and alterations thereto approved in writing by the **CITY**. The burden of proof of such compliance shall be upon the **CONTRACTOR** to show that the **CONTRACTOR** has complied with the said requirements of the contract documents, all approved modifications thereof and all approved additions and alterations thereto.

16.6.3 Specifications

Titles to divisions and paragraphs in the specifications are introduced merely for convenience and are not to be taken as a correct or complete segregation of the several units of material and labor. No responsibility, either direct or implied, is assumed by the Project Designer for omissions or duplications by the **CONTRACTOR** or Subcontractors, due to real or alleged error in arrangement of matter in the specifications.

16.6.4 Discrepancies and Omissions

It is the intent of this contract that all Work must be done and all material must be furnished in accordance with the generally accepted practice, and in the event of any discrepancies between the separate contract documents, the priority of interpretation defined in the *Standard Form of Agreement* shall govern. In the event that there is still any doubt as to the meaning and intent of any portion of the contract, specifications or drawings, the Project Designer shall define which is intended to apply to the Work.

16.7 BONDS

16.7.1 General

The **CONTRACTOR** is required, pursuant to TEX. GOV'T CODE ANN. § 2253.021, and/or the *Standard Form of Agreement* to execute all bonds before commencing the work. The contract shall not be in effect until **CONTRACTOR** executes the AGREEMENT and files with the **CITY** a good and sufficient *Statutory Performance and Maintenance Bond and Payment Bond* (when applicable) or *Payment Bond* in the amount equal to one hundred percent (100%) of the total amount of the contract. Such bonds are furnished by the **CONTRACTOR** and approved by the **CITY**.

Within fifteen (15) calendar days after written notification of the award of the contract, the **CONTRACTOR** shall submit *Statutory Performance and Maintenance Bond and Payment Bonds* (when applicable) or *Payment Bond* to **CITY** on standard forms as required by the *Standard Form of Agreement*.

Sureties may not be accepted who are now in default or delinquent on any bonds or who are interested in any litigation against the **CITY**. All bonds must be made on standard forms and must be executed by an approved surety company authorized to do business in the State of Texas and registered by the State Board of Insurance to conduct business in the State of Texas and acceptable according to the most recent list of the companies holding Certificates of Authority from the Secretary of the Treasury of the United States, shown on the Treasury List. Each bond must be executed by the **CONTRACTOR** and the sureties.

Should any surety on the contract be determined unsatisfactory at any time by the City Council, notice will be given to the **CONTRACTOR** to that effect, and the **CONTRACTOR** must provide a new surety satisfactory to the **CITY** within fifteen (15) calendar days. Payments may be withheld until the new surety or sureties, as required, have qualified and been accepted by the **CITY**.

16.7.2 Performance Bond

The performance bond guarantees the **CITY** that the **CONTRACTOR** will fully and faithfully execute the Work and performance of the AGREEMENT according to its terms including price and time and is solely for the protection of the **CITY** in the amount of the contract and conditioned on the faithful performance of the work in accordance with the plans, specifications, and contract documents. Pursuant to TEX. GOV'T CODE ANN. § 2253.021 and the *Standard Form of Agreement* a performance bond is required when the contract amount is in excess of one hundred thousand dollars (\$100,000).

16.7.3 Maintenance Bond

The maintenance bond guarantees the **CITY** that the **CONTRACTOR** will guarantee the Work

against faulty workmanship and/or materials for a specified period of time following completion of the AGREEMENT. Pursuant to **CITY** policy and the *Standard Form of Agreement* a maintenance bond shall accompany the performance bond for a maintenance period of one (1) year after the date of final acceptance of the Work.

16.7.4 Payment Bond

The payment bond guarantees the **CITY** that the **CONTRACTOR** shall pay all bills for materials and labor for work provided for in said AGREEMENT and is solely for the protection and use of payment bond beneficiaries who have a direct contractual relationship with the prime contractor or a subcontractor to supply public work, labor or material and in the amount of the contract. Pursuant to TEX. GOV'T CODE ANN. § 2253.021 for contracts in excess of \$25,000 a payment bond is required; however, pursuant to **CITY** Policy and the *Standard Form of Agreement* a payment bond shall be required for ALL projects regardless of value.

16.8 INSURANCE REQUIRED

16.8.1 Contractor Shall Maintain Insurance

CONTRACTOR agrees, at its sole expense, to maintain on a primary basis during the life of this Contract and the performance of Work hereunder, insurance coverage, limits, and endorsements unless otherwise noted herein. Insurance required by this contract for the **CITY** as additional insured shall be primary insurance and not contributing with any other insurance available to **CITY**.

CONTRACTOR agrees to provide evidence of the following coverage's at execution of contract:

- Commercial General Liability,
- Business Auto Liability,
- Contractor's Professional Errors & Omissions Liability if required by City Operation Department,
- Inland Marine Builder's Risk Insurance if required by City Operational Department,
- Contractor's Pollution Liability Insurance if required by a City Operational Department,
- Commercial Umbrella / Excess Liability, and
- Worker's Compensation and Employer's Liability

In the event the **CONTRACTOR** performs any site work, other than testing, then all the insurance required herein will need to be evidenced prior to commencement of said site work.

16.8.2 Insurance Requirements shall not limit Contractor's Liabilities and Obligations

The **CONTRACTOR** agrees the insurance requirements herein as well as **CITY'S** review or acknowledgement, is not intended to and shall not in any manner limit or qualify the liabilities and obligations assumed by the **CONTRACTOR** under this AGREEMENT.

16.8.3 Commercial General Liability

CONTRACTOR agrees to maintain Commercial General Liability at a limit of liability not less than one million (**\$1,000,000**) **Each Occurrence**, two million (**\$2,000,000**) **General Aggregate per project**. **CONTRACTOR** agrees its coverage will not contain any restrictive endorsement(s) excluding or limiting Products - Completed Operations, Independent Contractors, Broad Form Property Damage, X-C-U Coverage (X = Explosion Hazard; C = Collapse Hazard; U =

Underground Damage), Contractual Liability or Cross Liability. The **CONTRACTOR** agrees any Self-Insured-Retention or deductible shall not exceed twenty-five thousand (\$25,000).

16.8.4 Business Automobile Liability

CONTRACTOR agrees to maintain Business Automobile Liability at a limit of liability not less than one million **(\$1,000,000) Each Occurrence**. Coverage shall include bodily injury and property damage liability arising out of the operation, maintenance and use of Any Auto, or All Owned Autos, and Hired Autos, and Non-Owned automobiles. In the event **CONTRACTOR** does not own automobiles, **CONTRACTOR** agrees to maintain coverage for Hired & Non-Owned Auto Liability, which may be satisfied by way of endorsement to the Commercial General Liability policy or separate Business Auto Liability policy.

16.8.5 Contractor's Professional Errors & Omissions Liability

If a City Operational Department requires Professional Errors & Omissions Liability coverage, **CONTRACTOR** agrees to maintain **CONTRACTOR'S** Professional Error's & Omissions Liability at a limit of liability not less than one million **(\$1,000,000) Each Occurrence**, two million **(\$2,000,000) General Aggregate**. The **CONTRACTOR** agrees the policy shall include a minimum three (3) year Discovery (tail) reporting period, and a Retroactive Date that equals or precedes the effective date of the AGREEMENT, or the performance of services hereunder. The **CONTRACTOR** agrees the Self-Insured-Retention shall not exceed twenty-five thousand (\$25,000). This coverage may be provided on a Per-Project Basis.

16.8.6 Inland Marine Builder's Risk Insurance

If a City Operational Department requires Inland Marine Builder's Risk coverage, the **CONTRACTOR**, prior to notice to proceed or commencement of Work, whichever occurs first, agrees to maintain an Inland Marine Builder's Risk insurance coverage form with an amended policy period of no less than twenty-two (22) months or estimated project length whichever is longer, if available, providing coverage to protect the interests of the **CITY, CONTRACTOR**, sub-contractors, including property acquired under a sales tax incentive program, property in transit, and property on or off-premises, which shall become part of the Work.

Coverage shall be written on an All-Risk, Replacement Cost, and Completed Value Form basis in an amount at least equal to one-hundred percent (100%) of the projected completed value of the Work, as well as subsequent modifications of that sum due to Change Orders. This policy shall also include Delay Cost coverage for soft costs, which shall at a minimum include additional expenses for interest, legal, consulting, insurance, architectural and engineering, **CONTRACTOR'S** overhead and general conditions, and equipment rental. The period of indemnity shall not be less than twelve (12) months and the limit of Delay Cost coverage not be less than ten percent (10%) of the projected completed value of the Work and shall be a scheduled limit on the policy in addition to a scheduled limit for the hard cost coverage. The waiting period for Delay Cost coverage may not exceed thirty (30) days. Collectively, the scheduled soft cost limit and hard cost limit may equal one-hundred percent (100%) of the projected value of the Work, unless the builder's risk carrier requires the Delay Cost coverage to be in addition to the one hundred percent (100%) projected value of the Work. **CONTRACTOR** agrees to be responsible for reporting increases in the projected completed value of the Work due to Change Orders to its insurance carrier.

The **CONTRACTOR** further agrees that any flat deductible(s) shall not exceed one hundred thousand (\$100,000), any wind percentage deductible (when applicable) shall not exceed ten-

percent (10%); and any flood sublimit shall not be less than twenty-five percent (25%) of the projected completed value of the Work for this policy.

The **CONTRACTOR** agrees to endorse the Inland Marine Builder's Risk insurance with a manuscript endorsement eliminating the automatic termination of coverage in the event the building is occupied in whole or in part, or put to its intended use, or partially accepted by **CITY**. The manuscript endorsement shall amend the automatic termination clause to only terminate coverage if the policy expires, is cancelled, the **CITY'S** interest in the building ceases, or the building is accepted or insured by the **CITY**.

The **CONTRACTOR** agrees to endorse the **CITY** as "Additional Insured" on the Inland Marine Builder's Risk Insurance coverage form.

16.8.7 Contractor's Pollution Liability

If a City Operational Department requires Contractor's Pollution Liability coverage, the **CONTRACTOR** agrees to maintain Contractor's Pollution Liability at a limit of liability not less than one million (**\$1,000,000 Each Occurrence**), two million (**\$2,000,000 General Aggregate**).

16.8.8 Commercial Umbrella/Excess Liability

CONTRACTOR agrees to maintain either a Commercial Umbrella or Excess Liability at a limit of liability not less than five million (**\$5,000,000 Each Occurrence**), five million (**\$5,000,000 General Aggregate**). The **CONTRACTOR** agrees to endorse the **CITY** as an "Additional Insured" on the Commercial Umbrella/Excess Liability, unless the Commercial Umbrella/Excess Liability provides coverage on a pure/true follow-form basis, or the **CITY** is automatically defined as an Additional Protected Person. The **CONTRACTOR** agrees any Self-Insured-Retention or deductible shall not exceed twenty-five thousand (\$25,000).

16.8.9 Additional Insured Endorsements

The **CONTRACTOR** agrees to endorse the **CITY** as an "Additional Insured" on the Commercial General Liability. Contractor shall choose one of the three Endorsement Option stated below. All Endorsements shall be in the form required. All pages of the Endorsement(s) shall be attached. The form of the endorsement(s) shall be:

Option 1:

CG 20 10 10 01

Additional Insured - Owners, Lessees, or Contractors – Scheduled Person or Organization

AND, the additional endorsement of

CG 20 37 07 04

Additional Insured – Owners, Lessees, or Contractors – Completed Operations

shall be required to provide back coverage for the **CONTRACTOR'S** "your work" as defined in the policy and liability arising out of the products-completed operations hazard.

Option 2:

CG 20 10 07 04

Additional Insured - Owners, Lessees, or Contractors – Scheduled Person or Organization

AND, the additional endorsement of

CG 20 37 07 04

Additional Insured – Owners, Lessees, or Contractors – Completed Operations

shall be required to provide back coverage for the **CONTRACTOR’S** “your work” as defined in the policy and liability arising out of the products-completed operations hazard.

Option 3:

GA 4113 11 99

Additional Insured – Owners, Lessees, or Contractors – Scheduled Person or Organization – Your Work

AND, the additional endorsement of

GA 233 02 07

Contractors’ Commercial General Liability Broadened – with coverage for Completed Operations in conformance to specific written contract

CONTRACTOR shall attach actual copies of the endorsements.

Additionally, **CONTRACTOR** agrees to endorse the **CITY** as an “Additional Insured” under the Commercial Umbrella / Excess Liability and the Inland Marine Builders Risk Insurance, if required, as also provided herein.

The name of the organization endorsed as Additional Insured for all endorsements shall read “City of Tyler.”

16.8.10 Deductibles, Coinsurance Penalties & Self-Insured Retention

CONTRACTOR agrees to be fully and solely responsible for any costs or expenses as a result of a coverage deductible, coinsurance penalty, or self-insured retention; including any loss not covered because of the operation of such deductible, coinsurance penalty, self-insured retention, or coverage exclusion or limitation. For deductible amounts that exceed the amounts stated herein that are acceptable to **CITY**, the **CONTRACTOR** agrees, when requested by **CITY**, to maintain a Commercial Surety Bond in an amount equal to said deductible amount.

16.8.11 Waiver of Subrogation

CONTRACTOR agrees by entering into this written AGREEMENT to a Waiver of Subrogation in favor of the **CITY**, **CONTRACTOR**, sub-contractor, architects, or engineers for each required policy providing coverage during the life of this AGREEMENT. **CONTRACTOR** agrees to notify the insurer and request the policy be endorsed with a Waiver of Transfer of Rights of

Recovery Against Others, or an equivalent endorsement and provide such endorsement to **CITY**. This Waiver of Subrogation requirement shall not apply to any policy, which includes a condition that specifically prohibits such an endorsement, or voids coverage should the **CONTRACTOR** enter into such an agreement on a pre-loss basis.

16.8.12 Right to Revise or Reject

CONTRACTOR agrees the **CITY** reserves the right, but not the obligation, to review or revise any insurance requirement, not limited to limits, coverage and endorsements based on insurance market conditions affecting the availability or affordability of coverage; or changes in the scope of work / specifications affecting the applicability of coverage.

Insurance required herein shall be issued by a company or companies of sound and adequate financial responsibility and authorized to do business in the State of Texas. All policies shall be subject to examination and approval by the City Attorney's Office in the **CITY'S** Legal Department for their adequacy as to form, content, form of protection, and providing company. Additionally, the **CITY** reserves the right, but not the obligation, to review and reject any insurance policies failing to meet the criteria stated herein, or any insurer(s) providing coverage due of its poor financial condition or failure to operate legally in the State of Texas. In such events, **CITY** shall provide **CONTRACTOR** written notice of such revisions or rejections.

16.8.13 No Representation of Coverage Adequacy

The coverage, limits or endorsements required herein protect the primary interests of the **CITY**, and the **CONTRACTOR** agrees in no way should these coverage, limits or endorsements required be relied upon when assessing the extent or determining appropriate types and limits of coverage to protect the **CONTRACTOR** against any loss exposures, whether as a result of the Project or otherwise.

16.8.14 Certificate of Insurance

CONTRACTOR agrees to provide **CITY** with Certificate(s) of Insurance that clearly evidence the **CONTRACTOR'S** insurance contains the minimum coverages, limits, and endorsements set forth herein. A minimum thirty (30) day endeavor to notify due to cancellation or non-renewal of coverage shall be identified on each Certificate(s) of Insurance. In the event the **CITY** is notified that a required insurance coverage will cancel or expire during the period of this AGREEMENT, the **CONTRACTOR** agrees to furnish **CITY** prior to the expiration of such insurance, a new Certificate of Insurance evidencing replacement coverage. When notified by **CITY**, the **CONTRACTOR** agrees to not continue Work pursuant to this AGREEMENT, unless all required insurance remains in effect.

The **CITY** shall have the right, but not the obligation, of prohibiting **CONTRACTOR** from entering the Work site until a new Certificate of Insurance is provided to the **CITY** evidencing the replacement coverage. The **CONTRACTOR** agrees the **CITY** reserves the right to withhold payment to **CONTRACTOR** until evidence of reinstated or replacement coverage is provided to the **CITY**. If the **CONTRACTOR** fails to maintain the insurance as set forth herein, the **CONTRACTOR** agrees the **CITY** shall have the right, but not the obligation, to purchase replacement insurance, which the **CONTRACTOR** agrees to reimburse any premiums or expenses incurred by the **CITY**.

16.8.15 Workers' Compensation & Employer's Liability

- A. The **CONTRACTOR** agrees to maintain its own Workers' Compensation Insurance pursuant to statutory limits. *See* TEX. LAB. CODE ANN. Title 5, Subtitle A, Chapter 401; TEX. ADMIN CODE, Title 28, Part 2. (NOTE: Elective exemptions or coverage through an employee leasing arrangement will NOT satisfy this requirement).
- B. The **CONTRACTOR** agrees to maintain its own Employer's Liability Insurance at a limit of liability not less than one million **\$1,000,000 Bodily Injury by Accident**, one million **\$1,000,000 Bodily Injury by Disease Each Occurrence**, one million **\$1,000,000 Bodily Injury by Disease Aggregate Limit**.
- C. Definitions:
- (1) **Certificate of coverage (certificate)** - A copy of a certificate of insurance, a certificate of authority to self-insure issued by the commission, or a workers' compensation coverage agreement (TWCC-81, TWCC-82, TWCC-83, or TWCC-84), showing statutory workers' compensation insurance coverage for the person's or entity's employees providing services on a project, for the duration of the project.
 - (2) **Duration of the project** - includes the time from the beginning of work on the project until the contractor's/person's work on the project has been completed and accepted by the governmental entity.
 - (3) **Persons providing services on the project ('subcontractor' in § TEX. LAB. CODE ANN. § 406.096)** - includes all persons or entities performing all or part of the services the contractor has undertaken to perform on the project, regardless of whether that person contracted directly with the contractor and regardless of whether that person has employees. This includes without limitation independent contractors, subcontractors, leasing companies, motor carriers, owner-operators, employees of any such entity, or employees of any entity which furnishes persons to provide services on the project. "Services" without limitation, providing, hauling, or delivering equipment or materials, or providing labor, transportation, or other service related to a project. "Services" does not include activities unrelated to the project, such as food/beverage vendors, office supply deliveries, and delivery of portable toilets.
- D. The contractor shall provide coverage, based on proper reporting of classification codes and payroll amounts and filing of any coverage agreements which meets the statutory requirements of TEX. LAB. CODE ANN. § 401.011(44).
- E. The contractor must provide a certificate of coverage to the governmental entity prior to being awarded the contract.
- F. If the coverage period shown on the contractor's current certificate of coverage ends during the duration of the project, the contractor must, prior to the end of the coverage period, file a new certificate of coverage with the governmental entity showing that coverage has been extended.
- G. The contractor shall obtain from each person providing services on a project, and provide to the governmental entity:
- (1) a certificate of coverage, prior to that person beginning work on the project, so the governmental entity will have on file certificates of coverage showing coverage for

-
- all persons providing services on the project; and
- (2) no later than seven days after receipt by the contractor, a new certificate of coverage showing extension of coverage, if the coverage period shown on the current certificate of coverage ends during the duration of the project.
- H. The contractor shall retain all required certificates of coverage for the duration of the project and for one year thereafter.
- I. The contractor shall notify the **CITY** in writing by certified mail or personal delivery, within ten (10) days after the contractor knew or should have known, of any change that materially affects the provision of coverage of any person providing services on the project.
- J. The contractor shall post a notice on each project site informing all persons providing services on the project that they are required to be covered, and stating how a person may verify current coverage and report failure to provide coverage. This notice does not satisfy other posting requirements imposed by the Act or other commission rules. This notice must be printed with a title in at least 30 point bold type and text in at least 19 point normal type, and shall be in both English and Spanish and any other language common to the worker population. The text for the notices shall be in the text, form and manner prescribed by the Texas Workers' Compensation Commission, as shown in Exhibit 1, without any additional words or changes.
- K. The contractor shall contractually require each person with whom it contracts to provide services on a project, to:
- (1) provide coverage, based on proper reporting of classification codes and payroll amounts and filing of any coverage agreements, which meets the statutory requirements of TEX. LAB. CODE ANN. § 401.011(44) for all of its employees providing services on the project, for the duration of the project;
 - (2) provide to the contractor, prior to that person beginning work on the project, a certificate of coverage showing that coverage is being provided for all employees of the person providing services on the project, for the duration of the project;
 - (3) include in all contracts to provide services on the project the language in subsection J of this section;
 - (4) provide the contractor, prior to the end of the coverage period, a new certificate of coverage showing extension of coverage, if the coverage period shown on the current certificate of coverage ends during the duration of the project;
 - (5) obtain from each other person with whom it contracts, and provide to the contractor:
 - (a) a certificate of coverage, prior to the other person beginning work on the project; and
 - (b) prior to the end of the coverage period, a new certificate of coverage showing extension of coverage, prior to the end of the coverage period, if the coverage period shown on the current certificate of coverage ends during the duration of the project;
 - (6) retain all required certificates of coverage on file for the duration of the project and for one year thereafter;
 - (7) notify the **CITY** in writing by certified mail or personal delivery, within ten (10) days after the person knew or should have known, of any change that materially affects the provision of coverage of any person providing services on the project; and
 - (8) contractually require each person with whom it contracts, to perform as required by

paragraphs (1) - (8) of this subsection, with the certificates of coverage to be provided to the person for whom they are providing services.

- L. By signing this contract or providing or causing to be provided a certificate of coverage, the contractor and the person signing this contract is representing to the **CITY** that all employees of the contractor who will provide services on the project will be covered by workers' compensation coverage for the duration of the project, that the coverage will be based on proper reporting of classification codes and payroll amounts, and that all coverage agreements will be filed with the appropriate insurance carrier or, in the case of a self-insured, with the commission's Division of Self-Insurance Regulation. Providing false or misleading information may subject the contractor to administrative penalties, criminal penalties, civil penalties, or other civil actions.
- M. The contractor's failure to comply with any of these provisions is a breach of contract by the contractor which entitles the **CITY** to declare the contract void if the contractor does not remedy the breach within ten days after receipt of notice of breach from the **CITY**.

EXHIBIT 1
REQUIRED WORKERS' COMPENSATION COVERAGE

"The law requires that each person working on this site or providing services related to this construction project must be covered by workers' compensation insurance. This includes persons providing, hauling, or delivering equipment or materials, or providing labor or transportation or other service related to the project, regardless of the identity of their employer or status as an employee."

"Call the Texas Workers' Compensation Commission at 512-440-3789 to receive information on the legal requirement for coverage, to verify whether your employer has provided the required coverage, or to report an employer's failure to provide coverage."

- N. A person providing services on a project, other than a contractor, shall:
- (1) provide coverage for its employees providing services on a project, for the duration of the project based on proper reporting of classification codes and payroll amounts and filing of any coverage agreements which meets the statutory requirements of TEX. LAB. CODE ANN. § 401.011(44);
 - (2) provide a certificate of coverage as required by its contract to provide services on the project, prior to beginning work on the project;
 - (3) have the following language in its contract to provide services on the project: 'By signing this contract or providing or causing to be provided a certificate of coverage, the person signing this contract is representing to the **CITY** that all employees of the person signing this contract who will provide services on the project will be covered by workers' compensation coverage for the duration of the project, that the coverage will be based on proper reporting of classification codes and payroll amounts, and that all coverage agreements will be filed with the appropriate insurance carrier or, in the case of a self-insured, with the commission's Division of Self-Insurance Regulation. Providing false or misleading information may subject the contractor to administrative penalties, criminal penalties, civil penalties, or other civil actions.'

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- (4) provide the person for whom it is providing services on the project, prior to the end of the coverage period shown on its current certificate of coverage, a new certificate showing extension of coverage, if the coverage period shown on the certificate of coverage ends during the duration of the project;
 - (5) obtain from each person providing services on a project under contract to it, and provide as required by its contract:
 - (a) a certificate of coverage, prior to the other person beginning work on the project; and
 - (b) prior to the end of the coverage period, a new certificate of coverage showing extension of the coverage period, if the coverage period shown on the current certificate of coverage ends during the duration of the project;
 - (6) retain all required certificates of coverage on file for the duration of the project and for one year thereafter;
 - (7) notify the **CITY** in writing by certified mail or personal delivery, of any change that materially affects the provision of coverage of any person providing services on the project and send the notice within ten days after the person knew or should have known of the change; and
 - (8) contractually require each other person with whom it contracts to:
 - (a) provide coverage based on proper reporting of classification codes and payroll amounts and filing of any coverage agreements for all of its employees providing services on the project, for the duration of the project;
 - (b) provide a certificate of coverage to it prior to that other person beginning work on the project;
 - (c) include in all contracts to provide services on the project the language in paragraph (3) of this subsection;
 - (d) provide, prior to the end of the coverage period, a new certificate of coverage showing extension of the coverage period, if the coverage period shown on the current certificate of coverage ends during the duration of the project;
 - (e) obtain from each other person under contract to it to provide services on the project, and provide as required by its contract:
 - (i) a certificate of coverage, prior to the other person beginning work on the project; and
 - (ii) prior to the end of the coverage period, a new certificate of coverage showing extension of the coverage period, if the coverage period shown on the current certificate of coverage ends during the duration of the contract;
 - (f) retain all required certificates of coverage on file for the duration of the project and for one year thereafter;
 - (g) notify the **CITY** in writing by certified mail or personal delivery, within ten days after the person knew or should have known, of any change that materially affects the provision of coverage of any person providing services on the project; and
 - (h) contractually require each person with whom it contracts, to perform as required by this subparagraph and subparagraphs (a)-(g) of this paragraph, with the certificate of coverage to be provided to the person for whom they are providing services.

O. The failure of a person providing services on a project to comply with any of these provisions is a breach of contract by the person providing services on a project which

entitles the **CITY** to declare the contract void if the person providing services on a project does not remedy the breach within ten (10) days after receipt of notice of breach from the **CITY**.

16.9 QUALITY OF MATERIALS AND WORKMANSHIP

16.9.1 Materials Approved for Work

No materials which have been used by the **CONTRACTOR** for any temporary purpose whatsoever are to be incorporated in the permanent structure without written consent of the Project Designer. All materials to be used shall be new.

Unless otherwise stated, where materials or equipment are specified by a trade or brand name, it is not the intention of the **CITY** to discriminate against an equal product of another manufacturer, but rather to set a definite standard of quality or performance, and to establish an equal basis for the evaluation of bids. Where the words "or approved equal", "or accepted equal" or other such expressions are used, they shall be understood to mean that the thing referred to shall be the equivalent of or equal to some other thing, in the opinion or judgment of the Project Designer. Unless otherwise specified, all materials shall be the best of their respective kinds and shall be in all cases fully equal to approved samples. Notwithstanding that the words "or approved equal", "or accepted equal" or other such expressions may be used in the specifications in connection with a material, manufactured article or process, the material, article or process specifically designated shall be used, unless a substitute shall be approved in writing by the Project Designer, and the Project Designer shall have the right to require the use of such specifically designated material, article, or process.

16.9.2 Testing of Materials

Testing of all materials to be incorporated into the project will be made as directed by the Project Designer or **CITY** at the expense of the **CITY**. All retesting will be at the expense of the **CONTRACTOR**. The testing laboratory will be designated by the **CITY** and all materials must meet the specification requirements. For materials furnished by a manufacturer such as reinforcing steel, expansion joint materials, concrete, pipe, miscellaneous steel, cast iron materials, etc., the **CONTRACTOR** may be required to furnish a manufacturer's certificate that the material meets the requirements specified for this project.

All testing performed by the **CITY** shall be for quality assurance purposes only and shall not constitute any part of the **CONTRACTOR'S** quality control program.

16.9.3 Defects and Their Remedies

The Project Representative shall not have the power to waive the obligations of this contract for the furnishing by the **CONTRACTOR** of good material, and of the **CONTRACTOR** performing good Work as herein described, and in full accordance with the plans and specifications. If the Work or any part thereof, or any material brought on the site of the Work for use in the Work or selected for the same, shall be deemed by the Project Representative as unsuitable or not in conformity with the specifications, the **CONTRACTOR** shall, after receipt of written notice thereof from the Project Representative, forthwith remove such material and rebuild or otherwise remedy such Work so that it shall be in full accordance with this contract.

No failure or omission of the Project Representative to discover, object to or condemn any

defective Work or material shall release the **CONTRACTOR** from the obligations to fully and properly perform the contract, including without limitations, the obligation to at once tear out, remove and properly replace the same at any time prior to final acceptance upon the discovery of said defective Work or material; provided, however, that the Project Representative shall, upon request of the **CONTRACTOR**, inspect and accept or reject any material furnished.

Any questioned Work may be ordered taken up or removed for re-examination by the Project Representative prior to final acceptance, and if found not in accordance with the specifications for said Work, all expense of removing, re-examination and replacement shall be borne by the **CONTRACTOR**, otherwise the expense thus incurred shall be allowed as provided for in Section 16.14, “Extra Work and Claims”, and shall be paid for by the **CITY**; provided that, where inspection or approval is specifically required by the specifications prior to performance of certain Work, should the **CONTRACTOR** proceed with such Work without requesting prior inspection or approval, the **CONTRACTOR** shall bear all expense of taking up, removing, and replacing this Work if so directed by the Project Representative.

16.9.4 Guarantee

The **CONTRACTOR** shall guarantee the materials furnished and the installation performed for a period of one (1) year of operation after the date of final acceptance by the **CITY**.

In the event a defect is found during the guarantee period, the **CONTRACTOR** will be notified and shall immediately repair the defect, furnishing and installing all materials necessary. The repair shall be executed in a manner satisfactory to the **CITY**. Should the **CONTRACTOR** proceed with such repairs without requesting prior inspection or approval, the **CONTRACTOR** shall bear all expense of taking up, removing, and replacing this Work if so directed by the Project Representative.

The **CONTRACTOR** is to perform any repair immediately when notified by the **CITY** without question or delay because of any doubt as to the probable cause of the defect, regardless of whether the repair is covered by the guarantee. In the event that the defect corrected by the **CONTRACTOR** should be found to be caused by some event or disturbance which occurred after the date of the final acceptance, the responsible party will pay the **CONTRACTOR** for the time and materials used in the repair in accordance with the terms of Section 16.14 “Extra Work and Claims”. If the defect necessitating the repair was not found to be caused by a disturbance occurring after the date of the final acceptance, the **CONTRACTOR** shall furnish all labor, equipment, tools, and materials necessary for the repair without any additional payment.

In the event the defect creates an emergency, or if the **CONTRACTOR** fails to begin repair work within a reasonable length of time according to the nature of the defect, the **CITY** reserves the right to perform the repair work by other means. In this event, if the defect is found to be covered by the guarantee, the **CONTRACTOR** shall then pay the **CITY** for the equipment, time, labor, and materials used in accordance with the method of calculating payment for Extra Work as set out in Section 16.14, “Extra Work and Claims”.

The period of the guarantee shall be one (1) year of satisfactory service from the date of final acceptance of the Work by the **CITY**. In the event it is necessary to take the improvements out of service because of defective materials or workmanship, the period of guarantee shall be extended until the improvements have been in continuous service for a period of one (1) year.

16.10 MAINTENANCE OF SITE

16.10.1 Protection of Adjoining Property

The **CONTRACTOR** shall take proper means to protect the adjacent or adjoining property or properties in any way encountered, which might be injured or seriously affected by any process of construction to be undertaken under this AGREEMENT, from any damage or injury by reason of said process of construction; and the **CONTRACTOR** shall be liable for any and all claims for such damage on account of the **CONTRACTOR'S** failure to fully protect all adjoining property. The **CONTRACTOR** agrees to indemnify, hold harmless and defend the **CITY** and Project Designer from and against all claims for property damages to any adjacent or adjoining real property arising or growing out of the performance of the contract, to the extent that such damage was caused by the negligent or intentional acts or omissions of **CONTRACTOR**.

The **CONTRACTOR** shall repair all fences, concrete walls, concrete sidewalks, concrete curbs, gravel, asphalt and concrete driveways, signs, culverts, and all other miscellaneous improvements, unless otherwise specified by bid item in the *Proposal* or *Special Conditions*, at no additional expense to the **CITY**, damaged by the **CONTRACTOR** due to the Work on the project, to a condition equal to or better than their condition before construction.

16.10.2 Driveways and Property Access

The **CONTRACTOR** shall keep all driveways and parking areas to properties adjacent to the site of Work open at all times except for the minimum practical time required to install the Work. The timing for pavement cuts shall be coordinated with the Project Representative in advance of pavement cuts in order to assure that property owners and persons using public roadways are inconvenienced as little as possible and that access to private property is maintained at all times. In addition to other methods for maintaining property access as described elsewhere in the specifications, the **CONTRACTOR** shall either backfill all trenches at the end of the day and place a temporary oil sand surface over streets or driveways, or provide a steel traffic plate of sufficient size and thickness to safely bridge open trenches and allow vehicular access on streets or driveways.

The provision of this equipment and its subsequent maintenance and use shall be subsidiary to the various pay items established in the *Proposal* for furnishing and installing the Work. The provision and use of the steel traffic plate shall not relieve the **CONTRACTOR** from the obligation to backfill the trench and provide temporary gravel patching in paved areas as quickly as practical per the requirements in the *Technical Specifications*.

16.10.3 Traffic Control

The safety of the public and the convenience of traffic shall be regarded as of prime importance. The **CONTRACTOR** shall submit a traffic control plan along with the sequence of construction at the scheduled Pre-Construction Conference, if requested by the **CITY**. Unless otherwise directed, all portions of the streets in this project shall be kept open to traffic. It shall be the responsibility of the **CONTRACTOR** to ensure that two-way traffic (minimum 22' wide) on an all-weather surface may safely bypass the construction site and that access is provided to abutting private property. An all-weather surface shall be of a material and depth as defined in the City of Tyler Unified Development Code and approved by the Project Representative.

The **CONTRACTOR** shall plan and execute all Work in a manner that will cause the minimum interference with traffic. The **CONTRACTOR** shall place, and maintain in good condition,

standard barricades at each end of the project and at other locations where traffic is rerouted or blocked from using regular traffic lanes. Where the work on this project creates a safety hazard to the general public, the **CONTRACTOR** shall furnish and erect sufficient barricades and warning signs to warn the public of the danger. The **CONTRACTOR** shall also provide sufficient flares or other emergency lighting to warn the public at night. Barricades, signs, and traffic handling shall be in accordance with the Texas Manual on Uniform Traffic Control Devices (TMUTCD), the latest edition in effect at time of bidding, as adopted by the Texas Department of Transportation (TxDOT).

It shall be the responsibility of the **CONTRACTOR** to furnish, install, and maintain barricades, traffic control devices, signs, and flashers of the size and type specified at locations as shown in the approved traffic control plan throughout the limits of this project from the date of notice to proceed until final acceptance. When directed by the **CITY**, the **CONTRACTOR** shall do the necessary cleanup and finishing immediately after all or a portion of the pavement has been placed, as to allow the **CITY** to provide adequate traffic control to those portions of the completed roadway which will be open to traffic.

Unless specifically provided for under a bid item, barricades, signs and traffic handling shall be furnished, installed, and maintained at the **CONTRACTOR'S** expense.

In case the **CONTRACTOR** fails to provide ingress and egress to private property and/or maintain the proper barricades, signs, and flashers, the **CITY** may provide these services and deduct the cost thereof, including overtime and administrative expenses, from all payments thereafter due the **CONTRACTOR**.

The **CONTRACTOR** shall notify the Project Representative and Traffic Engineer, at least four (4) days (excluding Saturdays, Sundays, and holidays) in advance of beginning the proposed Work, of the **CONTRACTOR'S** intention to close or partially block the street or any part thereof, or of any construction affecting the free flow of traffic.

Should the **CONTRACTOR**, during the Work, reduce an existing two-way roadway to less than twenty-two (22) feet, the **CONTRACTOR** shall provide flagmen and route traffic through the construction area one lane at a time.

A flagman will be required at any time it is necessary for the **CONTRACTOR'S** equipment to move into or across an open traffic lane or at other such times as directed by the Project Representative. A flagman shall be utilized to aid the exit of hauling equipment from open traffic lanes to the work area, and the entry of hauling equipment from the work area to open traffic lanes.

The **CONTRACTOR** shall not remove and/or relocate any regulatory traffic control devices. The Traffic Engineer will be responsible for the removal and/or relocation of all regulatory traffic control devices. Detour routes, as required, will be approved by the Traffic Engineer. The Traffic Engineer will be responsible for the installation of any regulatory traffic control devices that may be required due to the construction of detour routes, excluding warning signs and required warning lights attached thereto.

16.10.4 Erosion Control Plan

Unless otherwise stated in the *Special Conditions*, the **CONTRACTOR** will sequence construction and proceed in a manner that will minimize erosion. The **CONTRACTOR** will be responsible for installing and maintaining adequate erosion control mechanisms. The

CONTRACTOR shall submit an erosion control plan at the scheduled Pre-Construction Conference, if requested by the **CITY**. Erosion control measures shall be in place prior to beginning earthwork activities. Unless otherwise noted, there will be no bid item for the payment of this Work.

16.10.5 Protection of Survey Monuments

The **CONTRACTOR** shall exercise care to preserve and not disturb existing survey monuments and property corner markers.

16.10.6 Manhole, Clean-Out, and Water Valve Locations

When a **CONTRACTOR** installs or lowers existing manholes, clean-outs, and water valves, it is the **CONTRACTOR'S** responsibility to establish the correct location of these appurtenances for future raising to grade. Any additional work needed to locate these appurtenances will be at the **CONTRACTOR'S** expense.

16.10.7 Water Sprinklers

All lawn water sprinkler systems damaged by the **CONTRACTOR**, whether on private property or in the public right of way, shall be repaired at the **CONTRACTOR'S** expense.

16.10.8 Existing Mailboxes

Unless otherwise noted in the plans and specifications, existing mailboxes along the project site will be removed and relocated as necessary by the **CONTRACTOR**. The **CONTRACTOR** must provide daily access to the mailboxes for the delivery of mail by letter carriers. Unless otherwise noted, there will be no bid item for the payment of this Work.

16.11 GENERAL PROVISIONS

16.11.1 Damages

In the event the **CITY** is damaged in the course of the Work by the act, negligence, omission, mistake or default of the **CONTRACTOR**, or should the **CONTRACTOR** unreasonably delay the progress of the work being done by others on the job so as to cause loss for which the **CITY** becomes liable, then the **CONTRACTOR** shall reimburse the **CITY** for such loss.

16.11.2 Losses From Natural Causes

Unless otherwise specified, all loss or damage to the **CONTRACTOR** arising out of the nature of the Work to be done, or from the action of the elements, or from any unforeseen circumstance in the prosecution of the same, or from unusual obstructions or difficulties which may be encountered in the prosecution of the Work, shall be sustained and borne by the **CONTRACTOR** at the **CONTRACTOR'S** own cost and expense.

16.11.3 Public Utilities

All utility adjustments necessary for the completion of the Work in this contract will be made by the owners of the affected utilities, provided said utilities are not made a part of the scope of this project and incorporated within the limits of this project as may be designated by bid items within the *Proposal*. The **CONTRACTOR** shall use the utmost care to preserve and prevent damage to existing utilities. If at any time the **CONTRACTOR** damages the utilities in place through negligence or carelessness, the **CONTRACTOR** shall pay for the full cost of repairing such

damages. Underground utilities shown on these plans are drawn based on records, surface evidence, excavations at certain locations, and best recollection. The **CONTRACTOR** is responsible for carefully locating each underground utility prior to start of construction.

16.11.4 Ozone Action Day

The City of Tyler has adopted Ozone Action Day guidelines to be used on days designated as Ozone Actions Days. All outside **CONTRACTORS** will be required to adhere to these guidelines. Local television stations will advise of an “Ozone Action Day” and the **CITY** will announce the action day over the local government access channel the day prior to an action day. In addition, the **CONTRACTOR** may also be notified of an Ozone Action Day by the Project Representative.

On Ozone Action Days, the Project Representative will work with the **CONTRACTOR** to reduce ozone producing precursors by implementing the **CITY’S** Ozone Action Plan. This plan shall include, but not be limited to:

- A. Consider work schedules that will reduce equipment and vehicle usage in the morning hours during the normal ozone producing season of May through September.
- B. Delay fueling of vehicles until the advisory is over. If fueling is necessary, do so in the late afternoon or early evening. Avoid overfilling the tank and allowing fuel to spill onto the ground. Limit vehicle trips as much as possible. Coordinate activities to avoid duplication of trips. If possible, schedule trips for afternoons.
- C. Avoid idling vehicles unnecessarily. Limit use of weed eaters, tractors, lawnmowers, and power tools. Ensure that all vehicles and equipment are tuned and maintained according to manufacturer’s tune-up and emissions control standards.
- D. Schedule the use of heavy equipment for non-ozone action days. Turn off lights and equipment to reduce power load when vehicles are not in use.
- E. Eliminate the use of oil based paints requiring hydrocarbon based solvents on all action days.

16.12 PROSECUTION AND PROGRESS

16.12.1 Time and Order of Completion

It is the meaning and intent of this contract, unless otherwise herein specifically provided, that the **CONTRACTOR** shall be allowed to prosecute the Work at such times and seasons, in such order of precedence, and in such manner as shall be most conducive to economy of construction: provided, however, that the order and the time of prosecution shall be such that the Work shall be completed in full, in accordance with this contract, the plans and specifications, and within the time of completion designated in the *Standard Form of Agreement*; provided, also, that when the **CITY** is having other work done, either by contract or by its own force, the **CITY** may direct the time and manner of constructing the Work done under this contract, so that conflict will be avoided and the construction of the various works being done for the **CITY** shall be harmonized.

Upon request, the **CONTRACTOR** must, within seven (7) calendar days thereafter, submit a proposed sequence of construction to the Project Designer for review and approval. The **CONTRACTOR** shall also submit, upon request, a construction progress schedule which shall show the order in which the **CONTRACTOR** proposes to carry on the Work, with dates at which the **CONTRACTOR** will start the various parts of the Work, and estimated dates of completion of the various parts. During the course of the Work, the **CONTRACTOR** shall make updates to the construction progress schedule and shall submit the updates to the Project Designer upon

request.

16.12.2 Computation of Contract Time for Completion

The **CONTRACTOR** shall complete the Work in full within the number of working/calendar days, or by the mandatory completion date, stated in the *Standard Form of Agreement*. For the purpose of computation, working/calendar days will be considered as starting on the tenth (10th) day after the date of the written *Notice to Proceed*.

16.12.3 Liquidated Damages

The time set forth in the *Standard Form of Agreement* for the completion of the Work is an essential element of the contract. For each working/calendar day that any Work shall remain uncompleted after the expiration of the working/calendar days specified in the contract, together with any additional working/calendar days allowed, the amount per day given in the following schedule will be deducted from the money due, or to become due, the **CONTRACTOR**, not as a penalty, but as liquidated damages:

Amount of Contract Total Awarded Construction Amount	Amount of Liquidated Damages to be deducted per Working or Calendar Day
Less than \$ 50,000	\$ 50
\$ 50,001 to \$ 100,000	\$ 100
\$ 100,001 to \$ 500,000	\$ 200
\$ 500,001 to \$ 1 million	\$ 400
\$ 1,000,001 to \$ 5 million	\$ 1,000
Over \$ 5,000,000 (5 million)	0.02%

16.12.4 Extension of Time

Should the **CONTRACTOR** be delayed in the completion of the Work by any act or neglect of the **CITY** or Project Designer, or any employee of either, or by other contractors employed by the **CITY**, or by changes ordered in the Work, or by strikes, lockouts, fires, and unusual delays by common carriers, or unavoidable cause or causes beyond the **CONTRACTOR'S** control, or by any cause which the Project Designer shall decide justifies the delay, then an extension of time shall be allowed for completing the Work, sufficient to compensate for the delay, the amount of the extension to be determined by the Project Designer, provided, however, that the **CONTRACTOR** shall give the Project Designer prompt notice in writing of the cause of such delay.

16.12.5 Inclement Weather

"Unusual Inclement Weather" is defined as a rain event beyond that which is defined as "normal rainfall" or other weather related event which occurs at the site and is of sufficient magnitude to prevent the **CONTRACTOR** from performing units of Work critical to maintaining the progress schedule.

Under a calendar day contract, the **CONTRACTOR** may be granted an extension of time because of unusual inclement weather, including but not limited to unusual rainfall events, which are

beyond the normal rainfall recorded and expected for Tyler, Texas. However, the **CONTRACTOR** will not be granted an extension of time for “normal rainfall”, as described below.

“Normal rainfall” compiled by the National Climatic Data Center for Tyler, Texas is considered a part of the calendar day contract, and is not a justification for an extension of time. Listed below are the number of days in each month for which no compensatory days for rainfall events (“Rain Days”) in such months may be claimed:

<u>Month</u>	<u>No. Days</u>
January	3
February	4
March	4
April	5
May	4
June	4
July	4
August	2
September	3
October	3
November	4
December	5

Rain days in addition to the baseline rain day determination described above will be measured with the Project Representative’s approval at the nearest operational public weather data collection facility to the site, including but not limited to the **CITY’S** early warning flood gauge system.

The **CONTRACTOR** may receive credit in any month for unusual inclement weather, and specifically for any rain days in that month which exceed the number of rain days allocated to that month, if a claim is made and the weather event meets the definition for unusual inclement weather, and as applicable, such claimed day is a day on which Work critical to maintaining the progress schedule is scheduled to be performed and is otherwise capable of being performed.

16.12.6 Hindrances and Delays

No claims shall be made by the **CONTRACTOR** for damages resulting from hindrances or delays from any cause, except where the Work is stopped by order of the **CITY** or their representatives during the progress of any portion of the Work embraced in this contract. In case said Work shall be stopped by the act of the **CITY** or their representatives, then such expense, in the judgment of the Project Designer, as caused by such stoppage of said Work shall be paid by the **CITY** to the **CONTRACTOR**.

16.13 MEASUREMENT AND PAYMENT

16.13.1 Quantities and Measurements

No extra or custom measurements of any kind will be allowed, but the actual measured and/or computed length, area, solid contents, number and weight only shall be considered, unless otherwise specifically provided.

16.13.2 Estimated Quantities

This AGREEMENT, including the specifications, plans and *Proposal* is intended to show clearly all Work to be done and material to be furnished hereunder. Where the estimated quantities are shown for the various classes of Work to be done and material to be furnished under this contract, they are approximate and are to be used only as a basis for estimating the probable cost of the Work and for comparing the proposals offered for the Work. It is understood and agreed that the actual amount of Work to be done and material to be furnished under this contract may differ somewhat from these estimates, and that where the basis for payment under this contract is the unit price method, payment shall be for the actual amount of such Work done and the material furnished.

Where payment is based on the unit price method, the **CONTRACTOR** will make no claim for damages, anticipated profits or otherwise on account of any differences which may be found between the quantities of Work actually done, the material actually furnished under this contract and the estimated quantities contemplated and contained in the *Proposal*; provided, however, that in case the actual quantity of any major item should become as much as twenty percent (20%) more than, or twenty percent (20%) less than the estimated or contemplated quantity for such items, then either party to this AGREEMENT, upon demand, shall be entitled to a revised consideration upon the portion of the Work above or below twenty percent (20%) of the estimated quantity.

A "Major Item" shall be construed to be any individual bid item incurred in the *Proposal* that has a total cost equal to or greater than five percent (5%) of the total contract cost, computed on the basis of the *Proposal* quantities and the contract unit prices.

When "plan quantity" is indicated for a bid item, **CONTRACTOR** shall be paid the amount specified in the contract documents without any measurement.

Any revised consideration is to be determined by agreement between the parties, otherwise by the terms of this AGREEMENT, as provided in Section 16.14, "Extra Work and Claims".

16.13.3 Price of Work

In consideration of the furnishing of all the necessary labor, equipment and material, and the completion of all Work by the **CONTRACTOR**, and on the completion of all Work and of the delivery of all material embraced in this contract in full conformity with the specifications and stipulations herein contained, the **CITY** agrees to pay the **CONTRACTOR** the prices set forth in the *Proposal* hereto attached, which has been made a part of this contract. The **CONTRACTOR** hereby agrees to receive such prices in full for furnishing all material and all labor required for the aforesaid Work, also for all expenses incurred, and for well and truly performing the same and the whole thereof in the manner and according to this AGREEMENT.

Where alternate methods of payment are allowed, the method of payment shall be as shown in the *Proposal*.

16.13.4 Arrears

No money shall be paid by the **CITY**, upon any claims, debt, demand, or account whatsoever, to any person, firm, or corporation who is in arrears to the City of Tyler for taxes; and the **CITY** shall be entitled to counterclaim and offset against any such debt, claim, demand, or account in the amount of taxes so in arrears, and no assignment or transfers of such debt, claim, demand, or

account after the said taxes are due, shall affect the right of the **CITY** to do so offset the said taxes against the same.

16.13.5 Payments Withheld

The **CITY** may, on account of subsequently discovered evidence, withhold or nullify the whole or part of any certificate to such extent as may be necessary to be protected from loss on account of:

- A. Defective Work not remedied.
- B. Claims filed or reasonable evidence indicating probable filing of claims.
- C. Failure of the **CONTRACTOR** to make payments properly to sub-contractors or for material or labor.
- D. Damage to the **CITY** or another contractor.
- E. Reasonable doubt that the Work can be completed for the unpaid balance of the contract amount.
- F. Reasonable indication that the Work will not be completed within the contract time.
- G. Failure to submit a construction progress schedule or to submit updates to the construction progress schedule upon request of the **CITY**.

When the above grounds are removed or the **CONTRACTOR** provides a Surety Bond satisfactory to the **CITY**, which will protect the **CITY** in the amount withheld, payment shall be made for amounts withheld because of them.

16.13.6 Partial Payments

On or before the tenth (10th) day of each month, the **CONTRACTOR** shall prepare and submit to the Project Designer for review and approval a statement showing as completely as practicable the total value of the Work done by the **CONTRACTOR** up to and including the last day of the preceding month; said statement shall also include the value of all sound materials delivered on the site of the Work that are to be fabricated into the Work.

The **CITY** shall then pay the **CONTRACTOR** the total amount of the approved statement, less five percent (5%) or ten percent (10%) of the amount thereof, which five percent (5%) or ten percent (10%) shall be retained until final payment, and further less all previous payments and all further sums that may be retained by the **CITY** under the terms of this AGREEMENT. If the contract amount is less than four-hundred thousand (\$400,000), ten percent (10%) of the approved statement will be retained. If the contract amount is four-hundred thousand (\$400,000) or greater, five percent (5%) of the approved statement will be retained. It is understood, however, that in case the whole Work be near to completion and some unexpected and unusual delay occurs due to no fault or neglect on the part of the **CONTRACTOR**, the **CITY** may, upon written recommendation of the Project Designer, pay a reasonable and equitable portion of the retained percentage to the **CONTRACTOR**, or the **CONTRACTOR** at the **CITY'S** option, may be relieved of the obligation to fully complete the Work and, thereupon, the **CONTRACTOR** shall receive payment of the balance due under the contract subject only to the conditions stated under Section 16.13.11, "Final Payment".

16.13.7 Records of Materials Purchased

On or before the tenth (10th) day of each month, the **CONTRACTOR** shall furnish to the Project Designer, one copy of all invoices for materials furnished to be incorporated into the Work, plus a statement of all materials previously included on monthly estimates and incorporated into the Work during the preceding month. This information is to be used to determine the value of

materials on hand to be included in the monthly estimate for periodic payments.

If the **CONTRACTOR** fails to furnish this information, no materials shall be included on the monthly estimates until they are permanently incorporated into the Work.

16.13.8 Use of Completed Portions

The **CITY** shall have the right to take possession of and use any completed or partially completed portions of the Work, notwithstanding the time for completing the entire Work or such portions may not have expired, but such taking possession and use shall not be deemed an acceptance of any Work not completed in accordance with the contract documents. If such prior use increases the cost of or delays the Work, the **CONTRACTOR** shall be entitled to such extra compensation, or extension of time, or both, as the Project Designer may determine.

16.13.9 Substantial Completion

The **CONTRACTOR** shall notify the Project Representative when, in the **CONTRACTOR'S** opinion, the Work is substantially complete and when so notifying the Project Representative, the **CONTRACTOR** shall furnish to the Project Representative in writing a detailed list of unfinished Work. The Project Representative will review the **CONTRACTOR'S** list of unfinished Work and will add thereto such items as the **CONTRACTOR** has failed to include. The "substantial completion" of the structure or facility shall not excuse the **CONTRACTOR** from performing all of the Work undertaken, whether of a minor or major nature, and thereby completing the structure or facility in accordance with the contract documents.

16.13.10 Final Completion and Acceptance

When all Work has been completed on this contract:

- A. The **CONTRACTOR** shall clean and remove from the site of the Work, all surplus and discarded material, temporary structures and debris of every kind. The **CONTRACTOR** shall leave the site of the Work in a neat and orderly condition equal to or better than that which originally existed.
- B. The **CONTRACTOR** shall furnish to the Project Designer a notification stating that all Work has been completed in accordance with the plans and specifications.
- C. Final inspection will be made. If the Work is found to be incomplete or defective, the **CONTRACTOR** shall take whatever measures as are necessary to complete such Work or remedy such deficiencies.
- D. The **CONTRACTOR** shall pay all bills for materials and labor which were incurred in performance of this contract and shall file with the **CITY** a notarized *Contractor's Affidavit of Bills Paid*. In the event the **CONTRACTOR** is unable to pay all bills before receiving final payment, the **CONTRACTOR** shall furnish to the **CITY** an affidavit that all bills are paid except those listed in the affidavit. The list of unpaid bills in the affidavit shall include the amount owed and what the bill is for. This affidavit shall further certify that the **CITY** has the **CONTRACTOR'S** permission to make out separate checks jointly to the **CONTRACTOR** and the company or person to whom each bill is owed. The **CONTRACTOR** shall also provide the **CITY** with applicable Waiver and Release forms (*conditional/unconditional*) covering all labor, services, equipment, or materials furnished to property covered under this Agreement or to persons with whom **CONTRACTOR** contracted with in the performance of this Agreement. A waiver and release given by a **CONTRACTOR** shall substantially comply with the applicable form described in Tex. Prop. Code § 53.284, subsections (d) - (e).
- E. The **CONTRACTOR** shall provide consent of surety, if any, to final payment. If surety is

not provided, the **CONTRACTOR** shall provide complete and legally effective releases or waivers (satisfactory to **CITY**) of all claims arising out of or filed in connection with the Work.

- F. The **CONTRACTOR** shall furnish to the **CITY** a one (1) year maintenance bond for one hundred percent (100%) of the total contract, in favor of the **CITY**.

If the Work is found to be complete in accordance with the contract documents and the *Contractor's Affidavit of Bills Paid* and applicable *Waiver and Release forms* have been filed with the **CITY**, written notice of final acceptance will be made by the **CITY** and final payment will be made in accordance with the terms of the contract documents.

16.13.11 Final Payment

Upon receipt of the notification of final acceptance, the Project Designer shall proceed to make final measurements and prepare a final statement of the value of all Work performed and materials furnished under the terms of the AGREEMENT and shall certify same to the **CITY**. The **CITY** shall pay to the **CONTRACTOR** the balance due the **CONTRACTOR** under the terms of this AGREEMENT, provided the **CONTRACTOR** has fully performed all contractual obligations under the terms of this contract; and said payment shall become due in any event upon said performance by the **CONTRACTOR**. Neither the written notice of final acceptance nor the final payment, nor any provision in the contract documents, shall relieve the **CONTRACTOR** of the obligation for fulfillment of any warranty which may be required.

16.14 EXTRA WORK AND CLAIMS

16.14.1 Changes and Alterations

The **CITY** may make such additions, deletions or revisions as the **CITY** may see fit, in the line, grade, form, dimensions, plans or materials for the Work herein contemplated, or any part thereof, either before or after the beginning of the construction, without affecting the validity of this contract and the accompanying *Statutory Performance and Maintenance Bond* and *Payment Bonds*.

If such changes or alterations diminish the quantity of the Work to be done, they shall not constitute the basis for a claim for damages, or anticipated profits on the Work that may be dispensed with, except as provided for unit price items under Section 16.13, "Measurement and Payment." If the amount of Work is increased, and the Work can fairly be classified under the specifications, such increase shall be paid for according to the quantity actually done and at the unit price, if any, established for such Work under this contract, except as provided for unit price items under Section 16.13, "Measurement and Payment"; otherwise, such additional Work shall be paid for as provided under Section 16.14, "Extra Work and Claims". In case the **CITY** shall make such changes or alterations as shall make useless any Work already done or material already furnished or used in said Work, then the **CITY** shall recompense the **CONTRACTOR** for any material or labor so used, and for any actual loss occasioned by such change, due to actual expenses incurred in preparation for the Work as originally planned.

16.14.2 Change Orders

Without invalidating this AGREEMENT, the **CITY** may, at any time or from time to time, order additions, deletions or revisions to the Work; such changes will be authorized by change order to be prepared by the Project Designer for execution by the **CITY** and the **CONTRACTOR**. The

change order shall set forth the basis for any change in contract price, as hereinafter set forth for Extra Work, and any change in contract time which may result from the change.

In the event the **CONTRACTOR** shall refuse to execute a change order which has been prepared by the Project Designer and executed by the **CITY**, the Project Designer may in writing instruct the **CONTRACTOR** to proceed with the Work as set forth in the change order and the **CONTRACTOR** may make claim against the **CITY** for Extra Work involved therein, as hereinafter provided.

16.14.3 Minor Changes

The Project Representative may authorize minor changes in the Work not inconsistent with the overall intent of the contract documents and not involving an increase in contract price by field order. If the **CONTRACTOR** believes that any minor change or alteration authorized by the Project Representative involves Extra Work and entitles the **CONTRACTOR** to an increase in the contract price, the **CONTRACTOR** shall make written request to the Project Designer for a written change order.

In such case, the **CONTRACTOR**, by copy of the **CONTRACTOR'S** communication to the Project Designer or otherwise in writing, shall advise the **CITY** of the **CONTRACTOR'S** request to the Project Designer for a written change order and that the Work involved may result in an increase in the contract price.

Any request by the **CONTRACTOR** for a change in contract price shall be made prior to beginning the Work covered by the proposed change.

16.14.4 Extra Work

It is agreed that the basis of compensation to the **CONTRACTOR** for Work either added or deleted by a change order or for which a claim for Extra Work is made shall be determined by one or more of the following methods:

Method (A) - By agreed unit prices; or

Method (B) - By agreed lump sum; or

Method (C) - If neither Method (A) nor Method (B) be agreed upon before the Extra Work is commenced, then the **CONTRACTOR** shall be paid the "actual field cost" of the Work, plus fifteen percent (15%).

In the event said Extra Work be performed and paid for under Method (C), then the provisions of this paragraph shall apply and the "actual field cost" is hereby defined to include the cost to the **CONTRACTOR** of all workers, such as foreman, timekeepers, mechanics and laborers, and materials, supplies, trucks, rentals on machinery and equipment, for the time actually employed or used on such Extra Work, plus actual transportation charges necessarily incurred, together with all power, fuel, lubricants, water and similar operating expenses, also all necessary incidental expenses incurred directly on account of such Extra Work, including Social Security, payroll taxes and other benefits, and, a rateable proportion of premiums on **Performance and Maintenance Bond** and **Payment Bonds**, Public Liability and Property Damage and Worker's Compensation, and all other insurance as may be required by any law or ordinance, or directed by the **CITY**, or by them agreed to. The Project Designer may direct the form in which accounts of the "actual field cost" shall be kept and the records of these accounts shall be made available to the Project Designer.

The Project Designer or **CITY** may also specify in writing, before the Work commences, the method of doing the work and the type and kind of machinery and equipment to be used; otherwise these matters shall be determined by the **CONTRACTOR**. Unless otherwise agreed or specified, the prices for the use of machinery and equipment shall be determined by using one hundred percent (100%) of the latest schedule of Equipment Ownership Expense adopted by the Associated General Contractors of America. Where practicable the terms and prices for the use of machinery and equipment shall be incorporated in the written Extra Work order. The fifteen percent (15%) of the "actual field cost" to be paid the **CONTRACTOR** shall cover and compensate the **CONTRACTOR** for profit, overhead, general superintendence and field office expense, and all other elements of cost and expense not embraced within the "actual field cost" as herein defined, except where the **CONTRACTOR'S** camp or field office must be maintained primarily on account of such Extra Work; then the cost to maintain and operate the same shall be included in the "actual field cost".

No claim for Extra Work of any kind will be allowed unless ordered in writing by the Project Designer. In case any orders or instructions, either oral or written, appear to the **CONTRACTOR** to involve Extra Work for which the **CONTRACTOR** should receive compensation or an adjustment in the construction time, the **CONTRACTOR** shall make written request to the Project Designer for written order authorizing such Extra Work. Should a difference of opinion arise as to what does or does not constitute Extra Work, or as to the payment therefore, and the Project Designer insists upon its performance, the **CONTRACTOR** shall proceed with the Work after making written request for written order and shall keep an accurate account of the "actual field cost" thereof, as provided under Method (C).

16.14.5 Time of Filing Claims

All questions of dispute or adjustment presented by the **CONTRACTOR** shall be in writing and filed with the Project Designer within thirty (30) calendar days after the Project Designer has given any directions, order or instruction to which the **CONTRACTOR** desires to take exception. The Project Designer shall reply within thirty (30) calendar days to such written exceptions by the **CONTRACTOR** and render the final decision in writing. It is further agreed that final acceptance of the Work by the **CITY** and the acceptance by the **CONTRACTOR** of the final payment shall be a bar to any claims by either party, except where noted otherwise in the contract documents.

16.15 ABANDONMENT OF CONTRACT

16.15.1 Abandonment by Contractor

Absence of the **CONTRACTOR** from the project for more than fourteen (14) consecutive calendar days, without written consent from the **CITY**, or if the **CONTRACTOR** fails to perform the Work in accordance with the contract documents, including but not limited to, failure to supply sufficient skilled workmen or suitable materials or equipment or failure to adhere to the progress schedule, will constitute abandonment of the project. In case the **CONTRACTOR** should abandon and fail or refuse to resume work within ten (10) calendar days after written notification from the **CITY**, or if the **CONTRACTOR** fails to comply with the orders of the Project Representative, when such orders are consistent with the contract documents, then, and in that case, where performance and payment bonds exist, the Sureties on these bonds shall be notified in writing and directed to complete the Work, and a copy of said notice shall be delivered to the **CONTRACTOR**.

After receiving said notice of abandonment the **CONTRACTOR** shall not remove from the Work any machinery, equipment, tools, materials or supplies then on the job, but the same, together with any materials and equipment under contract for the Work, may be held for use on the Work by the **CITY** or the Surety on the performance bond, or another **CONTRACTOR** in completion of the Work; and the **CONTRACTOR** shall not receive any rental or credit (except when used in connection with Extra Work, where credit shall be allowed as provided for under Section 16.14, "Extra Work and Claims"), it being understood that the use of such equipment and materials will ultimately reduce the cost to complete the Work and be reflected in the final settlement.

Where there is no performance bond provided or in case the Surety should fail to commence compliance with the notice for completion herein before provided for, within ten (10) calendar days after service of such notice, then the **CITY** may provide for completion of the Work in either of the following elective manners:

- A. The **CITY** may thereupon employ such force of men and use such machinery, equipment, tools, materials and supplies as said **CITY** may deem necessary to complete the Work and charge the expense of such labor, machinery, equipment, tools, materials and supplies to said **CONTRACTOR**, and expense so charged shall be deducted and paid by the **CITY** out of such moneys as may be due, or that may thereafter at any time become due to the **CONTRACTOR** under and by virtue of this AGREEMENT. In case such expense is less than the sum which would have been payable under this contract, if the same had been completed by the **CONTRACTOR**, then said **CONTRACTOR** shall not receive the difference. In case such expense is greater than the sum which would have been payable under this contract, if the same had been completed by said **CONTRACTOR**, then the **CONTRACTOR** and/or the **CONTRACTOR'S** Surety shall pay the amount of such excess to the **CITY**; or
- B. The **CITY**, under sealed bids, may let the contract for the completion of the Work under substantially the same terms and conditions which are provided in this contract. In case any increase in cost to the **CITY** under the new contract as compared to what would have been the cost under this contract, such increase shall be charged to the **CONTRACTOR** and the Surety shall be and remain bound therefor. However, should the cost to complete any such new contract prove to be less than what would have been the cost to complete under this contract, the **CONTRACTOR** and/or the **CONTRACTOR'S** Surety shall not be credited therewith.

When the Work shall have been substantially completed the **CONTRACTOR** and the **CONTRACTOR'S** Surety shall be so notified and notifications of completion and final acceptance, as provided herein above, shall be issued. A complete itemized statement of the contract accounts, certified to by the Project Designer as being correct, shall then be prepared and delivered to the **CONTRACTOR** and the **CONTRACTOR'S** Surety, whereupon the **CONTRACTOR** and/or the **CONTRACTOR'S** Surety, shall pay the balance due as reflected by said statement, within fifteen (15) calendar days after the date of such notification of completion.

In the event the statement of accounts shows that the cost to complete the Work is less than that which would have been the cost to the **CITY** had the Work been completed by the **CONTRACTOR** under the terms of this contract; or when the **CONTRACTOR** and/or the **CONTRACTOR'S** Surety shall pay the balance shown to be due by them to the **CITY**, then all machinery, equipment, tools, materials or supplies left on the site of the Work shall be turned over to the **CONTRACTOR** and/or the **CONTRACTOR'S** Surety. Should the cost to complete the Work exceed the contract price, and the **CONTRACTOR** and/or the **CONTRACTOR'S** Surety fail to pay the amount due the **CITY** within the time designated herein above, and there remains

any machinery, equipment, tools, materials or supplies on the site of the Work, notice thereof, together with an itemized list of such equipment and materials, shall be mailed to the **CONTRACTOR** and the **CONTRACTOR'S** Surety at the respective addresses designated in this contract, provided, however, that actual written notice given in any manner will satisfy this condition. After mailing, or other giving of such notice, such property shall be held at the risk of the **CONTRACTOR** and the **CONTRACTOR'S** Surety subject only to the duty of the **CITY** to exercise ordinary care to protect such property. After fifteen (15) calendar days from the date of said notice, the **CITY** may sell such machinery, equipment, tools, materials or supplies and apply the net sum derived from such sale to the credit of the **CONTRACTOR** and the **CONTRACTOR'S** Surety. Such sale may be made at either public or private sale, with or without notice, as the **CITY** may elect. The **CITY** shall release any machinery, equipment, tools, materials, or supplies, which remain on the Work, and belong to persons other than the **CONTRACTOR** or the **CONTRACTOR'S** Surety, to their proper owners. The books on all operations provided herein shall be open to the **CONTRACTOR** and the **CONTRACTOR'S** Surety.

Section 17 SPECIAL CONDITIONS

Special Conditions of Agreement for Tyler Capital Improvement Project (CIP) Contracts

Check Here if this Section is NOT Used ☐

[Insert Special Conditions Here]

**Section 18 TECHNICAL AND/OR SPECIAL
SPECIFICATIONS; PLANS AND OTHER DRAWINGS;
OTHER DOCUMENTS AS NEEDED**

Check Here if this Section is NOT Used ☐

[Insert the Following Sections Here As Applicable]

**Technical and/or Special Specifications
Plans and Other Drawings
Other Documents as Needed**

Section 19 CERTIFICATE OF INTERESTED PARTIES

(Form 1295)

Check Here if this Section is NOT Used ☐

[CONTRACTOR - Insert Certificate of Interested Parties (Form 1295) Here]
[CITY – Insert Acknowledged Certificate of Interested Parties (Form 1295) Here]

In accordance with House Bill 1295, for certain contracts entered into on or after January 1, 2016, **CONTRACTORS** must submit a *Certificate of Interested Parties* form at the time the **CONTRACTOR** submits the signed contract to the **CITY**. This applies only to contracts with a value greater than \$25,000.

The *Certificate of Interested Parties* (Form 1295) must be filed electronically with the Texas Ethics Commission using the online filing application located at https://www.ethics.state.tx.us/whatsnew/elf_info_form1295.htm.

First time users need to create an account to register and receive a password. Click on the “Log In” button and then click on “Form 1295 Filings”. In the next screen, click the link that says “Click here if you don’t have a user ID”. Enter the requested information, select the “User Type” of “Business Entity” and click on the “Create Account” button. An email will be sent to the email address you provided with a link to finish setting up your account. Follow the link provided in the email to complete the process of setting up your account. Enter all of the requested information and hit the “Save” button. A screen will appear with the information you have provided. Please verify this information and, if it is correct, click on “Accept”. If it is not correct, click on “Update” and make the needed corrections.

Once an account is established, **CONTRACTORS** must log in to create a new *Certificate of Interested Parties* (Form 1295). Hand-written copies are not acceptable. Go to https://www.ethics.state.tx.us/whatsnew/elf_info_form1295.htm. Click the “Log In” button and then click on “Form 1295 Filings”. Enter your email address and password, select the “User Type” of “Business Entity” and click on the “Login” button. A screen with your user information will appear. If it is correct, click on “Accept”. Click on the “Manage My 1295 Forms” button and then “Start a New Certificate”. When the blank form comes up, enter the requested information into the appropriate boxes. Also enter the following information:

- Who is the Contract With?: Select “Other Governmental Agency”
- Agency/Entity Name: Enter “City of Tyler”
- Contract ID Number: Enter the City of Tyler Bid Number, located on the cover of the contract
- Description of Goods and Services to be provided: Enter the Project Name, located on the cover of the contract

For the purpose of this requirement, the following definitions apply:

- **Interested party** means: (1) a person who has a controlling interest in a business entity with whom a governmental entity or state agency contracts; or (2) a person who actively

participates in facilitating a contract or negotiating the terms of a contract with a governmental entity or state agency, including a broker, intermediary, adviser, or attorney for the business entity.

- **Controlling interest** means: (1) an ownership interest or participating interest in a business entity by virtue of units, percentage, shares, stock, or otherwise that exceeds 10 percent; (2) membership on the board of directors or other governing body of a business entity of which the board or other governing body is composed of not more than 10 members; or (3) service as an officer of a business entity that has four or fewer officers, or service as one of the four officers most highly compensated by a business entity that has more than four officers.
- **Intermediary** means: a person who actively participates in the facilitation of the contract or negotiating the contract, including a broker, adviser, attorney, or representative of or agent for the business entity who:
 - 1) receives compensation from the business entity for the person's participation;
 - 2) communicates directly with the governmental entity or state agency on behalf of the business entity regarding the contract; and
 - 3) is not an employee of the business entity.

If there are no interested parties, check the box indicating that there are none and then hit the "Next" button. If there are interested parties, click the "Add More" button located under the "List of Interested Parties" section of the form. Enter the requested information about the interested party. Click the "Add More" button for each additional interested party. When all interested parties have been entered, hit the "Next" button.

At the next screen, check the box indicating that you affirm that the information provided is correct. Also, enter the requested information and then hit "Submit". At the next screen, hit the "Print" button, then click "Open with Adobe Acrobat Reader" to create a pdf of the ***Certificate of Interested Parties*** (Form 1295). When the pdf opens, make sure to verify that all of the information is correct. *You cannot change information in the form once it has been entered.* If you find that information has been entered incorrectly, you will need to start a new form and re-enter all of the information.

If the form is correct, print out one (1) copy of the ***Certificate of Interested Parties*** (Form 1295) and sign and notarize it. Make as many additional photocopies as necessary and attach the original form in Section 19, "Certificate of Interested Parties" in one contract book and the photocopies in Section 19, "Certificate of Interested Parties" in the remaining contract books.

Upon receipt of the executed contracts from the **CONTRACTOR**, the **CITY** will acknowledge the ***Certificate of Interested Parties*** (Form 1295) and file the acknowledged form with the original form in the **CITY'S** files.

TXDOT SPECIAL CONTRACT PROVISIONS

DISADVANTAGED BUSINESS ENTERPRISES REQUIREMENTS

The following goal for disadvantaged business enterprises is established:

DBE

ZERO PERCENT (0%)

Introduction

Local Government General Requirements

For all projects with State or Federal funds, and/or all projects on the State Highway System regardless of funding source, a Local Government must either adopt the latest TxDOT Standard Specifications, Special Specifications, and required Special Provisions or request TxDOT written approval of alternate, equivalent specifications. TxDOT's *"2014 Standard Specifications for Construction and Maintenance of Highways, Streets, and Bridges"* are the latest TxDOT Standard Specifications. These "General Requirements" along with additional requirements specified by the particular local government, are intended as a template for Items 1-9 in TxDOT's Standard Specifications on projects let by a local government that is on the State Highway System or includes reimbursement to the local government using FHWA or TxDOT funds.

This document is intended to be used as a template that allows local governments to modify Items 1-9 to meet their particular needs while assuring that all local, state, and federal statutory requirements are addressed. As this document modifies a TxDOT publication, there may be a question about terminology. In general, the "Owner" or the "Engineer" references the local government or its representatives (Consulting Engineers, etc.). Reference to "Department" or "Engineer" in the construction and maintenance specifications refers to the local government, except when it is referencing a TxDOT specification, manual, material specification, Material Producers List or test method.

Foreword

OUTLINE OF SPECIFICATIONS

Each specification is outlined by articles and sections. The basic articles required for a specification are:

1. DESCRIPTION
2. MATERIALS
3. EQUIPMENT
4. CONSTRUCTION OR WORK METHODS
5. MEASUREMENT
6. PAYMENT

Some articles are not used in every item. Measurement and Payment articles are combined when the work described is subsidiary to bid items of the Contract.

HIERARCHY OF ORGANIZATIONAL ELEMENTS

Here "XXX" represents the item number. The hierarchy of organizational elements available below the item level is as follows:

XXX.1., Article
XXX.1.1., Section
XXX.1.1.1., Section
XXX.1.1.1.1., Section
XXX.1.1.1.1.1., Section
XXX.1.1.1.1.1.1., Section

The term section is used for all breaks below the article.

Items 1L–9L

**Local Government General Requirements and
Covenants**

Item 1L

Abbreviations and Definitions



1. APPLICABILITY

Wherever the following terms are used in these specifications or other Contract documents, the intent and meaning will be interpreted as shown below.

2. ABBREVIATIONS

AAR	Association of American Railroads
AASHTO	American Association of State Highway and Transportation Officials
ACI	American Concrete Institute
ACPA	American Concrete Pipe Association
AI	Asphalt Institute
AIA	American Institute of Architects
AISC	American Institute of Steel Construction
AISI	American Iron and Steel Institute
AITC	American Institute of Timber Construction
ALSC	American Lumber Standard Committee, Inc.
AMRL	AASHTO Materials Reference Laboratory
ANLA	American Nursery and Landscape Association
ANSI	American National Standards Institute
APA	The Engineered Wood Association
API	American Petroleum Institute
APWA	American Public Works Association
AREMA	American Railway Engineering and Maintenance-of-Way Association
ASBI	American Segmental Bridge Institute
ASCE	American Society of Civil Engineers
ASLA	American Society of Landscape Architects
ASME	American Society of Mechanical Engineers
ASNT	American Society for Nondestructive Testing
ASTM	American Society for Testing and Materials
AWC	American Wood Council
AWG	American Wire Gage
AWPA	American Wood Protection Association
AWPI	American Wood Preservers Institute
AWS	American Welding Society
AWWA	American Water Works Association
BMP	Best Management Practices
CFR	Code of Federal Regulations
CMP	Corrugated Metal Pipe
COE	U.S. Army Corps of Engineers
CRSI	Concrete Reinforcing Steel Institute
DBE	Disadvantaged Business Enterprise
DMS	Departmental Material Specification
EIA	Electronic Industries Alliance
EPA	United States Environmental Protection Agency
FHWA	Federal Highway Administration, U.S. Department of Transportation
FSS	Federal Specifications and Standards (General Services Administration)
GSA	United States General Services Administration
HUB	Historically Underutilized Business
ICEA	Insulated Cable Engineers Association

IEEE	Institute of Electrical and Electronics Engineers
IESNA	Illuminating Engineering Society of North America
IMSA	International Municipal Signal Association
ISO	International Organization for Standardization
ITS	Intelligent Transportation System
ITE	Institute of Transportation Engineers
LG	Local Government
LRFD	Load and Resistance Factor Design
MASH	Manual for Assessing Safety Hardware
MPL	Material Producer List (TxDOT document)
NCHRP	National Cooperative Highway Research Program
NCR	Nonconformance Report (TxDOT form)
NEC	National Electrical Code (Published by NFPA)
NEMA	National Electrical Manufacturers Association
NEPA	National Environmental Policy Act
NESC	National Electrical Safety Code
NFPA	National Fire Protection Association
NIST	National Institute of Standards and Technology
NRM	Nonhazardous Recyclable Material
NRMCA	National Ready Mixed Concrete Association
NSBA	National Steel Bridge Alliance
NTPEP	National Transportation Product Evaluation Program
OSHA	Occupational Safety & Health Administration, U.S. Department of Labor
PCA	Portland Cement Association
PCI	Precast/Prestressed Concrete Institute
PE	Professional Engineer
PPI	Plastics Pipe Institute
PS&E	Plans, Specifications, and Estimates
PSL	Project-Specific Location
PTI	Post-Tension Institute
QA	Quality Assurance
QC	Quality Control
RCP	Reinforced Concrete Pipe
RPLS	Registered Public Land Surveyor
RRC	Railroad Commission of Texas
SBE	Small Business Enterprise
SFPA	Southern Forest Products Association
SI	International System of Units
SPIB	Southern Pine Inspection Bureau
SSPC	The Society for Protective Coatings
TAC	Texas Administrative Code
TCEQ	Texas Commission on Environmental Quality
TDLR	Texas Department of Licensing and Regulation
TGC	Texas Government Code
TMUTCD	Texas Manual on Uniform Traffic Control Devices
TxDOT	Texas Department of Transportation
UL	Underwriters Laboratory, Inc.
USC	United States Code
WRI	Wire Reinforcement Institute
WWPA	Western Wood Products Association

3. DEFINITIONS

- 3.1. **Abrasive Blasting.** Spraying blasts of pressurized air combined with abrasive media.

- 3.2. **Actual Cost.** Contractor's actual cost to provide labor, material, equipment, and project overhead necessary for the work.
- 3.3. **Addendum.** Change in bid documents developed between advertising and bid submittal deadline.
- 3.4. **Additive Alternate.** A bid item contained in the bid documents that is not a regular item or a replacement alternate bid item. The additive alternate items include work that may be added to the base bid work.
- 3.5. **Deductive Alternate.** A bid item contained in the bid documents that is not a regular item or a replacement alternate bid item. The deductive alternate items include work that may be deducted from the base bid work.
- 3.6. **Advertisement.** The public announcement required by law inviting bids for work to be performed or materials to be furnished.
- 3.7. **Affiliates.** Two or more firms are affiliated if they share common officers, directors, or stockholders; a family member of an officer, director, or stockholder of one firm serves in a similar capacity in another of the firms; an individual who has an interest in, or controls a part of, one firm either directly or indirectly also has an interest in, or controls a part of, another of the firms; the firms are so closely connected or associated that one of the firms, either directly or indirectly, controls or has the power to control another firm; one firm controls or has the power to control another of the firms; or the firms are closely allied through an established course of dealings, including, but not limited to, the lending of financial assistance.
- 3.8. **Air Blasting.** Spraying blasts of pressurized air free of oil and moisture.
- 3.9. **Air Temperature.** The temperature measured in degrees Fahrenheit (°F) in the shade, not in the direct rays of the sun, and away from artificial heat.
- 3.10. **Anticipated Profit.** Profit for work not performed.
- 3.11. **Apparent Low Bidder.** The Bidder determined to have the numerically lowest total bid as a result of the tabulation of bids by the Owner.
- 3.12. **Architect of Record.** A person registered as an architect or licensed as a landscape architect, in accordance with State law, exercising overall responsibility for the design or a significant portion of the design and performs certain Contract administration responsibilities as described in the Contract; or a firm employed by the Owner to provide professional architectural services.
- 3.13. **Arterial Highway.** A highway used primarily for through traffic and usually on a continuous route.
- 3.14. **Notice of Award.** The Owner's acceptance of a Contractor's bid for a proposed Contract that authorizes the Owner to enter into a Contract.
- 3.15. **Base Bid.** The total bid amount without additive alternates.
- 3.16. **Bid.** The offer from the Bidder for performing the work described in the bid documents, submitted on the prescribed bid form, considering addenda issued and giving unit bid prices for performing the work described in the bid documents.
- 3.17. **Bid Bond.** The security executed by the Contractor and the Surety furnished to the Owner to guarantee payment of liquidated damages if the Contractor fails to enter into an awarded Contract.
- 3.18. **Bid Documents.** The complete set of documents necessary for a Bidder to submit a bid. The documents may include plans, specifications, special specifications, special provisions, addenda, and the prescribed form a Bidder is to submit as the Bid. Other terms used may include general conditions, proposal, instructions to bidders, and construction specifications.

- 3.19. **Bid Error.** A mathematical mistake made by a Bidder in the unit price entered into the bid documents.
- 3.20. **Bidder.** An individual, partnership, limited liability company, corporation, or joint venture submitting a bid for a proposed Contract.
- 3.21. **Blast Cleaning.** Using one of the blasting methods, including, but not limited to, water blasting, low-pressure water blasting, high-pressure water blasting, abrasive blasting, water-abrasive blasting, shot blasting, slurry blasting, water injected abrasive blasting, and brush blasting.
- 3.22. **Bridge.** A structure, including supports, erected over a depression or an obstruction (e.g., water, a highway, or a railway) having a roadway or track for carrying traffic or other moving loads, and having an opening measured along the center of the roadway of more than 20 ft. between faces of abutments, spring lines of arches, or extreme ends of the openings for multiple box culverts.
- 3.23. **Brush Blasting.** Sweeping lightly with an abrasive blast to remove loose material.
- 3.24. **Building Contract.** A Contract entered under State law for the construction or maintenance of an Owner building or appurtenance facilities. Building Contracts are considered to be construction Contracts.
- 3.25. **Certificate of Insurance.** A form approved by the Owner covering insurance requirements stated in the Contract.
- 3.26. **Change Order.** Written order to the Contractor detailing changes to the specified work, item quantities or any other modification to the Contract.
- 3.27. **Concrete Construction Joint.** A joint formed by placing plastic concrete in direct contact with concrete that has attained its initial set.
- 3.28. **Concrete Repair Manual.** TxDOT manual specifying methods and procedures for concrete repair as an extension of the standard specifications.
- 3.29. **ConcreteWorks®.** TxDOT-owned software for concrete heat analysis. Software is available on the TxDOT's website.
- 3.30. **Construction Contract.** A Contract entered under State law for the construction, reconstruction, or maintenance of a segment of the Owner's transportation system.
- 3.31. **Consultant.** The licensed professional engineer or engineering firm, or the architect or architectural firm, registered in the State of Texas and under Contract to the Owner to perform professional services. The consultant may be the Engineer or architect of record or may provide services through and be subcontracted to the Engineer or architect of record.
- 3.32. **Contract.** The agreement between the Owner and the Contractor establishing the obligations of the parties for furnishing of materials and performance of the work prescribed in the Contract documents.
- 3.33. **Contract Documents.** Elements of the Contract, including, but not limited to, the plans, specifications incorporated by reference, special provisions, special specifications, Contract bonds, change orders, addendums, and supplemental agreements.
- 3.34. **Contract Time.** The number of days specified for completion of the work, including authorized additional working days.
- 3.35. **Contractor.** The individual, partnership, limited liability company, corporation, or joint venture and all principals and representatives with which the Contract is made by the Owner.

- 3.36. **Controlled Access Highway.** Any highway to or from which access is denied or controlled, in whole or in part, from or to abutting land or intersecting streets, roads, highways, alleys, or other public or private ways.
- 3.37. **Control of Access.** The condition in which the right to access of owners or occupants of abutting land or other persons in connection with a highway is fully or partially controlled by public authority.
- 3.38. **Control Point.** An established point shown on the plans to provide vertical and horizontal references for geometric control for construction.
- 3.39. **Cross-Sections.** Graphic representations of the original ground and the proposed facility, at right angles to the centerline or base line.
- 3.40. **Culvert.** Any buried structure providing an opening under a roadway for drainage or other purposes. Culverts may also be classified as bridges. (See Section 1.3.23., "Bridge.")
- 3.41. **Cycle.** The activity necessary for performing the specified work within the right of way project limits once.
- 3.42. **Daily Road-User Cost.** Damages based on the estimated daily cost of inconvenience to the traveling public resulting from the work.
- 3.43. **Date of Written Authorization.** Date of the written Notice to Proceed authorizing the Contractor to begin work.
- 3.44. **Debar (Debarment).** Action taken by the Owner, State, or federal government pursuant to regulation that prohibits a person or company from entering into a Contract, or from participating as a subcontractor, or supplier of materials or equipment used in a highway improvement Contract as defined in local, state, or federal law.
- 3.45. **Detour.** A temporary traffic route around a closed portion of a road.
- 3.46. **Department.** When used in the context of the party with whom the Contractor has a Construction Contract, Department refers to Owner. When used in other contexts such as technical specifications, refers to the Texas Department of Transportation.
- 3.47. **Departmental Material Specifications.** Reference specifications for various materials published by TxDOT's Construction Division with a DMS-XXXXXX numbering system.
- 3.48. **Direct Traffic Culvert.** Concrete box culvert whose top slab is used as the final riding surface or is to have an overlay or other riding surface treatment.
- 3.49. **Disadvantaged Business Enterprise.** A small business certified through the Texas Unified Certification Program in accordance with 49 CFR Part 26, that is at least 51% owned by one or more socially and economically disadvantaged individuals, or in the case of a publicly owned business, in which is at least 51% of the stock is owned by one or more socially and economically disadvantaged individuals, and whose management and daily business operations are controlled by one or more of the individuals who own it.
- 3.50. **Divided Highway.** A highway with separate roadways intended to move traffic in opposite directions.
- 3.51. **Easement.** A real property right acquired by one party to use land belonging to another party for a specified purpose.
- 3.52. **Engineer.** The Professional Engineer licensed in Texas who represents the interests of the Owner.

- 3.53. **Entity.** Political subdivision for which the project is designed and constructed. Either a Municipality (City) or a County or other entity organized under the authority of State of Texas statutes. May also be referred to as an **Owner**.
- 3.54. **Expressway.** A divided arterial highway for through traffic with full or partial control of access and generally with grade separations at intersections.
- 3.55. **Family Member.** A family member of an individual is the individual's parent, parent's spouse, step-parent, step-parent's spouse, sibling, sibling's spouse, spouse, child, child's spouse, spouse's child, spouse's child's spouse, grandchild, grandparent, uncle, uncle's spouse, aunt, aunt's spouse, first cousin, or first cousin's spouse.
- 3.56. **Force Account.** Payment for directed work based on the actual cost of labor, equipment, and materials furnished with markups for project overhead and profit.
- 3.57. **Freeway.** An expressway with full control of access.
- 3.58. **Frontage Road.** A local street or road auxiliary to and located along an arterial highway for service to abutting property and adjacent areas and for control of access (sometimes known as a service road, access road, or insulator road).
- 3.59. **Hazardous Materials or Waste.** Hazardous materials or waste include, but are not limited to, explosives, compressed gas, flammable liquids, flammable solids, combustible liquids, oxidizers, poisons, radioactive materials, corrosives, etiologic agents, and other material classified as hazardous by 40 CFR 261, or applicable state and federal regulations.
- 3.60. **High-Pressure Water Blasting.** Water blasting with pressures between 5,000 and 10,000 psi.
- 3.61. **Highway, Street, or Road.** General terms denoting a public way for purposes of vehicular travel, including the entire area within the right of way. Recommended usage in urban areas is highway or street; in rural areas, highway or road.
- 3.62. **Historically Underutilized Business.** A corporation, sole proprietorship, partnership, or joint venture formed for the purpose of making a profit certified by the Texas Comptroller of Public Accounts, and 51% owned by one or more persons who are economically disadvantaged because of their identification as members of certain groups, including African Americans, Hispanic Americans, Asian-Pacific Americans, Native Americans, or women, and have a proportionate interest and demonstrate active participation in the control, operation, and management of the business' affairs. Individuals meeting the HUB definition are required to be residents of the State of Texas. Businesses that do not have their primary headquarters in the State of Texas are not eligible for HUB certification.
- 3.63. **Incentive/Disincentive Provisions.** An adjustment to the Contract price of a predetermined amount for each day the work is completed ahead of or behind the specified milestone, phase, or Contract completion dates. The amount of the incentive/disincentive is determined based on estimated costs for engineering, traffic control, delays to the motorists, and other items involved in the Contract.
- 3.64. **Independent Assurance Tests.** Tests used to evaluate the sampling and testing techniques and equipment used in the acceptance program. The tests are performed by the Owner or the Owner's representative and are not used for acceptance purposes.
- 3.65. **Inspector.** The person assigned by the Owner to inspect any or all parts of the work and the materials used for compliance with the Contract.
- 3.66. **Intelligent Transportation System.** An integrated system that uses video and other electronic detection devices to monitor traffic flows.

- 3.67. **Intersection.** The general area where 2 or more highways, streets, or roads join or cross, including the roadway and roadside facilities for traffic movements within it.
- 3.68. **Island.** An area within a roadway from which vehicular traffic is intended to be excluded, together with any area at the approach occupied by protective deflecting or warning devices.
- 3.69. **Joint Venture.** Any combination of individuals, partnerships, limited liability companies, or corporations submitting a single bid form.
- 3.70. **Lane Rental.** A method to assess the Contractor daily or hourly rental fees for each lane, shoulder, or combination of lanes and shoulders taken out of service.
- 3.71. **Letting.** The receipt, opening, tabulation, and determination of the apparent low Bidder.
- 3.72. **Letting Official.** The Owner representative empowered by the Owner to officially receive bids and close the receipt of bids at a letting.
- 3.73. **Licensed Professional Engineer.** A person who has been duly licensed by the Texas Board of Professional Engineers to engage in the practice of engineering in the State of Texas; also referred to as a Professional Engineer.
- 3.74. **Limits of Construction.** An area with established boundaries, identified within the highway right of way and easements, where the Contractor is permitted to perform the work.
- 3.75. **Local Street or Road.** A street or road primarily for access to residence, business, or other abutting property.
- 3.76. **Low-Pressure Water Blasting.** Water blasting with pressures between 3,000 and 5,000 psi.
- 3.77. **Major Item.** An item of work included in the Contract that has a total cost equal to or greater than 5% of the original Contract or \$100,000 whichever is less. A major item at the time of bid will remain a major item. An item not originally a major item does not become one through the course of the Contract.
- 3.78. **Manual of Testing Procedures.** Department manual outlining test methods and procedures maintained by the Materials and Tests Division.
- 3.79. **Material Producer List.** TxDOT-maintained list of approved products. Referenced as "Department's MPL".
- 3.80. **Materially Unbalanced Bid.** A bid that generates a reasonable doubt that award to the Bidder submitting a mathematically unbalanced bid will result in the lowest ultimate cost to the Owner.
- 3.81. **Mathematically Unbalanced Bid.** A bid containing bid prices that do not reflect reasonable actual costs plus a reasonable proportionate share of the Bidder's anticipated profit, overhead costs, and other indirect costs.
- 3.82. **Median.** The portion of a divided highway separating the traffic lanes in opposite directions.
- 3.83. **Milestone Date.** The date that a specific portion of the work is to be completed, before the completion date for all work under the Contract.
- 3.84. **Monolithic Concrete Placement.** The placement of plastic concrete in such manner and sequence to prevent a construction joint.
- 3.85. **National Holidays.** January 1, the last Monday in May, July 4, the first Monday in September, the fourth Thursday in November, and December 24 or December 25.

- 3.86. **Nonhazardous Recyclable Material.** A material recovered or diverted from the nonhazardous waste stream for the purposes of reuse or recycling in the manufacture of products that may otherwise be produced using raw or virgin materials.
- 3.87. **Nonresident Bidder.** A Bidder whose principal place of business is not in Texas. This includes a Bidder whose ultimate parent company or majority owner does not have its principal place of business in Texas.
- 3.88. **Nonresponsive Bid.** A bid that does not meet the criteria for acceptance contained in the bid documents.
- 3.89. **Non-Site-Specific Contracts.** Contracts in which a geographic region is specified for the work and for which work orders, with or without plans, further detail the limits and work to be performed.
- 3.90. **Notice to Proceed,** Written notification to the Contractor authorizing work to begin.
- 3.91. **Notification.** Either written or oral instruction to the Contractor concerning the work. Voice mail is oral notification.
- 3.92. **Owner,** Political subdivision for whom the project is designed and constructed. Either a Municipality (City), a County or other entity organized under the authority of State of Texas statutes. May also be referred to as an **Entity.**
- 3.93. **Pavement.** That part of the roadway having a constructed surface for the use of vehicular traffic.
- 3.94. **Pavement Structure.** Combination of surface course and base course placed on a subgrade to support the traffic load and distribute it to the roadbed.
- 3.94.1. **Surface Course.** Pavement structure layers designed to accommodate the traffic load. The top layer resists skidding, traffic abrasion, and the disintegrating effects of climate and is sometimes called the wearing course.
- 3.94.2. **Base Course.** One or more layers of specified material thickness placed on a subgrade to support a surface course.
- 3.94.3. **Subgrade.** The top surface of a roadbed upon which the pavement structure, shoulders, and curbs are constructed.
- 3.94.4. **Subgrade Treatment.** Modifying or stabilizing material in the subgrade.
- 3.95. **Payment Bond.** The security executed by the Contractor and the Surety, furnished to the Owner to guarantee payment of all legal debts of the Contractor pertaining to the Contract.
- 3.96. **Performance Bond.** The security executed by the Contractor and the Surety, furnished to the Owner to guarantee the completion of the work in accordance with the terms of the Contract.
- 3.97. **Plans.** The approved drawings, including true reproductions of the drawings that show the location, character, dimensions, and details of the work and are a part of the Contract.
- 3.98. **Power of Attorney for Surety Bonds.** An instrument under corporate seal appointing an attorney-in-fact to act on behalf of a Surety in signing bonds.
- 3.99. **Qualification.** The process for determining a Contractor's eligibility to be awarded a construction contract
- 3.100. **Prequalification.** The process for determining a Contractor's eligibility to bid work.

- 3.101. **Prequalification Statement.** The forms on which required information is furnished concerning the Contractor's ability to perform and finance the work.
- 3.102. **Prequalified Contractor.** A contractor that is approved to bid on TxDOT contracts by satisfying their Prequalification Process.
- 3.103. **Post Qualification.** The owner will determine if contractors are qualified to bid on the project after bids are open. The bid documents will identify the minimum requirements that contractor must meet to be qualified for the project. Unqualified contractors' bids will be considered non-responsive and not accepted.
- 3.104. **Project-Specific Location.** A material source, plant, waste site, parking area, storage area, field office, staging area, haul road, or other similar location either outside the project limits or within the project limits but not specifically addressed in the Contract.
- 3.105. **Proposal.** The offer from the Bidder submitted on the prescribed form, including addenda issued, giving unit bid prices for performing the work described in the plans and Specifications.
- 3.106. **Proposal Form.** The form printed and sent to the Bidder by the Owner or printed by the Bidder from the Owner's bidding system.
- 3.107. **Proposal Guaranty.** The security furnished by the Bidder as a guarantee that the Bidder will enter into a Contract if awarded the work.
- 3.108. **Quality Assurance.** Sampling, testing, inspection, and other activities conducted by the Engineer to determine payment and make acceptance decisions.
- 3.109. **Quality Control.** Sampling, testing, and other process control activities conducted by the Contractor to monitor production and placement operations.
- 3.110. **Ramp.** A section of highway for the primary purpose of making connections with other highways.
- 3.111. **Referee Tests.** Tests requested to resolve differences between Contractor and Owner test results. The referee laboratory is the Owners .
- 3.112. **Regular Item.** A bid item contained in the bid documents and not designated as an additive alternate or replacement alternate bid item.
- 3.113. **Rental Rate Blue Book for Construction Equipment.** Publication containing equipment rental rates.
- 3.114. **Replacement Alternate.** A bid item identified on the bid documents that a Bidder may substitute for a specific regular item of work.
- 3.115. **Responsive Bid.** A bid that meets all requirements of the advertisement and the bid documents for acceptance.
- 3.116. **Right of Way.** A general term denoting land or property devoted to transportation purposes.
- 3.117. **Roadbed.** The graded portion of a highway prepared as foundation for the pavement structure and shoulders. On divided highways, the depressed median type and the raised median type highways are considered to have 2 roadbeds. Highways with a flush median are considered to have 1 roadbed. Frontage roads are considered separate roadbeds.
- 3.118. **Road Master.** A railroad maintenance official in charge of a division of railway.

- 3.119. **Roadside.** The areas between the outside edges of the shoulders and the right of way boundaries. Unpaved median areas between inside shoulders of divided highways and areas within interchanges are included.
- 3.120. **Roadway.** The portion of the highway (including shoulders) used by the traveling public.
- 3.121. **Sandblasting, Dry.** Spraying blasts of pressurized air combined with sand.
- 3.122. **Sandblasting, Wet.** Spraying blasts of pressurized water combined with sand.
- 3.123. **Shoulder.** That portion of the roadway contiguous with the traffic lanes for accommodation of stopped vehicles for emergency use or for lateral support of base and surface courses.
- 3.124. **Shot Blasting.** Spraying blasts of pressurized air combined with metal shot.
- 3.125. **Sidewalk.** Portion of the right of way constructed exclusively for pedestrian use.
- 3.126. **Slurry Blasting.** Spraying blasts of pressurized air combined with a mixture of water and abrasive media.
- 3.127. **Special Provisions.** Additions or revisions to these standard specifications or special specifications.
- 3.128. **Special Specifications.** Supplemental specifications applicable to the Contract not covered by these standard specifications.
- 3.129. **Specifications.** Directives or requirements issued or made pertaining to the method and manner of performing the work or to quantities and qualities of materials to be furnished under the Contract. References to DMSs, ASTM or AASHTO specifications, or TxDOT bulletins and manuals, imply the latest standard or tentative standard in effect on the date of the bid. The Owner will consider incorporation of subsequent changes to these documents in accordance with Item 4L, "Scope of Work."
- 3.130. **Small Business Enterprise.** A firm (including affiliates) whose annual gross receipts do not exceed the U.S. Small Business Administration's size standards for 4 consecutive years.
- 3.131. **State.** The State of Texas.
- 3.132. **State Holiday.** A holiday authorized by the State Legislature excluding optional state holidays and not listed in Section 1L.3.85., "National Holidays." A list of state holidays can be found on the TxDOT's website.
- 3.133. **Station.** A unit of measurement consisting of 100 horizontal feet.
- 3.134. **Subcontract.** The agreement between the Contractor and subcontractor establishing the obligations of the parties for furnishing of materials and performance of the work prescribed in the Contract documents.
- 3.135. **Subcontractor.** An individual, partnership, limited liability company, corporation, or any combination thereof that the Contractor sublets, or proposes to sublet, any portion of a Contract, excluding a material supplier, a hauling firm hauling only from a commercial source to the project, truck owner-operator, wholly-owned subsidiary, or specialty-type businesses such as security companies and rental companies.
- 3.136. **Subsidiary.** Materials, labor, or other elements that because of their nature or quantity have not been identified as a separate item and are included within the items on which they necessarily depend.
- 3.137. **Substructure.** The part of the structure below the bridge seats, but not including bearings, drilled shafts, or piling. Parapets, back walls, wing walls of the abutments, and drainage structures are considered parts of the substructure.

- 3.138. **Superintendent.** The representative of the Contractor who is available at all times and able to receive instructions from the Owner or authorized Owner representatives and to act for the Contractor.
- 3.139. **Superstructure.** The part of the structure above the bridge seats or above the springing lines of arches and including the bearings. Flatwork construction may be considered superstructure.
- 3.140. **Supplemental Agreement.** Written agreement entered into between the Contractor and the Owner and approved by the Surety, covering alterations and changes in the Contract. A supplemental agreement is used by the Owner whenever the modifications include assignment of the Contract from one party to another or other cases as desired by the Owner.
- 3.141. **Surety.** The corporate body or bodies authorized to do business in Texas bound with and for the Contractor for the faithful performance of the work covered by the Contract and for the payment for all labor and material supplied in the prosecution of the work.
- 3.142. **Surplus Materials.** Any debris or material related to the Contract but not incorporated into the work.
- 3.143. **Suspension.** Action taken by the Owner, State, or federal government pursuant to regulation that prohibits a person or company from entering into a Contract, or from participating as a subcontractor, or supplier of materials or equipment used in a contract
- 3.144. **Tex –XXX-X.** TxDOT material test methods found on TxDOT's website.
- 3.145. **Traffic Lane.** The strip of roadway intended to accommodate the forward movement of a single line of vehicles.
- 3.146. **Traveled Way.** The portion of the roadway for the movement of vehicles, exclusive of shoulders and auxiliary lanes.
- 3.147. **Truck Owner-Operator.** An individual who owns and operates 1 truck for hire.
- 3.148. **UT-Bridge.** TxDOT-owned software for steel girder erection. Software is available on TxDOT's website.
- 3.149. **UT-Lift.** TxDOT-owned software for steel girder erection. Software is available on TxDOT's website.
- 3.150. **Utility.** Privately, publicly, or cooperatively owned lines, facilities, and systems for producing, transmitting, or distributing communications, power, heat, gas, oil, water, waste, or storm water that are not connected with the highway drainage, signal systems, or other products that directly or indirectly serve the public; the utility company.
- 3.151. **Verification Tests.** Tests used to verify accuracy of QC and QA and mixture design testing.
- 3.152. **Water-Abrasive Blasting.** Spraying blasts of pressurized water combined with abrasive media.
- 3.153. **Water Blasting.** Spraying blasts of pressurized water of at least 3,000 psi.
- 3.154. **Water-Injected Abrasive Blasting.** Abrasive blasting with water injected into the abrasive/air stream at the nozzle.
- 3.155. **Wholly-Owned Subsidiary.** A legal entity owned entirely by the Contractor or subcontractor.
- 3.156. **Work.** The furnishing of all labor, materials, equipment, and other incidentals necessary for the successful completion of the Contract.

3.157.

Written Notice. Written notice is considered to have been duly given if delivered in person to the individual or member to whom it is intended or if sent by regular, registered, or certified mail and delivered to the last known business address; sent by facsimile to the last known phone number; or sent by e-mail to the last known address. The date of the letter will serve as the beginning day of notice. Unclaimed mail or failure to provide current mailing address will not be considered a failure to provide written notice.

Item 2L

Instructions to Bidders



1. INTRODUCTION

Instructions to the Contractor in these specifications are generally written in active voice, imperative mood. The subject of imperative sentences is understood to be "the Contractor." The Owner's responsibilities are generally written in passive voice, indicative mood. Phrases such as "as approved," "unless otherwise approved," "upon approval," "as directed," "as verified," "as ordered," and "as determined" refer to actions of the Engineer unless otherwise stated, and it is understood that the directions, orders, or instructions to which they relate are within the limitations of and authorized by the Contract.

2. ELIGIBILITY OF BIDDERS

Bidders on this project must be prequalified through TxDOT by meeting the requirements of the Confidential Questionnaire (CQ) or Bidder's Questionnaire (BQ) (select one). Refer to TxDOT's website for prequalification requirements. Assure prequalification documents are submitted to TxDOT at least 14 days before bid opening. Comply with all technical prequalification requirements in the bid documents.

3. ISSUING BID DOCUMENTS

Bid Documents may be obtained at _____.

At the time Bid Documents are obtained, Bidder must provide a working e-mail address, so as to receive any addenda or clarification issued by the Owner.

The Owner will not issue bid documents if one or more of the following apply:

- the Bidder is suspended or debarred by the Department or federal agency,
- the Bidder has not fulfilled the requirements for prequalification,
- the Bidder is prohibited from rebidding a specific project due to a bid error on the original bid documents,
- the Bidder failed to enter into a Contract on the original award,
- the Bidder was defaulted or terminated on the original Contract, unless the Owner terminated for convenience, or
- the Bidder or a subsidiary or affiliate of the Bidder has received compensation from the Owner to participate in the preparation of the plans or specifications on which the bid or Contract is based.

4. INTERPRETING ESTIMATED QUANTITIES

The quantities listed in the bid documents are approximate and will be used for the comparison of bids. Payments will be made for actual quantities of work performed in accordance with the Contract.

5. EXAMINING DOCUMENTS AND WORK LOCATIONS

Examine the bid documents and specified work locations before submitting a bid for the work. Submitting a bid will be considered evidence that the Bidder has performed this examination. Borings, soil profiles, water elevations, and underground utilities shown on the plans were obtained for the use of the Owner in the preparation of plans. This information is provided for the Bidder's information only and the Owner makes no representation as to the accuracy of the data. Be aware of the difficulty of accurately classifying all material

encountered in making foundation investigations, the possible erosion of stream channels and banks after survey data have been obtained, and the unreliability of water elevations other than for the date recorded.

Oral explanations, instructions, or consideration for Contractor-proposed changes in the bid documents given during the bidding process are not binding. Only requirements included in the bid documents and Owner-issued addenda are binding. Request explanations of documents at least five(5) days prior to the bid opening.

Immediately notify the Owner of any error, omission, or ambiguity discovered in any part of the bid documents. The Owner will issue addenda when appropriate.

6. PREPARING THE BID

Prepare the proposal form furnished by the Owner. Informational proposal forms printed from the Owner's website will not be accepted.

Specify a unit price in dollars and cents for each regular item, additive alternate item, deductive alternate item or replacement alternate item for which an estimated quantity is given.

When "Working Days" is an item, submit the number of working days to be used to complete the Contract or phases of the Contract.

The Owner will not accept an incomplete bid. A bid that has one or more of the deficiencies listed below is considered incomplete:

- the proposal form was not signed,
- all certifications were not acknowledged,
- a regular item, additive alternate item or deductive alternate item is left blank,
- a regular item and the corresponding replacement alternate item are left blank,
- the proposal form submitted had the incorrect number of items, or
- all addenda were not acknowledged.

7. NONRESPONSIVE BID

The Owner will not accept a nonresponsive bid. A bid that has one or more of the deficiencies listed below is considered nonresponsive:

- The bid was not in the hands of the Letting Official at the time and location specified in the advertisement.
- A bid was submitted for the same project by a Bidder or Bidders and one or more of its partners or affiliates.
- The Bidder was not authorized to receive a proposal form under Article 2L.3, "Issuing Bid Documents",
- The Bidder failed to acknowledge receipt of all addenda issued.
- The proposal form was signed by a person who was not authorized to bind the Bidder or Bidders.
- The proposal guaranty did not comply with the requirements contained in this Item.
- The bid was in a form other than the official proposal form issued by the Owner.
- The Bidder modified the bid in a manner that altered the conditions or requirements for work as stated in the bid documents.
- The Bidder bid more than the maximum or less than the minimum number of allowable working days when working days was an item.
- The Bidder did not attend a specified mandatory pre-bid conference.
- The Bidder did not meet the requirements of the technical qualification.
- The Bidder did not include a signed State of Texas Child Support Business Ownership Form.

- The bidder is not prequalified by TxDOT
- The bidder does not meet the Owner's qualification requirements.

8. SUBMITTAL OF BIDS

8.1. **Electronic Bids.** When electronic bidding is available, the Bidder is responsible for taking the appropriate measures to submit a bid. These measures include, but are not limited to, acquiring hardware, software, and Internet connectivity needed for submitting a bid via the Owner's bidding system.

8.1.1. **Proposal Form.** Use the electronic proposal form in the Owner's bidding system. When regular bid items have corresponding replacement alternate items, select the bid item or group of items to be used for the bid tabulation. Acknowledge all addenda listed in the Owner's bidding system.

The electronic proposal form may not contain the special provisions, special specifications, general notes, and other Contract documents. These documents are included by reference.

8.1.2. **Proposal Guaranty.** Provide a bid guaranty in the amount indicated on the proposal form. Use an electronic bid bond. Guaranty checks or printed bid bonds will not be accepted.

Use the most current version of the electronic bond accepted by the Owner. For a joint venture, the bond must be in the name of all joint venture participants. Enter the bond authorization code into the Owner's bidding system.

It is the Bidder's responsibility to ensure the electronic bid bond is issued in the name or names of the Bidder or Bidders.

8.1.3. **Submittal of Bid.** Submit the bid using the Owner's bidding system.

8.1.4. **Revising the Proposal Form.** Make desired changes as allowed by the Owner's bidding system up until the time and date set for the opening of bids. The last bid submitted will be used for tabulation purposes.

8.1.5. **Withdrawing a Bid.** Submit an electronic or written request to withdraw a bid before the time and date set for the opening. The Owner will not accept oral requests. An electronic request must be made using the Owner's bidding system.

A written request must be signed and submitted to the Letting Official with proof of identification. The request must be made by a person authorized to bind the Bidder or Bidders. In the case of joint venture, the Owner will accept a request from any person authorized to bind a party to the joint venture. The Owner may require written delegation of authority to withdraw a bid when the individual sent to withdraw the bid is not authorized to bind the Bidder or Bidders.

8.2. **Printed Bid.**

8.2.1. **Proposal Form.** Mark all entries in ink. As an alternative to hand writing the unit prices in the proposal form, submit a typed proposal form. A typed proposal form must contain the information in the format shown on the "Example of Bid Prices Submitted by Computer Printout" in the proposal form.

When regular bid items have corresponding replacement alternate items, select the bid item or group of items to be used for the bid tabulation. Acknowledge all addenda by checking the appropriate box on the addendum acknowledgement page. Provide the complete and correct name of the Bidder submitting the bid. A person authorized to bind the Bidder must sign the proposal form. In the case of a joint venture, provide the complete and correct name of all Bidders submitting the bid. In the case of a joint venture, the person signing the proposal form must be authorized to bind all joint venture participants.

If a proposal form contains both regular items for domestic steel or iron materials and replacement alternate items for foreign steel or iron materials, the Bidder must either:

- submit unit bid prices for domestic items only, or
- submit unit bid prices for both the domestic and foreign items.

- 8.2.2. **Proposal Guaranty.** Provide a bid guaranty in the amount indicated on the bid documents. Use either a guaranty check or a printed bid bond. An electronic bid bond may be used as the guaranty. Ensure the electronic bid bond meets the requirements of Section 2L.8.1.2., "Proposal Guaranty," and submit the electronic bid bond with the printed bid.
- 8.2.3. **Guaranty Check.** Make the check payable to the Owner. The check must be a cashier's check, money order, or teller's check drawn by or on a state or national bank, or a state or federally chartered credit union (collectively referred to as "bank"). The check must be dated on or before the date of the bid opening. Postdated checks will not be accepted. The type of check or money order must be indicated on the face of the instrument, except in the case of a teller's check, and the instrument must be no more than 90 days old. A check must be made payable at or through the institution issuing the instrument; be drawn by a bank and on a bank; or be payable at or through a bank. The Owner will not accept personal checks, certified checks, or other types of money orders.
- 8.2.4. **Bid Bond.** Use the bid bond form provided by the Owner. Submit the bid bond with the powers of attorney attached and in the amount specified. The bond must be dated on or before the date of the bid opening, bear the impressed seal of the Surety, and be signed by the Bidder or Bidders and an authorized individual of the Surety. As an alternative for joint venture Bidders, each of the Bidders may submit a separate bid bond completed as outlined in this section. Bid bonds will only be accepted from Sureties authorized to execute a bond under and in accordance with State law.
- 8.2.5. **Submittal of Bid.** Place the completed proposal form and the bid guaranty in a sealed envelope marked to indicate the contents.
- When submitting by mail or delivery service, place the envelope in another sealed envelope and address as indicated in the official advertisement or in the bid documents. It is the Bidder's responsibility to ensure that the sealed bid arrives at the location described on or before the time and date set for the bid opening. To be accepted, the bid must be in the hands of the Letting Official by that time of opening regardless of the method chosen for delivery.
- 8.2.6. **Revising the Proposal Form.** Make desired changes to the proposal form in ink and submit the bid to the Letting Official. The Owner will not make revisions to a bid on behalf of a Bidder.
- 8.2.7. **Withdrawing a Bid.** Submit a written request to withdraw a bid before the time and date set for the opening. The Owner will not accept oral requests. A written request must be signed and submitted to the Letting Official with proof of identification. The request must be made by a person authorized to bind the Bidder or Bidders. In the case of joint venture, the Owner will accept a request from any person authorized to bind a party to the joint venture. The Owner may require written delegation of authority to withdraw a bid when the individual sent to withdraw the bid is not authorized to bind the Bidder or Bidders.

9. OPENING AND READING OF BIDS

At the time, date, and location specified in the official advertisement, the Owner will publicly open and read bids.

10. TABULATING BIDS

- 10.1. **Official Total Bid Amount.** The Owner will sum the products of the quantities and the unit prices bid in the proposal form to determine the official total bid amount, except as provided in Section 2L.11., "Consideration

of Unit Prices.” The official total bid amount is the basis for determining the apparent low Bidder. The total bid amounts will be compared and the results made public.

- 10.2. **Consideration of Bid Format.** When a Bidder submits both an electronic bid and a printed bid that is responsive, the unit bid prices in the printed bid will be used to determine the total bid amount. If the printed bid is incomplete or nonresponsive, the electronic bid will be used in the tabulation of the total bid amount.

If a Bidder submits 2 or more printed bids, all responsive bids will be tabulated. The bid with the lowest tabulation will be used to determine the total bid amount.

- 10.3. **Rounding of Unit Prices.** The Owner will round off all unit bids involving fractional parts of a cent to the nearest one-tenth cent (\$0.001) in determining the amount of the bid as well as computing the amount due for payment of each item under the Contract. For rounding purposes, entries of five-hundredths of a cent (\$0.0005) or more will be rounded up to the next highest tenth of a cent, while entries less than five-hundredths of a cent will be rounded down to the next lowest tenth of a cent.

- 10.4. **Interpretation of Unit Prices.** The Owner will make a documented determination of the unit bid price if a unit bid price is illegible or conflicting in the case of replacement alternate items. The Owner's determination will be final.

- 10.5. **Consideration of Unit Prices.**

- 10.5.1. **Additive Alternate Items.** The Owner will sum the products of the quantities and the unit prices for the regular items in the proposal form to determine the total bid amount for the base bid. The official total bid amount will be determined by the summation of the base bid plus a pre-determined order of additive alternate items. An estimate of the budgeted amount may be shown on the plans.

The Contract will identify the base bid work and additive alternate work to be performed. The Owner makes no guarantee that the additive alternate work will be required.

- 10.5.2. **A + B Bidding.** The official total bid amount will be determined by the summation of the Contract amount and the time element. The Owner will use the following formula to make the calculation:

$$A + B1 + B2 + BX + \dots + BT$$

The Contract amount, equal to A in the formula, is determined by the summation of the products of the approximate quantities shown in the bid and the unit bid prices bid. The time element, equal to B1, B2, BX (when phases are included as bid components), and BT (substantial completion of the project when included as a bid component), of the bid is determined by multiplying the number of working days bid to substantially complete the project, or phases, by the daily road-user cost (RUC) provided on the bid documents. When partial days are bid they will be rounded up to the nearest whole day.

The formula above determines the low Bidder and establishes the Contract time.

- 10.5.3. **“Buy America.”** Comply with Buy America in accordance with Section 6L.1.1.. For a Bidder who proposes to use foreign steel or iron materials to be considered the apparent low Bidder, their total bid must be at least 25% lower than the next lowest bid if that bid proposes to use domestic steel or iron materials.

This requirement does not apply to minimal use of steel or iron materials provided that the total cost of all foreign source items used in the project, as delivered to the project site, is less than \$2,500 or one-tenth-of-one-percent (1/10 of 1%) of the Contract amount, whichever is greater

11. CONSIDERATION OF BID ERRORS.

The Owner will consider a claim of a bid error by the apparent low Bidder if the following requirements have been met:

- Submit written notification to the Owner within 5 business days after the date the bid is opened.
- Identify the items of work involved and include bidding documentation. The Owner may request clarification of submitted documentation.

The Owner will evaluate the claim of an error by the apparent low Bidder by considering the following:

- The bid error relates to a material item of work.
- The bid error amount is a significant portion of the total bid.
- The bid error occurred despite the exercise of ordinary care.
- The delay of the proposed work will not impact cost and safety to the public.

Acceptance of the bid error claim by the Owner will result in the rejection of the bid of the apparent low bidder and the Owner may consider the second responsive bid. The erring Contractor will not be allowed to bid the project if it is relet. Rejection of bids due to the Contractor's bid error may result in the application of sanctions by the Owner.

12. TIE BIDS

If the official total bid amount for 2 or more Bidders is equal and those bids are the lowest submitted, each tie Bidder will be given an opportunity to withdraw their bid. If 2 or more tie Bidders do not withdraw their bids, the low Bidder will be determined by a coin toss. If all tie Bidders request to withdraw their bids, no withdrawals will be allowed and the low Bidder will be determined by a coin toss. The Letting Official will preside over the proceedings for the coin toss.

Item 3L

Award and Execution of Contract



1. AWARD OF CONTRACT

The Owner will award, reject, or defer the Contract within 30 days after the opening of the bid. The Owner reserves the right to reject any or all bids and to waive minor technicalities in the best interest of the Owner.

1.1. **Award.** The Owner will award the Contract to the low Bidder as determined by Article 2L.10., "Tabulating Bids." The Owner may award a Contract to the second lowest Bidder when the following requirements have been met:

- The low Bidder withdraws its bid.
- The low Bidder fails to enter into a contract with the Owner after Award.
- The second low Bidder's unit bid prices are reasonable.

1.2. **Rejection.** The Owner will reject the Contract if:

- Collusion may have existed among the Bidders. Collusion participants will not be allowed to bid future bids for the same Contract.
- The low bid is mathematically and materially unbalanced. The Bidder will not be allowed to bid future bids for the same Contract.
- The lowest bid is higher than the Owner's estimate and re-advertising for bids may result in a lower bid.
- The low bid contains a bid error that satisfies the requirements and criteria in Article 2L.11 "Consideration of Bid Errors."
- Rejection of the Contract is in the best interest of the Owner.

1.3. **Deferral.** The Owner may defer the award or rejection of the Contract when deferral is in the best interest of the Owner.

2. RESCINDING OF AWARD

The Owner reserves the right to cancel the award of any Contract before Contract execution with no compensation due when the cancellation is in the best interest of the Owner. The Owner will return the proposal guaranty to the Contractor.

3. DISADVANTAGED BUSINESS ENTERPRISE (DBE)/HISTORICALLY UNDERUTILIZED BUSINESS/SMALL BUSINESS ENTERPRISE (SBE)

Submit all DBE/HUB/SBE information in the time frame specified when required by the bid documents.

4. EXECUTION OF CONTRACT

Provide the following within 15 days after written notification of award of the Contract:

4.1. **Contract.** Executed by Contractor and Surety.

4.2. **Bonds.** Executed performance bond and payment bond in the full amount of the Contract price with powers of attorney. Provide bonds in accordance with Table 1. Furnish the payment and performance bonds as a

guaranty for the protection of the claimants and the Owner for labor and materials and the faithful performance of the work.

Table 1
Bonding Requirements

Contract Amount	Required Bonds
Less than \$25,000	None
\$25,000 to \$100,000	Payment
More than \$100,000	Performance and Payment

- 4.3. **Insurance.** Submit a Certificate of Insurance showing coverages in accordance with Contract requirements.

Insurances must cover the contracted work for the duration of the Contract and must remain in effect until final acceptance. Failure to obtain and maintain insurance for the contracted work may result in suspension of work or default of the Contract. If the insurance expires and coverage lapses for any reason, stop all work until the Owner receives an acceptable Certificate of Insurance.

Provide the Owner with a Certificate of Insurance verifying the types and amounts of coverage shown in Table 2. The Certificate of Insurance must be in a form approved by the Owner. Any Certificate of Insurance provided must be available for public inspection.

Table 2
Insurance Requirements

Type of Insurance	Amount of Coverage
Commercial General Liability Insurance	Not Less Than: \$600,000 each occurrence
Business Automobile Policy	Not Less Than: \$600,000 combined single limit
Workers' Compensation	Not Less Than: Statutory
All Risk Builder's Risk Insurance (For building-facilities Contracts only)	100% of Contract Price

By signing the Contract, the Contractor certifies compliance with all applicable laws, rules, and regulations pertaining to workers' compensation insurance. This certification includes all subcontractors. Pay all deductibles stated in the policy. Subcontractors must meet the requirements of Table 2 either through their own coverage or through the Contractor's coverage.

The Workers' Compensation policy must include a waiver of subrogation endorsement in favor of the Owner.

For building-facilities Contracts, provide All Risk Builder's Risk Insurance to protect the Owner against loss by storm, fire or extended coverage perils on work and materials intended for use on the project including the adjacent structure. Name the Owner under the Lost Payable Clause.

For Contracts with railroad requirements, see project-specific details for additional insurance requirements.

Provide a substitute Surety on the Contract bonds in the original full Contract amount within 15 days of notification if the Surety is declared bankrupt or insolvent, the Surety's underwriting limitation drops below the Contract amount or the Surety's right to do business is terminated by the Owner. The substitute Surety must be authorized by the laws of the State and acceptable to the Owner. Work will be suspended until a substitute Surety is provided. Working day charges will be suspended for 15 days or until an acceptable Surety is provided, whichever is sooner.

The work performed under this section will not be measured or paid for directly but will be subsidiary to pertinent items.

- 4.4. **Business Ownership Information.** Submit the names and social security numbers of all individuals owning 25% or more of the firm on the Owner's form.

- 4.5. **Railroad Documents.** Provide all required documents for satisfaction of railroad requirements for projects that have work which involves railroad right of way. Comply with the requirements of Article 5L.8., "Cooperation With Railroads."

5. FAILURE TO ENTER CONTRACT

If the Contractor fails to comply with all of the requirements in Article 3L.4., "Execution of Contract," the proposal guaranty will become the property of the Owner, not as a penalty, but as liquidated damages. The Contractor forfeiting the proposal guaranty will not be considered in future bids for the same work unless there has been a substantial change in design of the work.

6. APPROVAL AND EXECUTION OF CONTRACT

The Contract will be approved and signed under authority of the Owner.

7. RETURN OF PROPOSAL GUARANTY

The proposal guaranty check of the low Bidder will be retained until after the Contract has been rejected or awarded and executed. Bid bonds will not be returned.

8. BEGINNING OF WORK

Do not begin work until authorized in writing by the Owner.

Verify all quantities of materials shown on the plans before ordering.

For Contracts with callout work and work orders, the purchase of materials before a work order is issued or without prior written approval of the Engineer is at the Contractor's risk, and the Department is not obligated for the cost of the materials or work to acquire the materials.

9. ASSIGNMENT OF CONTRACT

Do not assign, sell, transfer, or otherwise dispose of the Contract or any portion rights, title, or interest (including claims) without the approval of the Owner or designated representative. The Owner must deem any proposed assignment justified and legally acceptable before the assignment can take place.

10. EXCLUDED PARTIES

The Contractor certifies by signing the Contract that the Contractor will not enter into any subcontract with a subcontractor that is debarred or suspended by the Owner or by any state or federal agency.

Item 4L

Scope of Work



1. CONTRACT INTENT

The intent of the Contract is to describe the completed work to be performed. Furnish materials, supplies, tools, equipment, labor, and other incidentals necessary for the proper prosecution and completion of the work in accordance with Contract documents.

2. PRECONSTRUCTION CONFERENCE

Before starting work, schedule and attend a preconstruction conference with the Owner. Failure to schedule and attend a preconstruction conference is not grounds for delaying the beginning of working day charges. The preconstruction conference may be scheduled with the safety preconstruction meeting described in Section 7L.1.2., "Safety Preconstruction Meeting."

- 2.1. **Issue Resolution Process.** An issue is any aspect of the Contract where parties of the Contract do not agree. The individuals identified at the lowest level of the issue escalation ladder will initiate the issue resolution process by escalating any issue that remains unresolved within the time frame outlined in the issue escalation ladder.

Work with the Owner to resolve all issues during the course of the Contract. Refer to Article 4L.7., "Dispute or Claims Procedure," for all unresolved issues.

3. PARTNERING

The intent of this Article is to promote an environment of trust, mutual respect, integrity, and fair-dealing between the Owner and the Contractor.

Informal partnering does not make use of a facilitator, while formal partnering uses the services of a facilitator (internal or external).

- 3.1. **Procedures for Partnering Meetings and Format.** Informal partnering is required, unless formal partnering is mutually agreed to instead of the informal partnering.
- 3.2. **Facilitators.** The facilitator is to act as a neutral party seeking to initiate cooperative working relationships. This individual must have the technical knowledge and ability to lead and guide discussions. Choose either an internal or external facilitator. The facilitator must be acceptable to the Engineer.
- 3.2.1. **Internal Facilitators.** An Owner or Contractor internal (staff) facilitator may be selected as the facilitator at no additional cost to either party.
- 3.2.2. **External Facilitators.** A private firm or individual that is independent of the Contractor and the Owner may be selected as the facilitator. Submit the facilitator's name and estimated fees for approval before contracting with the facilitator.
- 3.3. **Meetings and Arrangements.** Coordinate with the Engineer for meeting dates and times, locations including third party facilities, and other needs and appurtenances, including, but not limited to, audio or visual equipment. Make all meeting arrangements for formal partnering. Use Owner facilities or facilities in the vicinity of the project if available. Submit the estimated meeting costs for approval before finalizing arrangements.

Coordinate facilitator discussions before the partnering meeting to allow the facilitator time to prepare an appropriate agenda. Prepare a list of attendees with job titles and include critical Contractor, subcontractor, and supplier staff in the list. Provide the facilitator the list of attendees and invite the attendees listed.

The Owner will invite and provide a list of attendees that includes, but is not limited to, Owner, TxDOT, other local governments, law enforcement, railroad, and utility representatives.

Participate in additional partnering meetings as mutually agreed.

- 3.4. **Payment.** Expenses for labor, Contractor equipment, or overhead will not be allowed. Markups as prescribed in Article 9L.7., "Payment for Extra Work and Force Account Method," will not be allowed.

Informal partnering will be conducted with each party responsible for their own costs.

For formal partnering using internal facilitators, the Contractor will be responsible for arrangements and for expenses incurred by its internal facilitator, including, but not limited to, meals, travel, and lodging. Owner facilitators, if available, may be used at no additional cost.

For formal partnering using external facilitators, submit an invoice to the Engineer for reimbursement. The Owner will reimburse the Contractor for half of the eligible expenses as approved. For external facilitators not approved by the Owner but used at the Contractor's option, the Contractor will be responsible for all costs of the external facilitator.

For meeting facilities and appurtenances, submit an invoice to the Engineer for reimbursement. The Owner will reimburse the Contractor for half of the eligible expenses as approved.

4. CHANGES IN THE WORK

The Engineer reserves the right to make changes in the work including addition, reduction, or elimination of quantities and alterations needed to complete the Contract. Perform the work as altered. These changes will not invalidate the Contract nor release the Surety. The Contractor is responsible for notifying the sureties of any changes to the Contract.

If the changes in quantities or the alterations do not significantly change the character of the work under the Contract, the altered work will be paid for at the Contract unit price. If the changes in quantities or the alterations significantly change the character of the work, the Contract will be amended by a change order. If no unit prices exist, this will be considered extra work and the Contract will be amended by a change order. Provide cost justification as requested, in an acceptable format. Payment will not be made for anticipated profits on work that is eliminated.

Agree on the scope of work and the basis of payment for the change order before beginning the work. If there is no agreement, the Engineer may order the work to proceed under Article 9L.7., "Payment for Extra Work and Force Account Method," or by making an interim adjustment to the Contract. In the case of an adjustment, the Engineer will consider modifying the compensation after the work is performed.

A significant change in the character of the work occurs when:

- the character of the work for any item as altered differs materially in kind or nature from that in the Contract or
- a major item of work varies by more or less than 25% from the original Contract quantity.

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%.

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. When mutually agreed, the unit price may be adjusted by multiplying the Contract unit price by the factor in Table 1. If an adjusted unit price cannot be agreed upon, the Engineer may determine the unit price by multiplying the Contract unit price by the factor in Table 1.

Table 1
Quantity-Based Price Adjustment Factors

% of Original Quantity	Factor
≥ 50 and < 75	1.05
≥ 25 and < 50	1.15
< 25	1.25

If the changes require additional working days to complete the Contract, Contract working days will be adjusted in accordance with Item 8L, "Prosecution and Progress."

5. DIFFERING SITE CONDITIONS

During the progress of the work, differing subsurface or latent physical conditions may be encountered at the site. The 2 types of differing site conditions are defined as:

- those that differ materially from those indicated in the Contract and
- unknown physical conditions of an unusual nature differing materially from those ordinarily encountered and generally recognized as inherent in the work provided for in the Contract.

Notify the Engineer in writing when differing site conditions are encountered. The Engineer will notify the Contractor when the Owner discovers differing site conditions. Unless directed otherwise, do not work on the affected items and leave the site undisturbed. The Engineer will investigate the conditions and determine whether differing site conditions exist. If the differing site conditions cause an increase or decrease in the cost or number of working days specified for the performance of the Contract, the Engineer will make adjustments, excluding the loss of anticipated profits, in accordance with the Contract. Additional compensation will be made only if the required written notice has been provided.

6. REQUESTS FOR ADDITIONAL COMPENSATION

Notify the Engineer in writing of any intent to request additional compensation once there is knowledge of the basis for the request. An assessment of damages is not required to be part of this notice but is desirable. The intent of the written notice requirement is to provide the Owner an opportunity to evaluate the request and to keep an accurate account of the actual costs that may arise. Minimize impacts and costs.

If written notice is not given, the Contractor waives the right to additional compensation unless the circumstances could have reasonably prevented the Contractor from knowing the cost impact before performing the work. Notice of the request and the documentation of the costs will not be construed as proof or substantiation of the validity of the request. Submit the request in enough detail to enable the Owner to determine the basis for entitlement, adjustment in the number of working days specified in the Contract, and compensation.

The Owner will not consider fees and interest on requests for additional compensation. Fees include, but are not limited to: preparation, attorney, printing, shipping, and various other fees.

Damages occur when impacts that are the responsibility of the Owner result in additional costs to the Contractor that could not have been reasonably anticipated at the time of letting. Costs of performing additional work are not considered damages. For Contractor damages, the intent is to reimburse the Contractor for actual expenses arising out of a compensable impact. No profit or markups, other than labor burden, will be allowed. For damages, labor burden will be reimbursed at 35% unless the Contractor can justify higher actual cost. Justification for a higher percentage must be in accordance with the methodology

provided by the Owner , submitted separately for project overhead labor and direct labor, and determined and submitted by a Certified Public Accountant (CPA). Submit CPA-prepared labor burden rates directly to the Owner.

If the Contractor requests compensation for delay damages and the delay is determined to be compensable, then standby equipment costs and project overhead compensation will be based on the duration of the compensable delay and will be limited as follows:

- 6.1. **Standby Equipment Costs.** Payment will be made in accordance with Section 9L.7.1.4.3., "Standby Equipment Costs."
- 6.2. **Project Overhead.** Project overhead is defined as the administrative and supervisory expenses incurred at the work locations. When delay to project completion occurs, reimbursement for project overhead for the Contractor will be made using the following options:
- reimbursed at 6% (computed as daily cost by dividing 6% of the original Contract amount by the number of original Contract work days), or
 - actual documented costs for the impacted period.

Project overhead for delays impacting subcontractors will be determined from actual documented costs submitted by the Contractor.

Time extensions and suspensions alone will not be justification for reimbursement for project overhead.

- 6.3. **Home Office Overhead.** The Owner will not compensate the Contractor for home office overhead.

7. **DISPUTE OR CLAIMS PROCEDURE**

The dispute resolution policy promotes a cooperative attitude between the Engineer and Contractor. Emphasis is placed on resolving issues while they are still current, at the project office, and in an informal manner. Open sharing of information is encouraged by all parties involved so the information provided completely and accurately reflects the issues and facts. If information is not shared, decisions may be limited to relying on the documentation that is available for review.

The Owners's goal is to have a dispute settled by the Engineer before elevating it as a claim.

If a dispute cannot be resolved, initiate the Contract claim procedure by filing a Contract claim after the completion of the Contract or when required for orderly performance of the Contract. Submit the claim to the Owner in accordance with state law.

For a claim resulting from enforcement of a warranty period, file the claim no later than one year after expiration of the warranty period. For all other claims, file the claim no later than the date the Owner issues notice to the Contractor that they are in default, the date the Owner terminates the Contract, or one year after the date of final acceptance of the Contract. It is the Contractor's responsibility to submit requests in a timely manner.

Item 5L

Control of the Work



1. AUTHORITY OF ENGINEER

The Engineer has the authority to observe, test, inspect, approve, and accept the work on behalf of the Owner. The Engineer decides all questions about the quality and acceptability of materials, work performed, work progress, Contract interpretations, and acceptable Contract fulfillment. The Engineer has the authority to enforce and make effective these decisions.

The Engineer acts as a referee in all questions arising under the terms of the Contract. The Engineer's decisions will be final and binding.

The Engineer may pursue actions against the Contractor, including but not limited to the withholding of payments and suspending the work, for noncompliance of the Contract.

The Engineer may suspend the work without suspending working day charges for noncompliance of the Contract.

2. PLANS AND WORKING DRAWINGS

When required, provide working drawings to supplement the plans with all necessary details not included on the Contract plans. Prepare and furnish working drawings in a timely manner and obtain approval, if required, before the beginning of the associated work. For all working drawing submittal requirements, the Engineer may allow electronic and other alternative submission procedures. Have a licensed professional engineer sign, seal, and date the working drawings as indicated in Table 1.

Prepare working drawings using United States standard measures in the English language. The routing of submittals for review and approval will be established at the preconstruction conference. The Contractor is responsible for the accuracy, coordination, and conformity of the various components and details of the working drawings. Owner approval of the Contractor's working drawings will not relieve the Contractor of any responsibility under the Contract. The work performed under this article will not be measured or paid for directly but will be subsidiary to pertinent items.

Table 1
Signature and Approval Requirements for Working Drawings

Working Drawings For		Requires Licensed Professional Engineer's Signature, Seal, and Date	Requires Owner Approval
1. Alternate or optional designs submitted by Contractor		Yes	Yes
2. Supplementary shop and fabrication drawings for structural Items		No unless required on the plans	See applicable Item
3. Contractor-proposed temporary facilities that affect the public safety, not included on the plans		Yes	Yes
4. Form and falsework details	Bridges, retaining walls, and other major structures	Yes unless otherwise shown on the plans	No ¹
	Minor structures	No unless otherwise shown on the plans	No
5. Erection drawings		Yes	No ^{1,2}
6. Contractor-proposed major modifications to traffic control plan		Yes	Yes

1. The Engineer may require that the Contractor have a licensed professional engineer certify that the temporary works are constructed according to the sealed drawings.
2. Approval is required for items spanning over live traffic or where safety of the traveling public is affected, in the opinion of the Engineer.

Submit shop drawings electronically for the fabrication of structural items.

3. CONFORMITY WITH PLANS, SPECIFICATIONS, AND SPECIAL PROVISIONS

Furnish materials and perform work in reasonably close conformity with the lines, grades, cross-sections, dimensions, details, gradations, physical and chemical characteristics of materials, and other requirements shown in the Contract (including additional plans for non-site-specific work). Reasonably close conformity limits will be as defined in the respective items of the Contract or, if not defined, as determined by the Engineer. Obtain approval before deviating from the plans and approved working drawings. Do not perform work beyond the lines and grades shown on the plans or any extra work without the Engineer's approval. Work performed beyond the lines and grades shown on the plans or any extra work performed without approval is considered unauthorized and excluded from pay consideration. The Owner will not pay for material rejected due to improper fabrication, excess quantity, or any other reasons within the Contractor's control.

3.1. **Acceptance of Defective or Unauthorized Work.** When work fails to meet Contract requirements, but is adequate to serve the design purpose, the Engineer will decide the extent to which the work will be accepted and remain in place. The Engineer will document the basis of acceptance by a letter and may adjust the Contract price.

3.2. **Correction of Defective or Unauthorized Work.** When work fails to meet Contract requirements and is inadequate to serve the design purpose it will be considered defective. Correct, or remove and replace, the work at the Contractor's expense, as directed.

The Engineer has the authority to correct or to remove and replace defective or unauthorized work. The cost may be deducted from any money due or to become due to the Contractor.

4. COORDINATION OF PLANS, SPECIFICATIONS, AND SPECIAL PROVISIONS

The specifications, accompanying plans (including additional plans for non-site-specific work), special provisions, change orders, and supplemental agreements are intended to work together and be interpreted as a whole.

Numerical dimensions govern over scaled dimensions. Special provisions govern over plans (including general notes), which govern over standard specifications and special specifications. Job-specific plan sheets govern over standard plan sheets.

However, in the case of conflict between plans (including general notes) and specifications regarding responsibilities for hazardous materials and traffic control in Items 1L through 9L and Item 502, "Barricades, Signs, and Traffic Handling," special provisions govern over standard specifications and special specifications, which govern over the plans.

Notify the Engineer promptly of any omissions, errors, or discrepancies discovered so that necessary corrections and interpretations can be made. Failure to promptly notify the Engineer will constitute a waiver of all claims for misunderstandings or ambiguities that result from the errors, omissions, or discrepancies discovered.

5. COOPERATION OF CONTRACTOR

Cooperate with the Engineer. Respond promptly to instructions from the Engineer. Provide all information necessary to administer the Contract.

Designate in writing a competent, English-speaking Superintendent employed by the Contractor. The Superintendent must be experienced with the work being performed and capable of reading and understanding the Contract. Ensure the Superintendent is available at all times and able to receive instructions from the Engineer or authorized Owner representatives and to act for the Contractor. The Engineer may suspend work without suspending working day charges if a Superintendent is not available or does not meet the above criteria.

At the written request of the Engineer, immediately remove from the project any employee or representative of the Contractor or a subcontractor who, in the opinion of the Engineer, does not perform work in a proper and skillful manner or who is disrespectful, intemperate, disorderly, uncooperative, or otherwise objectionable. Do not reinstate these individuals without the written consent of the Engineer.

Furnish suitable machinery, equipment, and construction forces for the proper prosecution of the work. Provide adequate lighting to address quality requirements and inspection of nighttime work.

The Engineer may suspend the work without suspending working day charges until the Contractor complies with this requirement. All work associated with fulfilling this requirement is subsidiary to the various items of the Contract and no direct compensation will be made.

6. COOPERATING WITH UTILITIES

Use established safety practices when working near utilities. Consult with the appropriate utilities before beginning work. Notify the Engineer immediately of utility conflicts. The Engineer will decide whether to adjust utilities or adjust the work to eliminate or lessen the conflict. Unless otherwise shown on the plans, the Engineer will make necessary arrangements with the utility owner when utility adjustments are required.

Use work procedures that protect utilities or appurtenances that remain in place during construction. Cooperate with utilities to remove and rearrange utilities to avoid service interruption or duplicate work by the utilities. Allow utilities access to the right of way.

Immediately notify the appropriate utility of service interruptions resulting from damage due to construction activities. Cooperate with utilities until service is restored. Maintain access to active fire hydrants at all times unless approved by the Engineer.

7. COOPERATION BETWEEN CONTRACTORS

Cooperate and coordinate with other Contractors working within the limits or adjacent to the limits.

8. COOPERATION WITH RAILROADS

Plan and prosecute portions of the work involving a railway to avoid interference with or hindrance to the railroad company.

If the work is on railroad right of way, do not interfere with the operation of the railroad company's trains or other property.

8.1. **Project-Specific Information.** Refer to project-specific plan sheets in the Contract for specific information concerning the work to be completed by both the Contractor and the railroad within railroad right of way; railroad right of way locations impacted by construction; percentage of Contract work at each location; train movements at each location; and requirements for railroad insurance, flagging, and Right of Entry (ROE) Agreements.

8.2. **Right of Entry Agreement (if required).** The process for obtaining a fully executed ROE Agreement will be as follows:

- The Owner will send the unexecuted ROE Agreement to the Contractor with the unexecuted construction Contract.
- Partially execute the ROE Agreement and return it to the Department with the required insurance attached.
- The Owner will coordinate with the railroad company regarding the further execution of the ROE Agreement and associated fees. The Owner will pay any ROE Agreement fees directly to the railroad company.
- Once the Owner has received the fully-executed ROE Agreement from the railroad company, the Owner will forward the fully-executed ROE Agreement to the Contractor.

9. CONSTRUCTION SURVEYING

Use Method C unless otherwise specified in the Contract. Upon request, the Engineer will allow the Contractor to copy available earthwork cross-sections, computer printouts or data files, and other information necessary to establish and control work. Maintain the integrity of control points. Preserve all control points, stakes, marks, and right of way markers. Assume cost and responsibility of replacing disturbed control points, stakes, marks, and right of way markers damaged by the Contractor's or its subcontractor operations. If the Owner repairs disturbed control points, stakes, marks, or right of way markers, the cost of repair may be deducted from money due or to become due to the Contractor. Replace right of way markers under the direction of a RPLS. This work will be subsidiary to pertinent items.

The Engineer reserves the right to make measurements and surveys to determine the accuracy of the work and determine pay quantities. The Engineer's measurements and surveys do not relieve the Contractor's responsibility for accuracy of work. Allow the Engineer adequate time to verify the surveying.

9.1. **Method A.** The Engineer will set control points for establishing lines, slopes, grades, and centerlines and for providing both vertical and horizontal control. At a minimum, provide a controlling pair of monument points at both the beginning and end of construction project for projects less than 2 miles in length. For projects

greater than 2 miles in length, monuments will be set in pairs of 2 at a minimum of 2 miles based on the overall length of the project. Use these control points as reference to perform the work.

Furnish materials, equipment, and qualified workforce necessary for the construction survey work. Place construction points, stakes, and marks at intervals sufficient to control work to established tolerances. Place construction stakes at intervals of no more than 100 ft., or as directed. Place stakes and marks so as not to interfere with normal maintenance operations.

- 9.2. **Method B.** The Engineer will set adequate control points, stakes, and marks to establish lines, slopes, grades, and centerlines. Furnish additional work, stakes, materials, and templates necessary for marking and maintaining points and lines.
- 9.3. **Method C.** Set adequate control points, stakes, and marks to establish lines, slopes, grades, and centerlines.

10. INSPECTION

Inspectors are authorized representatives of the Engineer. Inspectors are authorized to examine all work performed and materials furnished, including preparation, fabrication, and material manufacture. Inspectors inform the Contractor of failures to meet Contract requirements. Inspectors may reject work or materials and may suspend work until any issues can be referred to and decided by the Engineer. Inspectors cannot alter, add, or waive Contract provisions, issue instructions contrary to the Contract, act as foremen for the Contractor, or interfere with the management of the work. Inspection, or lack of inspection, will not relieve the Contractor from obligation to provide materials or perform the work in accordance with the Contract.

Provide safe access to all parts of the work and provide information and assistance to the Engineer to allow a complete and detailed inspection. Give the Engineer sufficient notice to inspect the work. Work performed without suitable inspection, as determined by the Engineer, may be ordered removed and replaced at Contractor's expense. Remove or uncover portions of finished work as directed. Once inspected, restore work to Contract requirements. If the uncovered work is acceptable, the costs to uncover, remove, and replace or make good the parts removed will be paid for in accordance with Article 4L.4., "Changes in the Work." If the work is unacceptable, assume all costs associated with repair or replacement, including the costs to uncover, remove, and replace or make good the parts removed.

When a government entity, utility, railroad company, or other entity accepts or pays a portion of the Contract, that organization's representatives may inspect the work but cannot direct the Contractor. The right of inspection does not make that entity a party to the Contract and does not interfere with the rights of the parties to the Contract.

11. FINAL CLEANUP

Upon completion of the work, remove litter, debris, objectionable material, temporary structures, excess materials, and equipment from the work locations. Clean and restore property damaged by the Contractor's operations during the prosecution of the work. Leave the work locations in a neat and presentable condition.

Remove from the right of way cofferdams, construction buildings, material and fabrication plants, temporary structures, excess materials, and debris resulting from construction. Where work is in a stream, remove debris to the ground line of the bed of the stream. Leave stream channels and rights of way in a neat and presentable condition. Clean structures to the flow line or the elevation of the outfall channel, whichever is higher. Dispose of all excess material in accordance with federal, state, and local regulations.

The work performed under this Article will not be paid for directly but will be considered subsidiary to Items of the Contract.

12. FINAL ACCEPTANCE

12.1. Final acceptance is made when all work is complete and the Engineer, in writing, accepts all work for the work locations in the Contract. Final acceptance relieves the Contractor from further Contract responsibilities.

12.1.1. **Work Completed.** Work completed must include work for vegetative establishment and maintenance, test, and performance periods and work to meet the requirements of Article 5L.11., "Final Cleanup."

12.1.2. **Final Inspection.** After all work is complete, the Contractor will request a final inspection by the Engineer authorized to accept the work.

The final inspection will be made as soon as possible, and not later than 10 calendar days after the request. No working day charges will be made between the date of request and final inspection.

After the final inspection, if the work is satisfactory, the Engineer will notify the Contractor in writing of the final acceptance of the work. If the final inspection finds any work to be unsatisfactory, the Engineer will identify in writing all deficiencies in the work requiring correction. Correct the deficiencies identified. Working day charges will resume if these deficiencies are not corrected within 7 calendar days, unless otherwise authorized by the Engineer. Upon correction, the Engineer will make an inspection to verify that all deficiencies were corrected satisfactorily. The Engineer will provide written notice of the final acceptance.

12.1.3. **Final Measurement.** Final measurements and pay quantity adjustments may be made after final acceptance.

12.1.4. **Removal of Traffic Control Devices.** Remove construction traffic control devices and advance warning signs upon final acceptance or as directed.

Item 6L

Control of Materials



1. SOURCE CONTROL

Use only materials that meet Contract requirements. Unless otherwise specified or approved, use new materials for the work. Secure the Engineer's approval of the proposed source of materials to be used before their delivery. Materials can be approved at a supply source or staging area but may be reinspected in accordance with Article 6L.4., "Sampling, Testing, and Inspection."

1.1. **Buy America.** Comply with the latest provisions of Buy America as listed at 23 CFR 635.410. Use steel or iron materials manufactured in the United States except when:

- the cost of materials, including delivery, does not exceed 0.1% of the total Contract cost or \$2,500, whichever is greater;
- the Contract contains a replacement alternate item for a foreign source steel or iron product and the Contract is awarded based on the replacement alternate item; or
- the materials are temporarily installed.

Provide a notarized original of the TxDOT FORM D-9-USA-1 (Department Form 1818 or equivalent) with the proper attachments for verification of compliance.

Manufacturing is any process that modifies the chemical content, physical shape or size, or final finish of a product. Manufacturing begins with initial melting and mixing and continues through fabrication (cutting, drilling, welding, bending, etc.) and coating (paint, galvanizing, epoxy, etc.).

1.2. **Convict Produced Materials.** Materials produced by convict labor may only be incorporated in the work if such materials have been:

- produced by convicts who are on parole, supervised release, or probation from prison; or
- produced in a qualified prison facility.

A "qualified prison facility" means any prison facility in which convicts, during the 12-month period ending July 1, 1987, produced materials for use in federal-aid highway construction projects.

2. MATERIAL QUALITY

Correct or remove materials that fail to meet Contract requirements or that do not produce satisfactory results. Reimburse the Owner for cost incurred if additional sampling and testing is required by a change of source.

Materials not meeting Contract requirements will be rejected, unless the Engineer approves corrective actions. Upon rejection, immediately remove and replace rejected materials.

If the Contractor does not comply with this article, the Owner may have defective material removed and replaced. The cost of testing, removal, and replacement will be deducted from the payments due to the Contractor.

3. MANUFACTURER WARRANTIES

Transfer to the Owner warranties and guarantees required by the Contract or received as part of normal trade practice.

4. SAMPLING, TESTING, AND INSPECTION

Incorporate into the work only material that has been inspected, tested, and accepted by the Engineer. Remove, at the Contractor's expense, materials from the work locations that are used without prior testing and approval or written permission.

Unless otherwise mutually agreed, the material requirements and standard test methods in effect at the time the proposed Contract is advertised govern. Unless otherwise noted, the Engineer will perform testing at Owner's expense. In addition to facilities and equipment required by the Contract, furnish facilities and calibrated equipment required for tests to control the manufacture of construction items. If requested, provide a complete written statement of the origin, composition, and manufacture of materials.

All materials used are subject to inspection or testing at any time during preparation or use. Material which has been tested and approved at a supply source or staging area may be reinspected or tested before or during incorporation into the work, and rejected if it does not meet Contract requirements. Copies of test results are to be made available upon request. Do not use material that, after approval, becomes unfit for use.

Unless otherwise noted in the Contract, all testing must be performed within the United States and witnessed by the Engineer. If materials or processes require testing outside the contiguous 48 United States, reimburse the Owner for inspection expenses.

5. PLANT INSPECTION AND TESTING

The Engineer may, but is not obligated to, inspect materials at the acquisition or manufacturing source. Material samples will be obtained and tested for compliance with quality requirements.

If inspection is at the plant, meet the following conditions unless otherwise specified:

- Cooperate fully and assist the Engineer during the inspection.
- Ensure the Engineer has full access to all parts of the plant used to manufacture or produce materials.
- In accordance with pertinent items and the Contract, provide a facility at the plant for use by the Engineer as an office or laboratory.
- Provide and maintain adequate safety measures and restroom facilities.
- Furnish and calibrate scales, measuring devices, and other necessary equipment.

The Engineer may provide inspection for periods other than daylight hours if:

- continuous production of materials for Owner use is necessary due to the production volume being handled at the plant, and
- the lighting is adequate to allow satisfactory inspection.

6. STORAGE OF MATERIALS

Store and handle materials to preserve their quality and fitness for the work. Store materials so that they can be easily inspected and retested. Place materials under cover, on wooden platforms, or on other hard, clean surfaces as necessary or when directed.

Obtain approval to store materials on the right of way. Storage space off the right of way is at the Contractor's expense.

7. OWNER-FURNISHED MATERIAL

The Owner will supply materials as shown in the Contract documents. The cost of handling and placing materials supplied by the Owner will not be paid for directly but is subsidiary to the item in which they are used. Assume responsibility for materials upon receipt.

8. USE OF MATERIALS FOUND ON THE RIGHT OF WAY

Material found in the excavation areas and meeting the Owner's specifications may be used in the work. This material will be paid for at the Contract bid price for excavation and under the item for which the material is used.

Do not excavate or remove any material from within the right of way that is not within the limits of the excavation without written permission. If excavation is allowed within a right of way project-specific location (PSL), replace the removed material with suitable material at no cost to the Owner as directed.

9. RECYCLED MATERIALS

The Owner will not allow hazardous wastes, as defined in 30 TAC 335, proposed for recycling to be used on the project. Use nonhazardous recyclable materials (NRMs) only if the specification for the item does not disallow or restrict use. Determine if NRMs are regulated under 30 TAC 312, 330, 332, 334, or 335, and comply with all general prohibitions and requirements. Use NRMs in accordance with DMS-11000, "Evaluating and Using Nonhazardous Recyclable Materials Guidelines," and furnish all documentation required by that specification.

10. HAZARDOUS MATERIALS

Comply with the requirements of Article 7L.11., "Responsibility for Hazardous Materials."

Use materials that are free of hazardous materials as defined in Item 1L, "Abbreviations and Definitions."

Notify the Engineer immediately when a visual observation or odor indicates that materials in required material sources or on sites owned or controlled by the owner may contain hazardous materials. Except when the contract includes bid items for the contractor to remove hazardous materials, the Engineer is responsible for testing and removing or disposing of hazardous materials not introduced by the Contractor on sites owned or controlled by the Owner as indicated below.

The plans will indicate locations where paint on steel is suspected to contain hazardous materials and where regulated asbestos containing materials have been found. The Engineer may suspend work wholly or in part during the testing, removal, or disposition of hazardous materials on sites owned or controlled by the Owner, except in the case of when the contract includes removing and disposing of hazardous materials.

When a visual observation or odor indicates that materials delivered to the work locations by the Contractor may contain hazardous materials, have an approved commercial laboratory test the materials for contamination. Remove, remediate, and dispose of any of these materials found to be contaminated. Testing, removal, and disposition of hazardous materials introduced onto the work locations by the Contractor will be at the Contractor's expense. Working day charges will not be suspended and extensions of working days will not be granted for activities related to handling hazardous material delivered by the Contractor.

10.1. Painted Steel Requirements. Paint containing hazardous materials will be removed as shown on the plans.

10.1.1. **Paint Removed by Third Party.** The Owner may provide a third party to remove paint containing hazardous materials where paint must be removed to perform work or to allow dismantling of the steel.

10.1.2. **Paint Removed by the Contractor.** This work may only be performed by a firm or company with one of the following certifications:

- SSPC-QP2 certification for lead painting operations, or
- Certified Lead Firm by the Texas Department of State Health Services.

Maintain certification for the duration of the work. Provide copies of audits or certification if requested.

Comply with worker and public safety regulations, including, but not limited to, OSHA 29 CFR Parts 1910.1025, 1926.62, and 1926.63. Monitor permissible exposure limits in accordance with OSHA requirements.

Remove paint containing hazardous materials from designated areas shown on the plans or as directed. Comply with access limitations shown on the plans.

Provide power hand tools, equipped with high-efficiency particulate air filter vacuums to mechanically remove paint.

Contain, collect, store, transport, and dispose of all waste generated by cleaning operation in accordance with local, state, and federal requirements including 40 CFR 302. Properly characterize and dispose of all wastes. Manage any hazardous wastes in accordance with regulatory requirements and dispose in a facility authorized to accept such wastes. Provide copies of disposal manifests.

The work performed, materials furnished, equipment, labor, tools, and incidentals will be paid for in accordance with Item 446, "Field Cleaning and Painting Steel."

10.2. **Removal and Disposal of Painted Steel.** Painted steel will be disposed of at a steel recycling or smelting facility unless otherwise shown on the plans. If the paint contains hazardous materials, maintain and make available to the Engineer invoices and other records obtained from the facility showing the received weight of the steel and the facility name.

For steel that is dismantled by unbolting, no paint stripping will be required. Use care to not damage existing paint. When dismantling is performed using flame or saw-cutting methods to remove steel elements coated with paint containing hazardous materials, the plans will show stripping locations.

The work provided, materials furnished, equipment, labor, tools, and incidentals will be paid for in accordance with Item 496, "Removing Structures," and Item 497, "Sale of Salvagable Material."

10.3. **Asbestos Requirements.** The plans will indicate locations or elements where asbestos containing materials (ACM) have been found. For work at these locations, notify the Engineer of proposed dates of demolition or removal of structural elements with ACM at least 60 days before work is to begin to allow the Owner enough time to abate the asbestos.

The Department of State Health Services (DSHS), Asbestos Programs Branch, is responsible for administering the requirements of the National Emissions Standards for Hazardous Air Pollutants, 40 CFR Part 61, Subpart M (NESHAP) and the Texas Asbestos Health Protection Rules (TAHPR). Based on EPA guidance and regulatory background information, bridges are considered to be a regulated "facility" under NESHAP. Therefore, federal standards for demolition and renovation apply.

DSHS requires that notifications be postmarked at least 10 working days before initiating demolition or renovation of each structure or load bearing member shown on the plans. If the actual demolition, renovation, or removal date is changed or delayed, notify the Engineer in writing of these revised dates in sufficient time to allow for the Owner's notification to DSHS to be postmarked at least 10 days in advance of the work.

Failure to provide the above information may require the temporary suspension of work under Article 8L.4., "Temporary Suspension of Work or Working Day Charges," due to reasons under the control of the Contractor. The Owner retains the right to determine the actual advance notice needed for the change in date to address post office business days and staff availability.

- 10.3.1. **Asbestos Removed by Third Party.** At locations where unknown ACM is discovered, the Owner will arrange for abatement by a third party.
- 10.3.2. **Asbestos Removed by the Contractor.** Maintain certification as Asbestos Abatement Contractor by the Texas Department of State Health Services for the duration of the Contract. Provide copies of audits and certification to the Engineer.
- 10.4. **Work Performed by a Third Party.** When the work for removal of paint or asbestos abatement is to be provided by a third party, coordinate and cooperate with the third party and the Owner. Continue other work detailed on the plans not directly involved in the paint removal or asbestos abatement work. Provide notice to the Owner regarding the progress of the work to allow the Owner enough time to schedule the third party work.

11. **SURPLUS MATERIALS**

Take ownership of surplus materials unless otherwise shown on the plans or as directed by the Engineer. Remove and dispose of materials in accordance with federal, state, and local regulations. If requested, provide an appropriate level of documentation to verify proper disposal. When materials are disposed of on private property, provide written authorization from the property owner for the use of the property for this purpose upon request.

Item 7L

Legal Relations and Responsibilities



1. SAFETY

- 1.1. **Point of Contact.** Designate a Contractor Safety Point of Contact (CSPOC). The Owner will assign an Owner employee for their point of contact designated as Owner's Safety Point of Contact OSPOC. The CSPOC will ensure that the Contractor's and Subcontractor's employees' use the appropriate personal protection equipment (hard hats, safety vests, protective toe footwear, etc.).

The CSPOC will ensure that crew leaders and foremen (including subcontractors) have attended the required training.

- 1.2. **Safety Preconstruction Meeting.** In cooperation with the Engineer, schedule and attend a safety preconstruction meeting (may be a part of the preconstruction conference in Article 4L.2., "Preconstruction Conference." Attendees for this safety preconstruction meeting will be:

- the Contractor,
- subcontractors,
- Owner,
- local law enforcement, and
- other personnel that play an active role on the project.

- 1.3. **Public Safety and Convenience.** Ensure the safety and convenience of the public and property as provided in the Contract and as directed by the Engineer. Keep existing roadways open to traffic or construct and maintain detours and temporary structures for safe public travel. Manage construction to minimize disruption to traffic. Maintain the roadway in a good and passable condition, including proper drainage and provide for ingress and egress to adjacent property.

Store all equipment not in use in a manner and at locations that will not interfere with the safe passage of traffic.

Provide qualified flaggers in accordance with Item 502.2.2., "Flaggers," for the safety and convenience of the traveling public and workers, as directed.

If the Engineer determines that any of the requirements of this article have not been met, the Engineer may take any necessary corrective action. This will not change the legal responsibilities set forth in the Contract. The cost to the Owner for this work will be deducted from any money due or to become due to the Contractor.

- 1.4. **Use of Blue Warning Lights.** Texas Transportation Code 547.105 authorizes the use of warning lights to promote safety and provides an effective means of gaining the travelling public's attention as they drive in areas where construction crews are present. In order to influence the public to move over when high risk construction activities are taking place, minimize the utilization of blue warning lights. These lights must be used only while performing work on or near the travel lanes or shoulder where the travelling public encounters construction crews that are not protected by a standard work zone set up such as a lane closure, shoulder closure, or one-way traffic control. Refrain from leaving the warning lights engaged while travelling from one work location to another or while parked on the right of way away from the pavement or a work zone.

- 1.5. **Barricades, Warning and Detour Signs, and Traffic Handling.** Provide, install, move, replace, maintain, clean, and remove all traffic control devices in accordance with the traffic control devices specifications and

as shown on the plans and as directed. If details are not shown on the plans, provide devices and work in accordance with the TMUTCD and as directed by the Engineer. When authorized or directed by the Engineer, provide additional signs or traffic control devices not required by the plans.

If an unexpected situation arises that causes the Contractor to believe that the traffic control should be changed, make all reasonable efforts to promptly contact the Engineer. Take prudent actions until the Engineer can be contacted.

The Engineer will make an inspection of the traffic control devices. Comply with the results of the inspection in the prescribed time frame.

- 1.5.1. **Contractor Responsible Person and Alternate.** Designate in writing, a Contractor's Responsible Person (CRP) and an alternate to be the representative of the Contractor who is responsible for taking or directing corrective measures regarding the traffic control. The CRP or alternate must be accessible by phone 24 hr. per day and able to respond when notified. The CRP and alternate must comply with the requirements of Section 7L.1.5.5., "Training."
- 1.5.2. **Flaggers.** Designate in writing, a flagger instructor who will serve as a flagging supervisor and is responsible for training and assuring that all flaggers are qualified to perform flagging duties. Before beginning work, provide a list of flaggers certified to perform flagging duties.
- Provide flaggers as directed. Flaggers must be courteous and able to effectively communicate with the public. When directing traffic, flaggers must dress appropriately, wear high-visibility safety apparel, use flags, signs, stop-slow paddles, and other hand-signaling devices, and follow the flagging procedures in the TMUTCD. Comply with the requirements of Section 7L.1.5.5., "Training."
- 1.5.3. **Law Enforcement Personnel.** Provide uniformed law enforcement personnel with patrol vehicles as directed. Document the work zone traffic services provided in the manner prescribed by the Department. Law enforcement personnel providing work zone traffic services must be trained for the service they perform. Comply with Section 7L.1.5.5., "Training."
- 1.5.4. **Other Work Zone Personnel.** Workers involved with traffic control, including the maintenance of the traffic control, must comply with the requirements of Section 7L.1.5.5., "Training."
- 1.5.5. **Training.** Workers involved with the traffic control must be trained using Department-approved training, except in the case of Section 7L.1.5.4, "Other Work Zone Personnel" who may be trained using Contractor-developed Training in lieu of Department-approved Training.

Provide a copy of the certification of completion to the Engineer, except in the case of Contractor-developed Training. Ensure the certification of completion includes the following:

- name of provider and course title,
- name of participant,
- date of completion, and
- date of expiration.

For Contractor developed-Training, maintain a log of attendees. Make the log available upon request. Ensure the log is legible and includes the following:

- print name and signature of participant,
- name and title of trainer, and
- date of training.

2. LAWS TO BE OBSERVED

Comply with all federal, state, and local laws, ordinances, and regulations that affect the performance of the work. Indemnify and save harmless the Owner and its representatives against any claim arising from violation by the Contractor of any law, ordinance, or regulation.

This Contract is between the Owner and the Contractor only. No person or entity may claim third-party beneficiary status under this Contract or any of its provisions, nor may any non-party sue for personal injuries or property damage under this Contract.

3. PERMITS, LICENSES, AND TAXES

Procure all permits and licenses; pay all charges, fees, and taxes; and give all notices necessary and incidental to the due and lawful prosecution of work, except for permits provided by the Owner and as specified in Article 7L.6., "Preservation of Cultural and Natural Resources and the Environment."

4. PATENTED DEVICES, MATERIAL, AND PROCESSES

Indemnify and save harmless the Owner from any claims for infringement from the Contractor's use of any patented design, device, material, process, trademark, or copyright selected by the Contractor and used in connection with the work. Indemnify and save harmless the Owner against any costs, expenses, or damages that it may be obliged to pay, by reason of this infringement, at any time during the prosecution or after the completion of the work.

5. PERSONAL LIABILITY OF PUBLIC OFFICIALS

Owner employees are agents and representatives of the Owner and will incur no liability, personal or otherwise, in carrying out the provisions of the Contract or in exercising any power or authority granted under the Contract.

6. PRESERVATION OF CULTURAL AND NATURAL RESOURCES AND THE ENVIRONMENT

If the Contractor initiates changes to the Contract and the Owner approves the changes, the Contractor is responsible for obtaining clearances and coordinating with the appropriate regulatory agencies.

6.1. **Cultural Resources.** Cease all work immediately if a site, building, or location of historical, archeological, educational, or scientific interest is discovered within the right of way. The site, building, or location will be investigated and evaluated by the Owner.

6.2. **Texas Pollutant Discharge Elimination System (TPDES) Permits and Storm Water Pollution Prevention Plans (SWP3).** The Owner will file the Notice of Intent (NOI) and the Notice of Termination (NOT) for work shown on the plans in the right of way. Adhere to all requirements of the SWP3.

6.3. **Work in Waters of the United States.** For work in the right of way, the Owner will obtain any required Section 404 permits from the U.S. Army Corps of Engineers before work begins. Adhere to all agreements, mitigation plans, and standard best management practices required by the permit. When Contractor-initiated changes in the construction method changes the impacts to waters of the U.S., obtain new or revised Section 404 permits.

6.4. **Work in Navigable Waters of the United States.** For work in the right of way, the Owner will obtain any required Section 9 permits from the U.S. Coast Guard before work begins. Adhere to the stipulations of the

permits and associated best management practices. When Contractor-initiated changes in the construction method changes the impacts to navigable waters of the U.S., obtain new or revised Section 9 permits.

- 6.5. **Work Over the Recharge or Contributing Zone of Protected Aquifers.** Make every reasonable effort to minimize the degradation of water quality resulting from impacts relating to work over the recharge or contributing zones of protected aquifers, as defined and delineated by the TCEQ. Use best management practices and perform work in accordance with Contract requirements.
- 6.6. **Project-Specific Locations.** For all project-specific locations (PSLs) on or off the right of way (material sources, waste sites, parking areas, storage areas, field offices, staging areas, haul roads, etc.), signing the Contract certifies compliance with all applicable laws, rules, and regulations pertaining to the preservation of cultural resources, natural resources, and the environment as issued by the following or other agencies:
- Occupational Safety and Health Administration,
 - Texas Commission on Environmental Quality,
 - Texas Department of Transportation,
 - Texas Historical Commission,
 - Texas Parks and Wildlife Department,
 - Texas Railroad Commission,
 - U.S. Army Corps of Engineers,
 - U.S. Department of Energy,
 - U.S. Department of Transportation,
 - U.S. Environmental Protection Agency,
 - U.S. Federal Emergency Management Agency, and
 - U.S. Fish and Wildlife Service.

All subcontractors must also comply with applicable environmental laws, rules, regulations, and requirements in the Contract. Maintain documentation of certification activities including environmental consultant reports, Contractor documentation on certification decisions and contacts, and correspondence with the resource agencies. Provide documentation upon request.

Obtain written approval from the Engineer for all PSLs in the right of way not specifically addressed on the plans. Prepare an SWP3 for all Contractor facilities, such as asphalt or concrete plants located within public right of way. Comply with all TCEQ permit requirements for portable facilities, such as concrete batch plants, rock crushers, asphalt plants, etc. Address all environmental issues, such as Section 404 permits, wetland delineation, endangered species consultation requirements, or archeological and historic site impacts. Obtain all permits and clearances in advance.

- 6.7. **Contractor Responsibility.** If the Contractor initiates changes to the Contract and the Owner approves the changes, the Contractor is responsible for obtaining clearances and coordinating with appropriate regulatory agencies.

7. AGRICULTURAL IRRIGATION

Regulate the sequence of work and make provisions as necessary to provide for agricultural irrigation or drainage during the work. Meet with the Irrigation District or land owner to determine the proper time and sequence when irrigation demands will permit shutting-off water flows to perform work.

Unless otherwise provided on the plans, the work performed under this article will not be measured or paid for directly but will be subsidiary to pertinent items.

8. SANITARY PROVISIONS

Provide and maintain adequate, neat, and sanitary toilet accommodations for employees, including Owner employees, in compliance with the requirements and regulations of the Texas Department of Health or other authorities with jurisdiction.

9. ABATEMENT AND MITIGATION OF EXCESSIVE OR UNNECESSARY NOISE

Minimize noise throughout all phases of the Contract. Exercise particular and special efforts to avoid the creation of unnecessary noise impact on adjacent noise sensitive receptors in the placement of non-mobile equipment such as air compressors, generators, pumps, etc. Place mobile and stationary equipment to cause the least disruption of normal adjacent activities.

All equipment associated with the work must be equipped with components to suppress excessive noise and these components must be maintained in their original operating condition considering normal depreciation. Noise-attenuation devices installed by the manufacturer such as mufflers, engine covers, insulation, etc. must not be removed nor rendered ineffectual nor be permitted to remain off the equipment while the equipment is in use.

10. USING EXPLOSIVES

Do not endanger life or property. The contractor is required to submit a written Blasting Plan if required by the plans or requested by the Engineer. The Owner retains the right to reject the blasting plan. Store all explosives securely and clearly mark all storage places with "DANGER – EXPLOSIVES." Store, handle, and use explosives and highly flammable material in compliance with federal, state, and local laws, ordinances, and regulations. Assume liability for property damage, injury, or death resulting from the use of explosives.

Give at least a 48-hr. advance notice to the appropriate Road Master before doing any blasting work involving the use of electric blasting caps within 200 ft. of any railroad track.

11. RESPONSIBILITY FOR HAZARDOUS MATERIALS

Comply with the requirements of Article 6L.10., "Hazardous Materials." Indemnify and save harmless the Owner and its agents and employees from all suits, actions, or claims and from all liability and damages for any injury or damage to any person or property arising from the generation or disposition of hazardous materials introduced by the Contractor on any work done by the Contractor on Owner-owned or controlled sites. Indemnify and save harmless the Owner and its representatives from any liability or responsibility arising out of the Contractor's generation or disposition of any hazardous materials obtained, processed, stored, shipped, etc., on sites not owned or controlled by the Owner. Reimburse the Owner for all payments, fees, or restitution the Owner is required to make as a result of the Contractor's actions.

12. RESTORING SURFACES OPENED BY PERMISSION

Do not authorize anyone to make an opening in the highway for utilities, drainage, or any other reason without written permission by the Engineer. Repair all openings as directed by the Engineer. Payment for repair of surfaces opened by permission will be made in accordance with pertinent items or Article 4.4., "Changes in the Work." Costs associated with openings made with Contractor authorization but without Owner approval will not be paid.

13. PROTECTING ADJACENT PROPERTY

Protect adjacent property from damage. If any damage results from an act or omission on the part of or on behalf of the Contractor, take corrective action to restore the damaged property to a condition similar or equal to that existing before the damage was done.

14. RESPONSIBILITY FOR DAMAGE CLAIMS

Indemnify and save harmless the Owner and its agents and employees from all suits, actions, or claims and from all liability and damages for any injury or damage to any person or property due to the Contractor's negligence in the performance of the work and from any claims arising or amounts recovered under any laws, including workers' compensation and the Texas Tort Claims Act. Indemnify and save harmless the Owner and assume responsibility for all damages and injury to property of any character occurring during the prosecution of the work resulting from any act, omission, neglect, or misconduct on the Contractor's part in the manner or method of executing the work; from failure to properly execute the work; or from defective work or material.

Pipelines and other underground installations that may or may not be shown on the plans may be located within the right of way. Indemnify and save harmless the Owner from any suits or claims resulting from damage by the Contractor's operations to any pipeline or underground installation. Make available the scheduled sequence of work to the respective utility owners so that they may coordinate and schedule adjustments of their utilities that conflict with the proposed work.

15. HAULING AND LOADS ON ROADWAYS AND STRUCTURES

Comply with federal and state laws concerning legal gross and axle weights. Except for the designated Interstate system, vehicles with a valid yearly overweight tolerance permit may haul materials to the work locations at the permitted load. Provide copies of the yearly overweight tolerance permits to the Engineer upon request. Construction equipment is not exempt from oversize or overweight permitting requirements on roadways open to the traveling public.

Protect existing bridges and other structures that will remain in use by the traveling public during and after the completion of the Contract. Construction traffic on roadways, bridges, and culverts within the limits of the work, including any structures under construction that will remain in service during and after completion of the Contract is subject to legal size and weight limitations.

Additional temporary fill may be required by the Engineer for hauling purposes for the protection of certain structures. This additional fill will not be paid directly but will be subsidiary.

Replace or restore to original condition any structure damaged by the Contractor's operations.

The Engineer may allow equipment with oversize or non-divisible overweight loads to operate without a permit within the work locations on pavement structures not open to the traveling public. Submit Contractor-proposed changes to traffic control plans for approval, in accordance with Item 502, "Barricades, Signs, and Traffic Handling." The following sections further address overweight allowances. The Owner will make available to the Contractor any available plans and material reports for existing structures.

- 15.1. **Overweight Construction Traffic Crossing Structures.** The Engineer may allow crossing of a structure not open to the public within the work locations, when divisible or non-divisible loads exceed legal weight limitations, including limits for load-posted bridges. Obtain written permission to make these crossings. Submit for approval a structural analysis by a licensed professional engineer indicating that the excessive loads should be allowed. Provide a manufacturer's certificate of equipment weight that includes the weight distribution on the various axles and any additional parts such as counterweights, the configuration of the axles, or other information necessary for the analysis. Submit the structural analysis and supporting

documentation sufficiently in advance of the move to allow for review. Permission may be granted if the Engineer finds that no damage or overstresses in excess of those normally allowed for occasional overweight loads will result to structures that will remain in use after Contract completion. Provide temporary matting or other protective measures as directed.

Schedule loads so that only one vehicle is on any span or continuous unit at any time. Use barricades, fences, or other positive methods to prevent other vehicular access to structures at any time the overweight load is on any span or continuous unit.

- 15.2. **Construction Equipment Operating on Structures.** Cranes and other construction equipment used to perform construction operations that exceed legal weight limits may be allowed on structures. Before any operation that may require placement of equipment on a structure, submit for approval a detailed structural analysis prepared by a licensed professional engineer.

Submit the structural analysis and supporting documentation sufficiently in advance of the use to allow for review and approval. Include all axle loads and configurations, spacing of tracks or wheels, tire loads, outrigger placements, center of gravity, equipment weight, and predicted loads on tires and outriggers for all planned movements, swings, or boom reaches. The analysis must demonstrate that no overstresses will occur in excess of those normally allowed for occasional overweight loads.

- 15.3. **Loads on Structures.** Do not store or stockpile material on bridge structures without written permission. If required, submit a structural analysis and supporting documentation by a licensed professional engineer for review. Permission may be granted if the Engineer finds that no damage or overstresses in excess of those normally allowed for occasional overweight loads will result to structures that will remain in use after Contract completion. Provide temporary matting or other protective measures as directed.

- 15.4. **Hauling Divisible Overweight Loads on Pavement Within the Work Locations.** The Engineer may allow divisible overweight loads on pavement structures within the work locations not open to the traveling public. Obtain written approval before hauling the overweight loads. Include calculations to demonstrate that there will be no damage or overstress to the pavement structure.

16. CONTRACTOR'S RESPONSIBILITY FOR WORK

Until final acceptance of the Contract, take every precaution against injury or damage to any part of the work by the action of the elements or by any other cause, whether arising from the execution or from the nonexecution of the work. Protect all materials to be used in the work at all times, including periods of suspension.

When any roadway or portion of the roadway is in suitable condition for travel, it may be opened to traffic as directed. Opening of the roadway to traffic does not constitute final acceptance.

Repair damage to all work until final acceptance. Repair damage to existing facilities in accordance with the Contract or as directed. Repair damage to existing facilities or work caused by Contractor operations at the Contractor's expense. Repair work for damage that was not due to the Contractor's operations will not be paid for except as provided below.

- 16.1. **Reimbursable Repair.** Except for damage to appurtenances listed in Section 7L.16.2.1., "Unreimbursed Repair," the Contractor will be reimbursed for repair of damage caused by:

- motor vehicle, watercraft, aircraft, or railroad-train incident;
- vandalism; or
- Acts of God, such as earthquake, tidal wave, tornado, hurricane, or other cataclysmic phenomena of nature.

- 16.2. **Appurtenances.**

- 16.2.1. **Unreimbursed Repair.** Except for destruction (not reusable) due to hurricanes, reimbursement will not be made for repair of damage to the following temporary appurtenances, regardless of cause:
- signs,
 - barricades,
 - changeable message signs, and
 - other work zone traffic control devices.
- Crash cushion attenuators and guardrail end treatments are the exception to the above listing and are to be reimbursed in accordance with Section 7L.16.2.2., "Reimbursed Repair."
- For the devices listed in this section, reimbursement may be made for damage due to hurricanes. Where the Contractor retains replaced appurtenances after completion of the project, the Owner will limit the reimbursement to the cost that is above the salvage value at the end of the project.
- 16.2.2. **Reimbursed Repair.** Reimbursement will be made for repair of damage due to the causes listed in Section 7L.16.1., "Reimbursable Repair," to appurtenances (including temporary and permanent crash cushion attenuators and guardrail end treatments).
- 16.3. **Roadways and Structures.** Until final acceptance, the Contractor is responsible for all work constructed under the Contract. The Owner will not reimburse the Contractor for repair work to new construction, unless the failure or damage is due to one of the causes listed in Section 7L.16.1., "Reimbursable Repair."
- The Owner will be responsible for the cost for repair of damage to existing roadways and structures not caused by the Contractor's operations.
- 16.4. **Detours.** The Contractor will be responsible for the cost of maintenance of detours constructed under the Contract, unless the failure or damage is due to one of the causes listed in Section 7L.16.1., "Reimbursable Repair." The Engineer may consider failures beyond the Contractor's control when determining reimbursement for repairs to detours constructed. The Owner will be responsible for the cost of maintenance of existing streets and roadways used for detours or handling traffic.
- 16.5. **Relief from Maintenance.** The Engineer may relieve the Contractor from responsibility of maintenance as outlined in this section. This relief does not release the Contractor from responsibility for defective materials or work or constitute final acceptance.
- 16.5.1. **Isolated Work Locations.** For isolated work locations, when all work is completed, including work for Article 5L.11., "Final Cleanup," the Engineer may relieve the Contractor from responsibility for maintenance.
- 16.5.2. **Work Except for Vegetative Establishment and Test Periods.** When all work for all or isolated work locations has been completed, including work for Article 5L.11., "Final Cleanup," with the exception of vegetative establishment and maintenance periods and test and performance periods, the Engineer may relieve the Contractor from responsibility for maintenance of completed portions of work.
- 16.5.3. **Work Suspension.** When all work is suspended for an extended period of time, the Engineer may relieve the Contractor from responsibility for maintenance of completed portions of work during the period of suspension.
- 16.5.4. **When Directed by the Engineer.** The Engineer may relieve the Contractor from the responsibility for maintenance when directed.
- 16.6. **Basis of Payment.** When reimbursement for repair work is allowed and performed, payment will be made in accordance with pertinent items or Article 4L.4., "Changes in the Work."

17. ELECTRICAL REQUIREMENTS

17.1. Definitions.

17.1.1. **Electrical Work.** Electrical work is work performed for:

- Item 610, "Roadway Illumination Assemblies,"
- Item 614, "High Mast Illumination Assemblies,"
- Item 616, "Performance Testing of Lighting Systems,"
- Item 617, "Temporary Roadway Illumination,"
- Item 618, "Conduit,"
- Item 620, "Electrical Conductors,"
- Item 621, "Tray Cable,"
- Item 622, "Duct Cable,"
- Item 628, "Electrical Services,"
- Item 680, "Highway Traffic Signals,"
- Item 681, "Temporary Traffic Signals,"
- Item 684, "Traffic Signal Cables,"
- Item 685, "Roadside Flashing Beacon Assemblies,"
- other items that involve either the distribution of electrical power greater than 50 volts or the installation of conduit and duct banks,
- the installation of conduit and wiring associated with Item 624, "Ground Boxes," and Item 656, "Foundations for Traffic Control Devices," and
- the installation of the conduit system for communication and fiber optic cable.

Electrical work does not include the installation of communications or fiber optic cable, or the connections for low voltage and inherently power limited circuits such as electronic or communications equipment. Assembly and placement of poles, structures, cabinets, enclosures, manholes, or other hardware will not be considered electrical work as long as no wiring, wiring connections, or conduit work is done at the time of assembly and placement.

17.1.2. **Specialized Electrical Work.** Specialized electrical work is work that includes the electrical service and feeders, sub-feeders, branch circuits, controls, raceways, and enclosures for the following:

- pump stations,
- moveable bridges,
- ferry slips,
- motor control centers,
- facilities required under Item 504, "Field Office and Laboratory,"
- rest area or other public buildings,
- weigh-in-motion stations,
- electrical services larger than 200 amps,
- electrical services with main or branch circuit breaker sizes not shown in the Contract, and
- any 3-phase electrical power.

17.1.3. **Certified Person.** A certified person is a person who has passed the test from the TxDOT course TRF450, "TxDOT Roadway Illumination and Electrical Installations," or other courses as approved by the Owner. Submit a current and valid certification upon request.

17.1.4. **Licensed Electrician.** A licensed electrician is a person with a current and valid unrestricted master electrical license, or unrestricted journeyman electrical license that is supervised or directed by an unrestricted master electrician. An unrestricted master electrician need not be on the work locations at all times electrical work is being done, but the unrestricted master electrician must approve work performed by

the unrestricted journeyman. Licensed electrician requirements by city ordinances do not apply to on state system work.

The unrestricted journeyman and unrestricted master electrical licenses must be issued by the Texas Department of Licensing and Regulation or by a city in Texas with a population of 50,000 or greater that issues licenses based on passing a written test and demonstrating experience.

The Engineer may accept other states' electrical licenses. Submit documentation of the requirements for obtaining that license. Acceptance of the license will be based on sufficient evidence that the license was issued based on:

- passing a test based on the NEC similar to that used by Texas licensing officials, and
- sufficient electrical experience commensurate with general standards for an unrestricted master and unrestricted journeyman electrician in the State of Texas.

17.2. **Work Requirements.** The qualifications required to perform electrical work and specialized electrical work are listed in Table 2.

Table 2
Work Requirements

Type of Work	Qualifications to Perform Work
Electrical work with plans	Licensed electrician, certified person, or workers directly supervised by a licensed electrician or certified person
Electrical work without plans	Licensed electrician or workers directly supervised by a licensed electrician
Specialized electrical work	Licensed electrician or workers directly supervised by a licensed electrician
Replace lamps, starting aids, and changing fixtures	Licensed electrician, certified person, or workers directly supervised by a licensed electrician or certified person
Conduit in precast section with approved working drawings	Inspection by licensed electrician or certified person
Conduit in cast-in-place section	Inspection by licensed electrician or certified person
All other electrical work (troubleshooting, repairs, component replacement, etc.)	Licensed electrician or workers directly supervised by a licensed electrician

"Directly supervised by a licensed electrician" means that a licensed electrician is physically present during all electrical work. "Directly supervised by a licensed electrician or certified person" means that a licensed electrician or certified person is physically present during all electrical work.

A non-certified person may install conduit in cast-in-place concrete sections if the work is verified by a certified person before concrete placement.

When the plans specify IMSA certification, the requirements of Table 2 will still apply to the installation of the conduit, ground boxes, electrical services, pole grounding, and electrical conductors installed under Item 620, "Electrical Conductors."

18. PAYROLLS

Ensure that employees, contract labor, and any subcontractor's employees are paid at least the predetermined wage rates shown on the Contract.

Payroll records must contain the information required by law. As an option, form WH-347, "Payroll" is provided by the U.S. Department of Labor.

Maintain payroll and related records during the course of the Contract and preserve these records for a period of 3 years following the completion of the Contract or as required by law.

- 18.1. **Minimum Wage Requirements for Federally Funded Contracts.** Comply with the requirements of FHWA-1723, "Required Contract Provisions Federal-Aid Construction Contract."

Submit payroll records to the Engineer in the manner prescribed by the Owner.

- 18.2. **Minimum Wage Requirements for State Funded Contracts.** Comply with the requirements of 29 USC 206 unless otherwise shown in the Contract.

Upon request, submit payroll records to the Engineer in the manner prescribed by the Owner.

Item 8L

Prosecution and Progress



1. PROSECUTION OF WORK

Unless otherwise shown in the Contract, begin work within 30 calendar days after the authorization date to begin work as shown on the Notice to Proceed. Prosecute the work continuously to completion within the working days specified. Unless otherwise shown in the Contract documents, work may be prosecuted in concurrent phases if no changes are required in the traffic control plan or if a revised traffic control plan is approved. Notify the Engineer at least 24 hr. before beginning work or before beginning any new operation. Do not start new operations to the detriment of work already begun. Minimize interference to traffic.

2. SUBCONTRACTING

Do not sublet any portion of a construction Contract without the Engineer's written approval. A subcontract does not relieve any responsibility under the Contract and bonds. Ensure that all subcontracted work complies with all governing labor provisions.

The Contractor certifies by signing the Contract that the Contractor will not enter into any subcontract with a subcontractor that is debarred or suspended by the Owner, or any state or federal agency.

For federally funded Contracts, ensure the required federal documents are physically attached to each subcontract agreement including all tiered subcontract agreements.

For all DBE/HUB/SBE subcontracts including all tiered DBE/HUB/SBE subcontracts, submit a copy of the executed subcontract agreement.

Submit a copy of the executed non-DBE subcontracts including all tiered non-DBE subcontracts when requested.

- 2.1. **Construction Contracts.** Perform work with own organization on at least 30% of the total original Contract cost (25% if the Contractor is an SBE on a wholly State or local funded Contract) excluding any items determined by the Engineer to be specialty items. Specialty items are those that require highly specialized knowledge, abilities, or equipment not usually available in the contracting firm expected to bid on the proposed Contract as a whole.

Specialty items will be shown on the plans or as determined by the Engineer. Bid cost of specialty items performed by subcontractors will be deducted from the total original Contract cost before computing the required amount of work to be performed by the Contractor's own organization.

The term "perform work with own organization" includes only:

- workers employed and paid directly by the Contractor or wholly owned subsidiary;
- equipment owned by the Contractor or wholly owned subsidiary;
- rented or leased equipment operated by the Contractor's employees or wholly owned subsidiary's employees;
- materials incorporated into the work if the majority of the value of the work involved in incorporating the material is performed by the Contractor's own organization, including a wholly owned subsidiary's organization; and

- labor provided by staff leasing firms licensed under Chapter 91 of the Texas Labor Code for nonsupervisory personnel if the Contractor or wholly owned subsidiary maintains direct control over the activities of the leased employees and includes them in the weekly payrolls.

When staff leasing firms provide materials or equipment, they are considered subcontractors. In these instances, submit staff leasing firms for approval as a subcontractor.

Copies of cancelled checks and certified statements may be required to verify compliance with the requirements of this section.

- 2.2. **Payments to Subcontractors.** Report payments for DBE/HUB/SBE subcontracts including tiered DBE/HUB/SBE subcontracts in the manner as prescribed by the Owner.
- 2.3. **Payment Records.** Make payment records, including but not limited to copies of cancelled checks, available for inspection by the Owner. Submit payment records upon request. Retain payment records for a period of 3 years following completion of the Contract work or as specified by the Owner.

Failure to submit this information to the Engineer by the 20th day of each month will result in the Owner taking actions, including, but not limited to, withholding payments and suspending the work. This work will not be measured or paid for directly but will be subsidiary to pertinent items.
- 2.4. **Payrolls.** Comply with Article 7L.19., "Payrolls."

3. COMPUTATION OF CONTRACT TIME FOR COMPLETION

The number of working days is established by the Contract. Working day charges will begin as prescribed in Article 8L.1., "Prosecution of Work." Working day charges will continue in accordance with the Contract.

Upon request, the Engineer will provide the conceptual time determination schedule to the Contractor for informational purposes only. The schedules assume generic resources, production rates, sequences of construction and average weather conditions based on historic data. The Owner will not adjust the number of working days and milestones, if any, due to differences in opinion regarding any assumptions made in the preparation of the schedule or for errors, omissions, or discrepancies found in the Owner's conceptual time schedule.

- 3.1. **Working Day Charges.** Working days will be charged in accordance with Section 8L.3.1.4., "Standard Workweek," unless otherwise shown in the Contract documents. Working days will be computed and charged in accordance with one of the following:
 - 3.1.1. **Five-Day Workweek.** Working days will be charged Monday through Friday, excluding national holidays, regardless of weather conditions or material availability. The Contractor has the option of working on Saturdays. Provide sufficient advance notice when scheduling work on Saturdays. Work on Sundays and national holidays will not be permitted without written permission. If work requiring an Inspector to be present is performed on a Saturday, Sunday, or national holiday, and weather and other conditions permit the performance of work for 7 hr. between 7 A.M. and 6 P.M., a working day will be charged.
 - 3.1.2. **Six-Day Workweek.** Working days will be charged Monday through Saturday, excluding national holidays, regardless of weather conditions or material availability. Work on Sundays and national holidays will not be permitted without written permission. If work requiring an Inspector to be present is performed on a Sunday or a national holiday, and weather or other conditions permit the performance of work for 7 hr. between 7 A.M. and 6 P.M., a working day will be charged.
 - 3.1.3. **Seven-Day Workweek.** Working days will be charged Monday through Sunday, excluding national holidays, regardless of weather conditions or material availability. Work on national holidays will not be permitted without written permission. If work is performed on any of these holidays requiring an Inspector to be present,

and weather or other conditions permit the performance of work for 7 hr. between 7 A.M. and 6 P.M., a working day will be charged.

- 3.1.4. **Standard Workweek.** Working days will be charged Monday through Friday, excluding national or state holidays, if weather or other conditions permit the performance of the principal unit of work underway, as determined by the Engineer, for a continuous period of at least 7 hr. between 7 A.M. and 6 P.M., unless otherwise shown in the Contract. The Contractor has the option of working on Saturdays or state holidays. Provide sufficient advance notice to the Engineer when scheduling work on Saturdays. Work on Sundays and national holidays will not be permitted without written permission. If work requiring an Inspector to be present is performed on a Saturday, Sunday, or holiday, and weather or other conditions permit the performance of work for 7 hr. between 7 A.M. and 6 P.M., a working day will be charged.
- 3.1.5. **Calendar Day.** Working days will be charged Sunday through Saturday, including all holidays, regardless of weather conditions, material availability, or other conditions not under the control of the Contractor.
- 3.1.6. **Other.** Working days will be charged as shown in the Contract documents.
- 3.2. **Restricted Work Hours.** Restrictions on Contractor work hours and the related definition for working day charges are as prescribed in this article unless otherwise shown in the Contract documents.
- 3.3. **Nighttime Work.** Nighttime work is allowed only when shown in the Contract documents or as directed. Nighttime work is defined as work performed from 30 min. after sunset to 30 min. before sunrise.
- 3.3.1. **Five-, Six-, and Seven-Day Workweeks.** Nighttime work that extends past midnight will be assigned to the following day for the purposes of approval for allowing work on Sundays or national holidays.
- 3.3.2. **Standard Workweek.**
- 3.3.2.1. **Nighttime Work Only.** When nighttime work is allowed or required and daytime work is not allowed, working day charges will be made when weather and other conditions permit the performance of the principal unit of work underway, as determined by the Engineer, for a continuous period of at least 7 hr. for the nighttime period, as defined in Section 8L.3.3., "Nighttime Work," unless otherwise shown in the Contract documents.
- 3.3.2.2. **Nighttime Work and Daytime Work Requiring Inspector.** When nighttime work is performed or required and daytime work is allowed, working day charges will be made when weather and other conditions permit the performance of the principal unit of work underway, as determined by the Engineer, for a continuous period of at least 7 hr. for the nighttime period, as defined in Section 8L.3.3., "Nighttime Work," or for a continuous period of at least 7 hr. for the alternative daytime period unless otherwise shown in the Contract documents. Only one day will be charged for each 24-hr. time period. When the Engineer agrees to restrict work hours to the nighttime period only, working day charges will be in accordance with Section 8L.3.3.2.1., "Nighttime Work Only."
- 3.4. **Time Statements.** The Engineer will furnish the Contractor a monthly time statement. Review the monthly time statement for correctness. Report protests in writing, no later than 30 calendar days after receipt of the time statement, providing a detailed explanation for each day protested. Not filing a protest within 30 calendar days will indicate acceptance of the working day charges and future consideration of that statement will not be permitted.

4. TEMPORARY SUSPENSION OF WORK OR WORKING DAY CHARGES

The Engineer may suspend the work, wholly or in part, and will provide notice and reasons for the suspension in writing. Suspend and resume work only as directed in writing.

When part of the work is suspended, the Engineer may suspend working day charges only when conditions not under the control of the Contractor prohibit the performance of critical activities. When all of the work is

suspended for reasons not under the control of the Contractor, the Engineer will suspend working day charges.

5. PROJECT SCHEDULES

Prepare, maintain, and submit project schedules. Project schedules are used to convey the Contractor's intended work plan to the Owner. Prepare project schedules with a level of effort sufficient for the work being performed. Project schedules will not be used as a basis to establish the amount of work performed or for the preparation of the progress payments.

5.1. **Project Scheduler.** Designate an individual who will develop and maintain the progress schedule. The Project Scheduler will be prepared to discuss, in detail, the proposed sequence of work and methods of operation, and how that information will be communicated through the Progress Schedule at the Preconstruction Meeting. This individual will also attend the project meetings and make site visits to prepare, develop, and maintain the progress schedules.

5.2. **Progress Schedule.** Before starting work, prepare and submit a progress schedule based on the sequence of work and traffic control plan shown in the Contract documents. At a minimum, prepare the progress schedule as a Bar Chart or Critical Path Method (CPM), as shown on the plans. Include all planned work activities and sequences and show Contract completion within the number of working days specified. Incorporate major material procurements, known utility relocations, and other activities that may affect the completion of the Contract in the progress schedule. Show a beginning date, ending date, and duration in whole working days for each activity. Do not use activities exceeding 20 working days, except for agreed upon activities. Show an estimated production rate per working day for each work activity.

5.3. **Schedule Format.** Format all project schedules according to the following:

- Begin the project schedule on the date of the start of Contract time or start of activities affecting work on the project;
- Show the sequence and interdependence of activities required for complete performance of the work. If using a CPM schedule, show a predecessor and a successor for each activity; and
- Ensure all work sequences are logical and show a coordinated plan of the work.

CPM schedules must also include:

- Clearly and accurately identify the critical path as the longest continuous path;
- Provide a legend for all abbreviations, run date, data date, project start date, and project completion date in the title block of each schedule submittal; and
- Through the use of calendars, incorporate seasonal weather conditions into the schedule for work (e.g., earthwork, concrete paving, structures, asphalt, drainage, etc.) that may be influenced by temperature or precipitation. Also, incorporate non-work periods such as holidays, weekends, or other non-work days as identified in the Contract.

5.4. **Activity Format.** For each activity on the project schedule provide:

- A concise description of the work represented by the activity;
- An activity duration in whole working days;
- Code activities so that organized plots of the schedule may be produced.

CPM schedules must also include the quantity of work and estimated production rate for major items of work. Provide enough information for review of the work being performed.

5.5. **Schedule Types.**

5.5.1. **Bar Chart.** Seven calendar days before the preconstruction meeting, prepare and submit a hard copy of the schedule using the bar chart method.

5.5.1.1. **Progress Schedule Reviews.** Update the project schedule and submit a hard copy when changes to the schedule occur or when requested.

5.5.2. **Critical Path Method.** Prepare and submit the schedule using the CPM.

5.5.2.1. **Preliminary Schedule.** Seven calendar days before the preconstruction meeting, submit both the plotted and electronic copies of the project schedule showing work to be performed within the first 90 calendar days of the project.

5.5.2.2. **Baseline Schedule.** The baseline schedule will be considered the Contractor's plan to successfully construct the project within the time frame and construction sequencing indicated in the Contract. Submit both plotted and electronic copies of the baseline schedule. Submit 2 plots of the schedule: one organized with the activities logically grouped using the activity coding; and the other plot showing only the critical path determined by the longest path, not based on critical float.

Develop and submit the baseline schedule for review within the first 45 calendar days of the project unless the time for submission is extended.

5.5.2.2.1. **Review.** Within 15 calendar days of receipt of the schedule, the Engineer will evaluate, and inform the Contractor if the schedule has been accepted. If the schedule is not accepted, the Engineer will provide comments to the Contractor for incorporation. Provide a revised schedule based on the Engineer's comments, or reasons for not doing so within 10 calendar days. The Engineer's review and acceptance of the project schedule is for conformance to the requirements of the Contract documents only and does not relieve the Contractor of any responsibility for meeting the interim milestone dates (if specified) or the Contract completion date. Review and acceptance does not expressly or by implication warrant, acknowledge, or admit the reasonableness of the logic or durations of the project schedule. If the Contractor fails to define any element of work, activity, or logic and the Engineer's review does not detect this omission or error, the Contractor is responsible for correcting the error or omission.

Submit an acceptable baseline schedule before the 90th calendar day of the project unless the time for submission is extended.

5.5.2.3. **Progress Schedule.** Maintain the project schedule for use by both the Contractor and the Engineer. Submit both the plotted and electronic copy as it will become an as-built record of the daily progress achieved on the project. If continuous progress of an activity is interrupted for any reason except non-work periods (such as holidays, weekend, or interference from temperature or precipitation), then the activity will show the actual finish date as that date of the start of the interruption and the activity will be broken into a subsequent activity (or activities, based on the number of interruptions) similarly numbered with successive alpha character as necessary. The original duration of the subsequent activity will be that of the remaining duration of the original activity. Relationships of the subsequent activity will match those of the original activity so that the integrity of the project schedule logic is maintained. Once established, the original durations and actual dates of all activities must remain unchanged. Revisions to the schedule may be made as necessary.

The project schedule must be revised when changes in construction phasing and sequencing occur or other changes that cause deviation from the original project schedule occur. Any revisions to the schedule must be listed in the monthly update narrative with the purpose of the revision and description of the impact on the project schedule's critical path and project completion date. Create the schedule revision using the latest update before the start of the revision.

Monthly updating of the project schedule will include updating of:

- The actual start dates for activities started;
- The actual finish dates for activities completed;

- The percentage of work completed and remaining duration for each activity started but not yet completed; and
- The calendars to show days actual work was performed on the various work activities.

The cut-off day for recording monthly progress will be the last day of each month. Submit the updated project schedule no later than the 20th calendar day of the following month. The Engineer will evaluate the updated schedule within 5 calendar days of receipt and inform the Contractor if it has or has not been accepted. If the schedule is not accepted, the Engineer will provide comments to the Contractor for incorporation. Provide a revised schedule based on the Engineer's comments, or reasons for not doing so within 5 calendar days.

Provide a brief narrative in a bulleted statement format for major items that have impacted the schedule. Notify the Engineer if resource-leveling is being used.

5.5.2.3.1. **Project Schedule Summary Report (PSSR).** When shown on the plans, provide the PSSR instead of the narrative required in Section 8L.5.5.2.3., "Progress Schedule." The PSSR includes a listing of major items that have impacted the schedule as well as a summary of progress in days ahead or behind schedule. Include an explanation of the project progress for the period represented on the form provided by the Owner.

5.5.3. **Notice of Potential Time Impact.** Submit a "Notice of Potential Time Impact" when a Contract time extension or adjustment of milestone dates may be justified or when directed.

Failure to provide this notice in the time frames outlined above will compromise the Owner's ability to mitigate the impacts and the Contractor forfeits the right to request a time extension or adjustment of milestone dates unless the circumstances are such that the Contractor could not reasonably have had knowledge of the impact at the time.

5.5.4. **Time Impact Analysis.** When directed, provide a time impact analysis. A time impact analysis is an evaluation of the effects of impacts on the project. A time impact analysis consists of the following steps:

- **Step 1.** Establish the status of the project immediately before the impact.
- **Step 2.** Predict the effect of the impact on the schedule update used in Step 1.
- **Step 3.** Track the effects of the impact on the schedule during its occurrence.
- **Step 4.** Establish the status of the project after the impact's effect has ended and provide details identifying any mitigating actions or circumstances used to keep the project ongoing during the impact period.

Determine the time impact by comparing the status of the work before the impact (Step 1) to the prediction of the effect of the impact (Step 2), if requested, and to actual effects of the impact once it is complete (Step 4). Unless otherwise approved, Steps 1, 3, and 4, must be completed before consideration of a Contract time extension or adjustment of a milestone date will be provided. Time extensions will only be considered when delays that affect milestone dates or the Contract completion date are beyond the Contractor's control. Submit Step 4 no later than 15 calendar days after the impact's effects have ended or when all the information on the effect has been realized.

Submit one electronic backup copy of the complete time impact analysis and a copy of the full project schedule incorporating the time impact analysis. If the project schedule is revised after the submittal of a time impact analysis, but before its approval, indicate in writing the need for any modification to the time impact analysis.

The Engineer will review the time impact analysis upon completion of step 4. If this review detects revisions or changes to the schedule that had not been performed and identified in a narrative, the Engineer may reject the time impact analysis. If the Engineer is in agreement with the time impact analysis, a change order may be issued to grant additional working days, or to adjust interim milestones. Once a change order has been executed, incorporate the time impact analysis into the project schedule. The time impact analysis may also be used to support the settlement of disputes and claims. Compensation related to the time impact

analysis may be provided at the completion of the analysis or the completion of the project to determine the true role the impact played on the final completion.

The work performed under this article will not be measured or paid for directly but will be subsidiary to pertinent items.

6. FAILURE TO COMPLETE WORK ON TIME

The time established for the completion of the work is an essential element of the Contract. If the Contractor fails to complete the work within the number of working days specified, working days will continue to be charged. Failure to complete the Contract, a separate work order, or callout work within the number of working days specified, including any approved additional working days, will result in liquidated damages for each working day charged over the number of working days specified in the Contract. The dollar amount specified in the Contract will be deducted from any money due or to become due the Contractor for each working day the Contract remains incomplete. This amount will be assessed not as a penalty but as liquidated damages.

7. DEFAULT OF THE CONTRACT

7.1. **Declaration of Default.** The Engineer may declare the Contractor to be in default of the Contract if the Contractor:

- fails to begin the work within the number of days specified,
- fails to prosecute the work to assure completion within the number of days specified,
- is uncooperative, disruptive or threatening,
- fails to perform the work in accordance with the Contract requirements,
- neglects or refuses to remove and replace rejected materials or unacceptable work,
- discontinues the prosecution of the work without the Engineer's approval,
- makes an unauthorized assignment,
- fails to resume work that has been discontinued within a reasonable number of days after notice to do so,
- fails to conduct the work in an acceptable manner, or
- commits fraud or other unfixable conduct as determined by the Owner.

If any of these conditions occur, the Engineer will give notice in writing to the Contractor and the Surety of the intent to declare the Contractor in default. If the Contractor does not proceed as directed within 10 days after the notice, the Owner will provide written notice to the Contractor and the Surety to declare the Contractor to be in default of the Contract. The Owner will also provide written notice of default to the Surety. If the Contractor provides the Owner written notice of voluntary default of the Contract, the Owner may waive the 10 day notice of intent to declare the Contractor in default and immediately provide written notice of default to the Contractor and the Surety. Working day charges will continue until completion of the Contract. The Owner may suspend work in accordance with Section 8L.4., "Temporary Suspension of Work or Working Day Charges," to investigate apparent fraud or other unfixable conduct before defaulting the Contractor. The Contractor may be subject to sanctions under the state and/or federal laws and regulations.

The Owner will determine the method used for the completion of the remaining work as follows:

- **Contracts without Performance Bonds.** The Owner will determine the most expeditious and efficient way to complete the work, and recover damages from the Contractor.
- **Contracts with Performance Bonds.** The Owner will, without violating the Contract, demand that the Contractor's Surety complete the remaining work in accordance with the terms of the original Contract. A completing Contractor will be considered a subcontractor of the Surety. The Owner reserves the right to approve or reject proposed subcontractors. Work may resume after the Owner receives and approves Certificates of Insurance as required in Section 3.4.3., "Insurance." Certificates of Insurance may be

issued in the name of the completing Contractor. The Surety is responsible for making every effort to expedite the resumption of work and completion of the Contract. The Owner may complete the work using any or all materials at the work locations that it deems suitable and acceptable. Any costs incurred by the Owner for the completion of the work under the Contract will be the responsibility of the Surety.

From the time of notification of the default until work resumes (either by the Surety or the Owner), the Owner will maintain traffic control devices and will do any other work it deems necessary, unless otherwise agreed upon by the Owner and the Surety. All costs associated with this work will be deducted from money due to the Surety.

The Owner will hold all money earned but not disbursed by the date of default. Upon resumption of the work after the default, all payments will be made to the Surety. All costs and charges incurred by the Owner as a result of the default, including the cost of completing the work under the Contract, costs of maintaining traffic control devices, costs for other work deemed necessary, and any applicable liquidated damages or disincentives will be deducted from money due the Contractor for completed work. If these costs exceed the sum that would have been payable under the Contract, the Surety will be liable and pay the Owner the balance of these costs in excess of the Contract price. In case the costs incurred by the Owner are less than the amount that would have been payable under the Contract if the work had been completed by the Contractor, the Owner will be entitled to retain the difference.

Comply with Article 8L.2., "Subcontracting," and abide by the DBE/HUB/SBE commitments previously approved by the Owner .

No markups as defined in Article 9L.7., "Payment for Extra Work and Force Account Method," will be allowed for the Surety.

- 7.2. **Wrongful Default.** Submit a written request to the Owner within 14 calendar days of receipt of the notice of default for consideration of wrongful default.

The Owner will determine if the Contractor has been wrongfully defaulted, and will proceed with the following:

- If the Owner determines the default is proper, the default will remain. If the Contractor is in disagreement, the Contractor may file a claim in accordance with Article 4L.7., "Dispute or Claims Procedure."
- If the Owner determines it was a wrongful default, the Owner will terminate the Contract for convenience, in accordance with Article 8L.8., "Termination of the Contract."

8. TERMINATION OF THE CONTRACT

The Owner may terminate the Contract in whole or in part whenever:

- the Contractor is prevented from proceeding with the work as a direct result of an executive order of the President of the United States or the Governor of the State;
- the Contractor is prevented from proceeding with the work due to a national emergency, or when the work to be performed under the Contract is stopped, directly or indirectly, because of the freezing or diversion of materials, equipment or labor as the result of an order or a proclamation of the President of the United States;
- the Contractor is prevented from proceeding with the work due to an order of any federal authority;
- the Contractor is prevented from proceeding with the work by reason of a preliminary, special, or permanent restraining court order where the issuance of the restraining order is primarily caused by acts or omissions of persons or agencies other than the Contractor; or
- the Owner determines that termination of the Contract is in the best interest of the Owner or the public. This includes, but is not limited to, the discovery of significant hazardous material problems, right of way acquisition problems, or utility conflicts that would cause substantial delays or expense to the Contract.

8.1.

Procedures and Submittals. The Engineer will provide written notice to the Contractor of termination specifying the extent of the termination and the effective date. Upon notice, immediately proceed in accordance with the following:

- stop work as specified in the notice;
- place no further subcontracts or orders for materials, services, or facilities, except as necessary to complete a critical portion of the Contract, as approved;
- terminate all subcontracts to the extent they relate to the work terminated;
- complete performance of the work not terminated;
- settle all outstanding liabilities and termination settlement proposals resulting from the termination for public convenience of the Contract;
- create an inventory report, including all acceptable materials and products obtained for the Contract that have not been incorporated in the work that was terminated (include in the inventory report a description, quantity, location, source, cost, and payment status for each of the acceptable materials and products); and
- take any action necessary, or that the Engineer may direct, for the protection and preservation of the materials and products related to the Contract that are in the possession of the Contractor and in which the Owner has or may acquire an interest.

8.2.

Settlement Provisions. Within 60 calendar days of the date of the notice of termination, submit a final termination settlement proposal, unless otherwise approved. The Engineer will prepare a change order that reduces the affected quantities of work and adds acceptable costs for termination. No claim for loss of anticipated profits will be considered. The Owner will pay reasonable and verifiable termination costs including:

- all work completed at the unit bid price and partial payment for incomplete work;
- the percentage of Item 500, "Mobilization," equivalent to the percentage of work complete or actual cost that can be supported by cost records, whichever is greater;
- expenses necessary for the preparation of termination settlement proposals and support data;
- the termination and settlement of subcontracts;
- storage, transportation, restocking, and other costs incurred necessary for the preservation, protection, or disposition of the termination inventory; and
- other expenses acceptable to the Owner.

Item 9L

Measurement and Payment



1. MEASUREMENT OF QUANTITIES

The Engineer will measure all completed work using United States standard measures, unless otherwise specified.

- 1.1. **Linear Measurement.** Unless otherwise specified, all longitudinal measurements for surface areas will be made along the actual surface of the roadway and not horizontally. No deduction will be made for structures in the roadway with an area of 9 sq. ft. or less. For all transverse measurements for areas of base courses, surface courses, and pavements, the dimensions to be used in calculating the pay areas will be the neat dimensions and will not exceed those shown on the plans, unless otherwise directed.
- 1.2. **Volume Measurement.** Transport materials measured for payment by volume in approved hauling vehicles. Display a unique identification mark on each vehicle. Furnish information necessary to calculate the volume capacity of each vehicle. The Engineer may require verification of volume through weight measurement. Use body shapes that allow the capacity to be verified. Load and level the load to the equipment's approved capacity. Loads not hauled in approved vehicles may be rejected.
- 1.3. **Weight Measurement.** Transport materials measured for payment by weight or truck measure in approved hauling vehicles. Furnish certified measurements, tare weights, and legal gross weight calculations for all haul units. Affix a permanent, legible number on the truck and on the trailer to correspond with the certified information. Furnish certified weights of loaded haul units transporting material if requested.

The material will be measured at the point of delivery. The cost of supplying these volume and weight capacities is subsidiary to the pertinent item. For measurement by the ton, in the field, provide measurements in accordance with Item 520, "Weighing and Measuring Equipment," except for items where ton measurements are measured by standard tables.

The Engineer may reject loads and suspend hauling operations for overloading.

- 1.3.1. **Hauling on Routes Accessible to the Traveling Public.** For payment purposes on haul routes accessible to the traveling public, the net weight of the load will be calculated as follows:
- If the gross vehicle weight is less than the maximum allowed by state law, including applicable yearly weight tolerance permit, the net weight of the load will be determined by deducting the tare weight of the vehicle from the gross weight.
 - If the gross vehicle weight is more than the maximum allowed by state law, including applicable yearly weight tolerance permit, the net weight of the load will be determined by deducting the tare weight of the vehicle from the maximum gross weight allowed.
- 1.3.2. **Hauling on Routes Not Accessible to the Traveling Public.** For payment purposes on haul routes that are not accessible to the traveling public where advance permission is obtained in writing from the Engineer:
- If the gross vehicle weight is less than the maximum allowed, including applicable yearly weight tolerance permit, the net weight of the load will be determined by deducting the tare weight of the vehicle from the gross weight.
 - If the gross vehicle weight is more than the maximum allowed, the net weight of the load will be determined by deducting the tare weight of the vehicle from the maximum gross weight allowed.

2. PLANS QUANTITY MEASUREMENT

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 specifications or this article.

If the quantity measured as outlined under "Measurement" varies by more than 5% (or as stipulated under "Measurement" for specific Items) from the total estimated quantity for an individual item originally shown in the Contract, an adjustment may be made to the quantity of authorized work done for payment purposes.

When quantities are revised by a change in design approved by the Owner, by change order, 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 5% variance will apply to the new plans quantity.

If the total Contract quantity multiplied by the unit bid price 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 Engineer and Contractor agree in writing to fix the final quantity as a plans quantity.

For Contracts with callout work and work orders, plans quantity measurement requirements are not applicable.

3. ADJUSTMENT OF QUANTITIES

The party to the Contract requesting the adjustment will provide field measurements and calculations showing the revised quantity. When approved, this revised quantity will constitute 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 4L.4., "Changes in the Work."

4. SCOPE OF PAYMENT

Payment of the Contract unit price is full compensation for all materials, equipment, labor, tools, and supplies necessary to complete the item of work under the Contract. Until final acceptance in accordance with Article 5L.12., "Final Acceptance," assume liability for completing the work according to the Contract documents and any loss or damage arising from the performance of the work or from the action of the elements, infringement of patent, trademark, or copyright, except as provided elsewhere in the Contract.

The Owner will only pay for material incorporated into the work in accordance with the Contract. Payment of progress estimates will in no way affect the Contractor's obligation under the Contract to repair or replace any defective parts in the construction or to replace any defective materials used in the construction and to be responsible for all damages due to defects if the defects and damages are discovered on or before final inspection and acceptance of the work.

5. PROGRESS PAYMENTS

The Engineer will prepare a monthly estimate of the amount of work performed, including materials in place. Incomplete items of work may be paid at an agreed upon percentage as approved. Payment of the monthly estimate is determined at the Contract item prices less any withholdings or deductions in accordance with the Contract. Progress payments may be withheld for failure to comply with the Contract.

6. PAYMENT FOR MATERIAL ON HAND (MOH)

If payment for MOH is desired, request compensation for the invoice cost of acceptable nonperishable materials that have not been used in the work before the request, and that have been delivered to the work location or are in acceptable storage places. Nonperishable materials are those that do not have a shelf life

or whose characteristics do not materially change when exposed to the elements. Include only materials that have been sampled, tested, approved, or certified, and are ready for incorporation into the work. Only materials which are completely constructed or fabricated on the Contractor's order for a specific Contract and are so marked and on which an approved test report has been issued are eligible. Payment for MOH may include the following types of items: concrete traffic barrier, precast concrete box culverts, concrete piling, reinforced concrete pipe, and illumination poles. Any repairs required after fabricated materials have been approved for storage will require approval of the Engineer before being made and will be made at the Contractor's expense. Include only those materials that have an invoice cost of at least \$1,000 in the request for MOH payment.

If the request is acceptable, the Engineer will include payment for MOH in a progress payment. Payment for MOH does not constitute acceptance of the materials. Payment will not exceed the actual cost of the material as established by invoice, or the total cost for the associated item less reasonable placement costs, whichever is less. Materials for which the Contractor does not have a paid invoice within 60 days will not be eligible for payment and will be removed from the estimate. Payment may be limited to a portion of the invoice cost or unit price if shown elsewhere in the Contract. Payment for precast products fabricated or constructed by the Contractor for which invoices or freight bills are not available may be made based on statements of actual cost.

Submit the request on forms provided by the Owner. These forms may be electronically reproduced, provided they are in the same format and contain all the required information and certifications. Continue to submit monthly MOH forms until the total value of MOH is \$0.

By submitting a request for MOH payment, the Contractor expressly authorizes the Owner to audit MOH records, and to perform process reviews of the record-keeping system. If the Owner determines noncompliance with any of the requirements of this provision, the Owner may exclude payment for any or all MOH for the duration of the Contract.

Maintain all records relating to MOH payment until final acceptance. Provide these records to the Engineer upon request.

7. PAYMENT FOR EXTRA WORK AND FORCE ACCOUNT METHOD

Payment for extra work directed, performed, and accepted will be made in accordance with Article 4L.4., "Changes in the Work." Payment for extra work may be established by agreed unit prices or by Force Account Method.

Agreed unit prices are unit prices that include markups and are comparable to recent bid prices for the same character of work. These unit prices may be established without additional breakdown justification.

When using Force Account Method, determine an estimated cost for the proposed work and establish labor and equipment rates and material costs. Maintain daily records of extra work and provide copies of these records daily, signed by the Contractor's representative, for verification by the Engineer. Request payment for the extra work no later than the 10th day of the month following the month in which the work was performed. Include copies of all applicable invoices. If the extra work to be performed has an estimated cost of less than \$10,000, submit for approval and payment an invoice of actual cost for materials, equipment, labor, tools, and incidentals necessary to complete the extra work.

7.1. **Markups.** Payment for extra work may include markups as compensation for the use of small tools, overhead expense, and profit.

7.1.1. **Labor.** Compensation will be made for payroll rates for each hour that the labor, foremen, or other approved workers are actually engaged in the work. In no case will the rate of wages be less than the minimum shown in the Contract for a particular category. An additional 25% of this sum will be paid as compensation for overhead, superintendence, profit, and small tools.

- 7.1.2. **Insurance and Taxes.** An additional 55% of the labor cost, excluding the 25% compensation provided in Section 9L.7.1.1., "Labor," will be paid as compensation for labor insurance and labor taxes including the cost of premiums on non-project-specific liability (excluding vehicular) insurance, workers compensation insurance, Social Security, unemployment insurance taxes, and fringe benefits.
- 7.1.3. **Materials.** Compensation will be made for materials associated with the work based on actual delivered invoice costs, less any discount. An additional 25% of this sum will be paid as compensation for overhead and profit.
- 7.1.4. **Equipment.** Payment will be made for the established equipment hourly rates for each hour that the equipment is involved in the work. An additional 15% of this sum will be paid as compensation for overhead and profit not included in the rates.

Transportation cost for mobilizing equipment will be included if the equipment is mobilized from an off-site location.

- 7.1.4.1. **Contractor-Owned Equipment.** For Contractor-owned machinery, trucks, power tools, or other equipment, use the FHWA rental rates found in the *Rental Rate Blue Book* multiplied by the regional adjustment factor and the rate adjustment factor to establish hourly rates. Use the rates in effect for each section of the *Rental Rate Blue Book* at the time of use.

If a rate has not been established for a particular piece of equipment in the *Rental Rate Blue Book*, the Engineer will allow a reasonable hourly rate. This price will include operating costs.

Payment for equipment will be made for the actual hours used in the work. The Owner reserves the right to withhold payment for low production or lack of progress. Payment will not be made for time lost for equipment breakdowns, time spent to repair equipment, or time after equipment is no longer needed.

If equipment is used intermittently while dedicated solely to the work, payment will be made for the duration the equipment is assigned to the work but no more than 8 hours will be paid during a 24-hour day, nor more than 40 hours per week, nor more than 176 hours per month, except when time is computed using a six-day or seven-day workweek. When using a six-day workweek, no more than 8 hours will be paid during a 24-hour day, nor more than 48 hours per week, nor more than 211 hours per month. When using a seven-day workweek, no more than 8 hours will be paid during a 24-hour day, nor more than 56 hours per week, nor more than 246 hours per month.

- 7.1.4.2. **Equipment Not Owned by the Contractor.** For equipment rented from a third party not owned by the Contractor, payment will be made at the invoice daily rental rate for each day the equipment is needed for the work. The Owner reserves the right to limit the daily rate to comparable *Rental Rate Blue Book* rates. When the invoice specifies that the rental rate does not include fuel, lubricants, repairs, and servicing, the *Rental Rate Blue Book* hourly operating cost for each hour the equipment is operated will be added.

When the invoice specifies equipment operators as a component of the equipment rental, payment will be made at the invoice rate for each operator for each day the equipment is needed for the work.

- 7.1.4.3. **Standby Equipment Costs.** Payment for standby equipment will be made in accordance with Section 9L.7.1.4., "Equipment," except that:

- 7.1.4.3.1. **Contractor-Owned Equipment.** For Contractor-owned machinery, trucks, power tools, or other equipment:

- Standby will be paid at 50% (to remove operating cost) of the FHWA rental rates found in the *Rental Rate Blue Book* multiplied by the regional adjustment factor and the rate adjustment factor.
- Standby costs will not be allowed during periods when the equipment would have otherwise been idle.

- 7.1.4.3.2. **Equipment Not Owned by the Contractor.** For equipment rented from a third party not owned by the Contractor:

- Standby will be paid at the invoice daily rental rate, excluding operating cost, which includes fuel, lubricants, repairs, and servicing. The Owner reserves the right to limit the daily standby rate to comparable FHWA rental rates found in the *Rental Rate Blue Book* multiplied by the regional adjustment factor and the rate adjustment factor.
- Standby will be paid for equipment operators when included on the invoice and equipment operators are actually on standby.
- Standby costs will not be allowed during periods when the equipment would have otherwise been idle.

7.1.5. **Subcontracting.** An additional 5% of the actual invoice cost will be paid to the Contractor as compensation for administrative cost, superintendence, and profit.

7.1.6. **Law Enforcement.** An additional 5% of the actual invoice cost will be paid as compensation for administrative costs, superintendence, and profit.

7.1.7. **Railroad Flaggers.** An additional 5% of the actual invoice cost will be paid as compensation for administrative cost, superintendence, and profit.

7.1.8. **Bond Cost.** An additional 1% of the total compensation provided in Article 9L.7., "Payment for Extra Work and Force Account Method," will be paid for the increase in bond.

8. RETAINAGE

The Owner will not withhold retainage on the Contractor. The Contractor may withhold retainage on subcontractors in accordance with state and federal regulations.

9. PAYMENT PROVISIONS FOR SUBCONTRACTORS

For the purposes of this article only, the term subcontractor includes suppliers and the term work includes materials provided by suppliers at a location approved by the Engineer.

These requirements apply to all tiers of subcontractors. Incorporate the provisions of this article into all subcontract or material purchase agreements.

Pay subcontractors for work performed within 10 days after receiving payment for the work performed by the subcontractor. Also, pay any retainage on a subcontractor's work within 10 days after satisfactory completion of all of the subcontractor's work. Completed subcontractor work includes vegetative establishment, test, maintenance, performance, and other similar periods that are the responsibility of the subcontractor.

For the purpose of this section, satisfactory completion is accomplished when:

- the subcontractor has fulfilled the Contract requirements of both the Owner and the subcontract for the subcontracted work, including the submittal of all information required by the specifications and the Owner; and
- the work done by the subcontractor has been inspected, approved, and paid by the Owner.

Provide a certification of prompt payment in accordance with the Owner's prompt payment procedure to certify that all subcontractors and suppliers were paid from the previous months payments and retainage was released for those whose work is complete. Submit the completed form each month and the month following the month when final acceptance occurred at the end of the project.

The inspection and approval of a subcontractor's work does not eliminate the Contractor's responsibilities for all the work as defined in Article 7L.16., "Contractor's Responsibility for Work."

The Owner may pursue actions against the Contractor, including withholding of estimates and suspending the work, for noncompliance with the subcontract requirements of this section upon receipt of written notice with sufficient details showing the subcontractor has complied with contractual obligations.

10.

FINAL PAYMENT

When the Contract has been completed, all work has been approved, final acceptance has been made in accordance with Article 5L.12., "Final Acceptance," and Contractor submittals have been received, the Engineer will prepare a final estimate for payment showing the total quantity of work completed and the money owed the Contractor. The final payment will reflect the entire sum due, less any sums previously paid.

TXDOT SPECIAL BID PROVISIONS

REQUIRED CONTRACT PROVISIONS FEDERAL-AID CONSTRUCTION CONTRACTS

- I. General
- II. Nondiscrimination
- III. Non-segregated Facilities
- IV. Davis-Bacon and Related Act Provisions
- V. Contract Work Hours and Safety Standards Act Provisions
- VI. Subletting or Assigning the Contract
- VII. Safety: Accident Prevention
- VIII. False Statements Concerning Highway Projects
- IX. Implementation of Clean Air Act and Federal Water Pollution Control Act
- X. Certification Regarding Debarment, Suspension, Ineligibility and Voluntary Exclusion
- XI. Certification Regarding Use of Contract Funds for Lobbying
- XII. Use of United States-Flag Vessels:

ATTACHMENTS

A. Employment and Materials Preference for Appalachian Development Highway System or Appalachian Local Access Road Contracts (included in Appalachian contracts only)

I. GENERAL

1. Form FHWA-1273 must be physically incorporated in each construction contract funded under title 23, United States Code, as required in 23 CFR 633.102(b) (excluding emergency contracts solely intended for debris removal). The contractor (or subcontractor) must insert this form in each subcontract and further require its inclusion in all lower tier subcontracts (excluding purchase orders, rental agreements and other agreements for supplies or services). 23 CFR 633.102(e).

The applicable requirements of Form FHWA-1273 are incorporated by reference for work done under any purchase order, rental agreement or agreement for other services. The prime contractor shall be responsible for compliance by any subcontractor, lower-tier subcontractor or service provider. 23 CFR 633.102(e).

Form FHWA-1273 must be included in all Federal-aid design-build contracts, in all subcontracts and in lower tier subcontracts (excluding subcontracts for design services, purchase orders, rental agreements and other agreements for supplies or services) in accordance with 23 CFR 633.102. The design-builder shall be responsible for compliance by any subcontractor, lower-tier subcontractor or service provider.

Contracting agencies may reference Form FHWA-1273 in solicitation-for-bids or request-for-proposals documents, however, the Form FHWA-1273 must be physically incorporated (not referenced) in all contracts, subcontracts and lower-tier subcontracts (excluding purchase orders, rental agreements and other agreements for supplies or services related to a construction contract). 23 CFR 633.102(b).

2. Subject to the applicability criteria noted in the following sections, these contract provisions shall apply to all work

performed on the contract by the contractor's own organization and with the assistance of workers under the contractor's immediate superintendence and to all work performed on the contract by piecework, station work, or by subcontract. 23 CFR 633.102(d).

3. A breach of any of the stipulations contained in these Required Contract Provisions may be sufficient grounds for withholding of progress payments, withholding of final payment, termination of the contract, suspension / debarment or any other action determined to be appropriate by the contracting agency and FHWA.

4. Selection of Labor: During the performance of this contract, the contractor shall not use convict labor for any purpose within the limits of a construction project on a Federal-aid highway unless it is labor performed by convicts who are on parole, supervised release, or probation. 23 U.S.C. 114(b). The term Federal-aid highway does not include roadways functionally classified as local roads or rural minor collectors. 23 U.S.C. 101(a).

II. NONDISCRIMINATION (23 CFR 230.107(a); 23 CFR Part 230, Subpart A, Appendix A; EO 11246)

The provisions of this section related to 23 CFR Part 230, Subpart A, Appendix A are applicable to all Federal-aid construction contracts and to all related construction subcontracts of \$10,000 or more. The provisions of 23 CFR Part 230 are not applicable to material supply, engineering, or architectural service contracts.

In addition, the contractor and all subcontractors must comply with the following policies: Executive Order 11246, 41 CFR Part 60, 29 CFR Parts 1625-1627, 23 U.S.C. 140, Section 504 of the Rehabilitation Act of 1973, as amended (29 U.S.C. 794), Title VI of the Civil Rights Act of 1964, as amended (42 U.S.C. 2000d et seq.), and related regulations including 49 CFR Parts 21, 26, and 27; and 23 CFR Parts 200, 230, and 633.

The contractor and all subcontractors must comply with: the requirements of the Equal Opportunity Clause in 41 CFR 60-1.4(b) and, for all construction contracts exceeding \$10,000, the Standard Federal Equal Employment Opportunity Construction Contract Specifications in 41 CFR 60-4.3.

Note: The U.S. Department of Labor has exclusive authority to determine compliance with Executive Order 11246 and the policies of the Secretary of Labor including 41 CFR Part 60, and 29 CFR Parts 1625-1627. The contracting agency and the FHWA have the authority and the responsibility to ensure compliance with 23 U.S.C. 140, Section 504 of the Rehabilitation Act of 1973, as amended (29 U.S.C. 794), and Title VI of the Civil Rights Act of 1964, as amended (42 U.S.C. 2000d et seq.), and related regulations including 49 CFR Parts 21, 26, and 27; and 23 CFR Parts 200, 230, and 633.

The following provision is adopted from 23 CFR Part 230, Subpart A, Appendix A, with appropriate revisions to conform to the U.S. Department of Labor (US DOL) and FHWA requirements.

1. Equal Employment Opportunity: Equal Employment Opportunity (EEO) requirements not to discriminate and to take affirmative action to assure equal opportunity as set forth under laws, executive orders, rules, regulations (see 28 CFR Part 35, 29 CFR Part 1630, 29 CFR Parts 1625-1627, 41 CFR Part 60 and 49 CFR Part 27) and orders of the Secretary of Labor as modified by the provisions prescribed herein, and imposed pursuant to 23 U.S.C. 140, shall constitute the EEO and specific affirmative action standards for the contractor's project activities under this contract. The provisions of the Americans with Disabilities Act of 1990 (42 U.S.C. 12101 et seq.) set forth under 28 CFR Part 35 and 29 CFR Part 1630 are incorporated by reference in this contract. In the execution of this contract, the contractor agrees to comply with the following minimum specific requirement activities of EEO:

a. The contractor will work with the contracting agency and the Federal Government to ensure that it has made every good faith effort to provide equal opportunity with respect to all of its terms and conditions of employment and in their review of activities under the contract. 23 CFR 230.409 (g)(4) & (5).

b. The contractor will accept as its operating policy the following statement:

"It is the policy of this Company to assure that applicants are employed, and that employees are treated during employment, without regard to their race, religion, sex, sexual orientation, gender identity, color, national origin, age or disability. Such action shall include: employment, upgrading, demotion, or transfer; recruitment or recruitment advertising; layoff or termination; rates of pay or other forms of compensation; and selection for training, including apprenticeship, pre-apprenticeship, and/or on-the-job training."

2. EEO Officer: The contractor will designate and make known to the contracting officers an EEO Officer who will have the responsibility for and must be capable of effectively administering and promoting an active EEO program and who must be assigned adequate authority and responsibility to do so.

3. Dissemination of Policy: All members of the contractor's staff who are authorized to hire, supervise, promote, and discharge employees, or who recommend such action or are substantially involved in such action, will be made fully cognizant of and will implement the contractor's EEO policy and contractual responsibilities to provide EEO in each grade and classification of employment. To ensure that the above agreement will be met, the following actions will be taken as a minimum:

a. Periodic meetings of supervisory and personnel office employees will be conducted before the start of work and then not less often than once every six months, at which time the contractor's EEO policy and its implementation will be reviewed and explained. The meetings will be conducted by the EEO Officer or other knowledgeable company official.

b. All new supervisory or personnel office employees will be given a thorough indoctrination by the EEO Officer, covering all major aspects of the contractor's EEO obligations within thirty days following their reporting for duty with the contractor.

c. All personnel who are engaged in direct recruitment for the project will be instructed by the EEO Officer in the contractor's procedures for locating and hiring minorities and women.

d. Notices and posters setting forth the contractor's EEO policy will be placed in areas readily accessible to employees, applicants for employment and potential employees.

e. The contractor's EEO policy and the procedures to implement such policy will be brought to the attention of employees by means of meetings, employee handbooks, or other appropriate means.

4. Recruitment: When advertising for employees, the contractor will include in all advertisements for employees the notation: "An Equal Opportunity Employer." All such advertisements will be placed in publications having a large circulation among minorities and women in the area from which the project work force would normally be derived.

a. The contractor will, unless precluded by a valid bargaining agreement, conduct systematic and direct recruitment through public and private employee referral sources likely to yield qualified minorities and women. To meet this requirement, the contractor will identify sources of potential minority group employees and establish with such identified sources procedures whereby minority and women applicants may be referred to the contractor for employment consideration.

b. In the event the contractor has a valid bargaining agreement providing for exclusive hiring hall referrals, the contractor is expected to observe the provisions of that agreement to the extent that the system meets the contractor's compliance with EEO contract provisions. Where implementation of such an agreement has the effect of discriminating against minorities or women, or obligates the contractor to do the same, such implementation violates Federal nondiscrimination provisions.

c. The contractor will encourage its present employees to refer minorities and women as applicants for employment. Information and procedures with regard to referring such applicants will be discussed with employees.

5. Personnel Actions: Wages, working conditions, and employee benefits shall be established and administered, and personnel actions of every type, including hiring, upgrading, promotion, transfer, demotion, layoff, and termination, shall be taken without regard to race, color, religion, sex, sexual orientation, gender identity, national origin, age or disability. The following procedures shall be followed:

a. The contractor will conduct periodic inspections of project sites to ensure that working conditions and employee facilities do not indicate discriminatory treatment of project site personnel.

b. The contractor will periodically evaluate the spread of wages paid within each classification to determine any evidence of discriminatory wage practices.

c. The contractor will periodically review selected personnel actions in depth to determine whether there is evidence of discrimination. Where evidence is found, the contractor will promptly take corrective action. If the review indicates that the discrimination may extend beyond the actions reviewed, such corrective action shall include all affected persons.

d. The contractor will promptly investigate all complaints of alleged discrimination made to the contractor in connection with its obligations under this contract, will attempt to resolve such complaints, and will take appropriate corrective action

within a reasonable time. If the investigation indicates that the discrimination may affect persons other than the complainant, such corrective action shall include such other persons. Upon completion of each investigation, the contractor will inform every complainant of all of their avenues of appeal.

6. Training and Promotion:

a. The contractor will assist in locating, qualifying, and increasing the skills of minorities and women who are applicants for employment or current employees. Such efforts should be aimed at developing full journey level status employees in the type of trade or job classification involved.

b. Consistent with the contractor's work force requirements and as permissible under Federal and State regulations, the contractor shall make full use of training programs (i.e., apprenticeship and on-the-job training programs for the geographical area of contract performance). In the event a special provision for training is provided under this contract, this subparagraph will be superseded as indicated in the special provision. The contracting agency may reserve training positions for persons who receive welfare assistance in accordance with 23 U.S.C. 140(a).

c. The contractor will advise employees and applicants for employment of available training programs and entrance requirements for each.

d. The contractor will periodically review the training and promotion potential of employees who are minorities and women and will encourage eligible employees to apply for such training and promotion.

7. Unions: If the contractor relies in whole or in part upon unions as a source of employees, the contractor will use good faith efforts to obtain the cooperation of such unions to increase opportunities for minorities and women. 23 CFR 230.409. Actions by the contractor, either directly or through a contractor's association acting as agent, will include the procedures set forth below:

a. The contractor will use good faith efforts to develop, in cooperation with the unions, joint training programs aimed toward qualifying more minorities and women for membership in the unions and increasing the skills of minorities and women so that they may qualify for higher paying employment.

b. The contractor will use good faith efforts to incorporate an EEO clause into each union agreement to the end that such union will be contractually bound to refer applicants without regard to their race, color, religion, sex, sexual orientation, gender identity, national origin, age, or disability.

c. The contractor is to obtain information as to the referral practices and policies of the labor union except that to the extent such information is within the exclusive possession of the labor union and such labor union refuses to furnish such information to the contractor, the contractor shall so certify to the contracting agency and shall set forth what efforts have been made to obtain such information.

d. In the event the union is unable to provide the contractor with a reasonable flow of referrals within the time limit set forth in the collective bargaining agreement, the contractor will, through independent recruitment efforts, fill the employment vacancies without regard to race, color, religion, sex, sexual orientation, gender identity, national origin, age, or disability; making full efforts to obtain qualified and/or qualifiable minorities and women. The failure of a union to provide

sufficient referrals (even though it is obligated to provide exclusive referrals under the terms of a collective bargaining agreement) does not relieve the contractor from the requirements of this paragraph. In the event the union referral practice prevents the contractor from meeting the obligations pursuant to Executive Order 11246, as amended, and these special provisions, such contractor shall immediately notify the contracting agency.

8. Reasonable Accommodation for Applicants /

Employees with Disabilities: The contractor must be familiar with the requirements for and comply with the Americans with Disabilities Act and all rules and regulations established thereunder. Employers must provide reasonable accommodation in all employment activities unless to do so would cause an undue hardship.

9. Selection of Subcontractors, Procurement of Materials and Leasing of Equipment:

The contractor shall not discriminate on the grounds of race, color, religion, sex, sexual orientation, gender identity, national origin, age, or disability in the selection and retention of subcontractors, including procurement of materials and leases of equipment. The contractor shall take all necessary and reasonable steps to ensure nondiscrimination in the administration of this contract.

a. The contractor shall notify all potential subcontractors, suppliers, and lessors of their EEO obligations under this contract.

b. The contractor will use good faith efforts to ensure subcontractor compliance with their EEO obligations.

10. Assurances Required:

a. The requirements of 49 CFR Part 26 and the State DOT's FHWA-approved Disadvantaged Business Enterprise (DBE) program are incorporated by reference.

b. The contractor, subrecipient or subcontractor shall not discriminate on the basis of race, color, national origin, or sex in the performance of this contract. The contractor shall carry out applicable requirements of 49 CFR part 26 in the award and administration of DOT-assisted contracts. Failure by the contractor to carry out these requirements is a material breach of this contract, which may result in the termination of this contract or such other remedy as the recipient deems appropriate, which may include, but is not limited to:

- (1) Withholding monthly progress payments;
- (2) Assessing sanctions;
- (3) Liquidated damages; and/or
- (4) Disqualifying the contractor from future bidding as non-responsible.

c. The Title VI and nondiscrimination provisions of U.S. DOT Order 1050.2A at Appendixes A and E are incorporated by reference. 49 CFR Part 21.

11. Records and Reports: The contractor shall keep such records as necessary to document compliance with the EEO requirements. Such records shall be retained for a period of three years following the date of the final payment to the contractor for all contract work and shall be available at reasonable times and places for inspection by authorized representatives of the contracting agency and the FHWA.

a. The records kept by the contractor shall document the following:

(1) The number and work hours of minority and non-minority group members and women employed in each work classification on the project;

(2) The progress and efforts being made in cooperation with unions, when applicable, to increase employment opportunities for minorities and women; and

(3) The progress and efforts being made in locating, hiring, training, qualifying, and upgrading minorities and women.

b. The contractors and subcontractors will submit an annual report to the contracting agency each July for the duration of the project indicating the number of minority, women, and non-minority group employees currently engaged in each work classification required by the contract work. This information is to be reported on [Form FHWA-1391](#). The staffing data should represent the project work force on board in all or any part of the last payroll period preceding the end of July. If on-the-job training is being required by special provision, the contractor will be required to collect and report training data. The employment data should reflect the work force on board during all or any part of the last payroll period preceding the end of July.

III. NONSEGREGATED FACILITIES

This provision is applicable to all Federal-aid construction contracts and to all related construction subcontracts of more than \$10,000. 41 CFR 60-1.5.

As prescribed by 41 CFR 60-1.8, the contractor must ensure that facilities provided for employees are provided in such a manner that segregation on the basis of race, color, religion, sex, sexual orientation, gender identity, or national origin cannot result. The contractor may neither require such segregated use by written or oral policies nor tolerate such use by employee custom. The contractor's obligation extends further to ensure that its employees are not assigned to perform their services at any location under the contractor's control where the facilities are segregated. The term "facilities" includes waiting rooms, work areas, restaurants and other eating areas, time clocks, restrooms, washrooms, locker rooms and other storage or dressing areas, parking lots, drinking fountains, recreation or entertainment areas, transportation, and housing provided for employees. The contractor shall provide separate or single-user restrooms and necessary dressing or sleeping areas to assure privacy between sexes.

IV. DAVIS-BACON AND RELATED ACT PROVISIONS

This section is applicable to all Federal-aid construction projects exceeding \$2,000 and to all related subcontracts and lower-tier subcontracts (regardless of subcontract size), in accordance with 29 CFR 5.5. The requirements apply to all projects located within the right-of-way of a roadway that is functionally classified as Federal-aid highway. 23 U.S.C. 113. This excludes roadways functionally classified as local roads or rural minor collectors, which are exempt. 23 U.S.C. 101. Where applicable law requires that projects be treated as a project on a Federal-aid highway, the provisions of this subpart will apply regardless of the location of the project. Examples include: Surface Transportation Block Grant Program projects funded under 23 U.S.C. 133 [excluding recreational trails projects], the Nationally Significant Freight and Highway

Projects funded under 23 U.S.C. 117, and National Highway Freight Program projects funded under 23 U.S.C. 167.

The following provisions are from the U.S. Department of Labor regulations in 29 CFR 5.5 "Contract provisions and related matters" with minor revisions to conform to the FHWA-1273 format and FHWA program requirements.

1. Minimum wages (29 CFR 5.5)

a. All laborers and mechanics employed or working upon the site of the work, will be paid unconditionally and not less often than once a week, and without subsequent deduction or rebate on any account (except such payroll deductions as are permitted by regulations issued by the Secretary of Labor under the Copeland Act (29 CFR part 3)), the full amount of wages and bona fide fringe benefits (or cash equivalents thereof) due at time of payment computed at rates not less than those contained in the wage determination of the Secretary of Labor which is attached hereto and made a part hereof, regardless of any contractual relationship which may be alleged to exist between the contractor and such laborers and mechanics.

Contributions made or costs reasonably anticipated for bona fide fringe benefits under section 1(b)(2) of the Davis-Bacon Act on behalf of laborers or mechanics are considered wages paid to such laborers or mechanics, subject to the provisions of paragraph 1.d. of this section; also, regular contributions made or costs incurred for more than a weekly period (but not less often than quarterly) under plans, funds, or programs which cover the particular weekly period, are deemed to be constructively made or incurred during such weekly period. Such laborers and mechanics shall be paid the appropriate wage rate and fringe benefits on the wage determination for the classification of work actually performed, without regard to skill, except as provided in 29 CFR 5.5(a)(4). Laborers or mechanics performing work in more than one classification may be compensated at the rate specified for each classification for the time actually worked therein: Provided, That the employer's payroll records accurately set forth the time spent in each classification in which work is performed. The wage determination (including any additional classification and wage rates conformed under paragraph 1.b. of this section) and the Davis-Bacon poster (WH-1321) shall be posted at all times by the contractor and its subcontractors at the site of the work in a prominent and accessible place where it can be easily seen by the workers.

b.(1) The contracting officer shall require that any class of laborers or mechanics, including helpers, which is not listed in the wage determination and which is to be employed under the contract shall be classified in conformance with the wage determination. The contracting officer shall approve an additional classification and wage rate and fringe benefits therefore only when the following criteria have been met:

(i) The work to be performed by the classification requested is not performed by a classification in the wage determination; and

(ii) The classification is utilized in the area by the construction industry; and

(iii) The proposed wage rate, including any bona fide fringe benefits, bears a reasonable relationship to the wage rates contained in the wage determination.

(2) If the contractor and the laborers and mechanics to be employed in the classification (if known), or their representatives, and the contracting officer agree on the classification and wage rate (including the amount designated for fringe benefits where appropriate), a report of the action taken shall be sent by the contracting officer to the Administrator of the Wage and Hour Division, U.S. Department of Labor, Washington, DC 20210. The Administrator, or an authorized representative, will approve, modify, or disapprove every additional classification action within 30 days of receipt and so advise the contracting officer or will notify the contracting officer within the 30-day period that additional time is necessary.

(3) In the event the contractor, the laborers or mechanics to be employed in the classification or their representatives, and the contracting officer do not agree on the proposed classification and wage rate (including the amount designated for fringe benefits, where appropriate), the contracting officer shall refer the questions, including the views of all interested parties and the recommendation of the contracting officer, to the Administrator for determination. The Administrator, or an authorized representative, will issue a determination within 30 days of receipt and so advise the contracting officer or will notify the contracting officer within the 30-day period that additional time is necessary.

(4) The wage rate (including fringe benefits where appropriate) determined pursuant to paragraphs 1.b.(2) or 1.b.(3) of this section, shall be paid to all workers performing work in the classification under this contract from the first day on which work is performed in the classification.

c. Whenever the minimum wage rate prescribed in the contract for a class of laborers or mechanics includes a fringe benefit which is not expressed as an hourly rate, the contractor shall either pay the benefit as stated in the wage determination or shall pay another bona fide fringe benefit or an hourly cash equivalent thereof.

d. If the contractor does not make payments to a trustee or other third person, the contractor may consider as part of the wages of any laborer or mechanic the amount of any costs reasonably anticipated in providing bona fide fringe benefits under a plan or program. Provided, That the Secretary of Labor has found, upon the written request of the contractor, that the applicable standards of the Davis-Bacon Act have been met. The Secretary of Labor may require the contractor to set aside in a separate account assets for the meeting of obligations under the plan or program.

2. Withholding (29 CFR 5.5)

The contracting agency shall upon its own action or upon written request of an authorized representative of the Department of Labor, withhold or cause to be withheld from the contractor under this contract, or any other Federal contract with the same prime contractor, or any other federally-assisted contract subject to Davis-Bacon prevailing wage requirements, which is held by the same prime contractor, so much of the accrued payments or advances as may be considered necessary to pay laborers and mechanics,

including apprentices, trainees, and helpers, employed by the contractor or any subcontractor the full amount of wages required by the contract. In the event of failure to pay any laborer or mechanic, including any apprentice, trainee, or helper, employed or working on the site of the work, all or part of the wages required by the contract, the contracting agency may, after written notice to the contractor, take such action as may be necessary to cause the suspension of any further payment, advance, or guarantee of funds until such violations have ceased.

3. Payrolls and basic records (29 CFR 5.5)

a. Payrolls and basic records relating thereto shall be maintained by the contractor during the course of the work and preserved for a period of three years thereafter for all laborers and mechanics working at the site of the work. Such records shall contain the name, address, and social security number of each such worker, his or her correct classification, hourly rates of wages paid (including rates of contributions or costs anticipated for bona fide fringe benefits or cash equivalents thereof of the types described in section 1(b)(2)(B) of the Davis-Bacon Act), daily and weekly number of hours worked, deductions made and actual wages paid. Whenever the Secretary of Labor has found under 29 CFR 5.5(a)(1)(iv) that the wages of any laborer or mechanic include the amount of any costs reasonably anticipated in providing benefits under a plan or program described in section 1(b)(2)(B) of the Davis-Bacon Act, the contractor shall maintain records which show that the commitment to provide such benefits is enforceable, that the plan or program is financially responsible, and that the plan or program has been communicated in writing to the laborers or mechanics affected, and records which show the costs anticipated or the actual cost incurred in providing such benefits. Contractors employing apprentices or trainees under approved programs shall maintain written evidence of the registration of apprenticeship programs and certification of trainee programs, the registration of the apprentices and trainees, and the ratios and wage rates prescribed in the applicable programs.

b.(1) The contractor shall submit weekly for each week in which any contract work is performed a copy of all payrolls to the contracting agency. The payrolls submitted shall set out accurately and completely all of the information required to be maintained under 29 CFR 5.5(a)(3)(i), except that full social security numbers and home addresses shall not be included on weekly transmittals. Instead the payrolls shall only need to include an individually identifying number for each employee (e.g., the last four digits of the employee's social security number). The required weekly payroll information may be submitted in any form desired. Optional Form WH-347 is available for this purpose from the Wage and Hour Division Web site. The prime contractor is responsible for the submission of copies of payrolls by all subcontractors. Contractors and subcontractors shall maintain the full social security number and current address of each covered worker, and shall provide them upon request to the contracting agency for transmission to the State DOT, the FHWA or the Wage and Hour Division of the Department of Labor for purposes of an investigation or audit of compliance with prevailing wage requirements. It is not a violation of this section for a prime contractor to require a subcontractor to provide addresses and social security numbers to the prime contractor for its own records, without weekly submission to the contracting agency.

(2) Each payroll submitted shall be accompanied by a "Statement of Compliance," signed by the contractor or

subcontractor or his or her agent who pays or supervises the payment of the persons employed under the contract and shall certify the following:

(i) That the payroll for the payroll period contains the information required to be provided under 29 CFR 5.5(a)(3)(ii), the appropriate information is being maintained under 29 CFR 5.5(a)(3)(i), and that such information is correct and complete;

(ii) That each laborer or mechanic (including each helper, apprentice, and trainee) employed on the contract during the payroll period has been paid the full weekly wages earned, without rebate, either directly or indirectly, and that no deductions have been made either directly or indirectly from the full wages earned, other than permissible deductions as set forth in 29 CFR part 3;

(iii) That each laborer or mechanic has been paid not less than the applicable wage rates and fringe benefits or cash equivalents for the classification of work performed, as specified in the applicable wage determination incorporated into the contract.

(3) The weekly submission of a properly executed certification set forth on the reverse side of Optional Form WH-347 shall satisfy the requirement for submission of the "Statement of Compliance" required by paragraph 3.b.(2) of this section.

(4) The falsification of any of the above certifications may subject the contractor or subcontractor to civil or criminal prosecution under 18 U.S.C. 1001 and 31 U.S.C. 231.

c. The contractor or subcontractor shall make the records required under paragraph 3.a. of this section available for inspection, copying, or transcription by authorized representatives of the contracting agency, the State DOT, the FHWA, or the Department of Labor, and shall permit such representatives to interview employees during working hours on the job. If the contractor or subcontractor fails to submit the required records or to make them available, the FHWA may, after written notice to the contractor, the contracting agency or the State DOT, take such action as may be necessary to cause the suspension of any further payment, advance, or guarantee of funds. Furthermore, failure to submit the required records upon request or to make such records available may be grounds for debarment action pursuant to 29 CFR 5.12.

4. Apprentices and trainees (29 CFR 5.5)

a. Apprentices (programs of the USDOL).

Apprentices will be permitted to work at less than the predetermined rate for the work they performed when they are employed pursuant to and individually registered in a bona fide apprenticeship program registered with the U.S. Department of Labor, Employment and Training Administration, Office of Apprenticeship Training, Employer and Labor Services, or with a State Apprenticeship Agency recognized by the Office, or if a person is employed in his or her first 90 days of probationary employment as an apprentice in such an apprenticeship program, who is not individually registered in the program, but who has been certified by the Office of Apprenticeship Training, Employer and Labor Services or a State

Apprenticeship Agency (where appropriate) to be eligible for probationary employment as an apprentice.

The allowable ratio of apprentices to journeymen on the job site in any craft classification shall not be greater than the ratio permitted to the contractor as to the entire work force under the registered program. Any worker listed on a payroll at an apprentice wage rate, who is not registered or otherwise employed as stated above, shall be paid not less than the applicable wage rate on the wage determination for the classification of work actually performed. In addition, any apprentice performing work on the job site in excess of the ratio permitted under the registered program shall be paid not less than the applicable wage rate on the wage determination for the work actually performed. Where a contractor is performing construction on a project in a locality other than that in which its program is registered, the ratios and wage rates (expressed in percentages of the journeyman's hourly rate) specified in the contractor's or subcontractor's registered program shall be observed.

Every apprentice must be paid at not less than the rate specified in the registered program for the apprentice's level of progress, expressed as a percentage of the journeymen hourly rate specified in the applicable wage determination. Apprentices shall be paid fringe benefits in accordance with the provisions of the apprenticeship program. If the apprenticeship program does not specify fringe benefits, apprentices must be paid the full amount of fringe benefits listed on the wage determination for the applicable classification. If the Administrator determines that a different practice prevails for the applicable apprentice classification, fringes shall be paid in accordance with that determination.

In the event the Office of Apprenticeship Training, Employer and Labor Services, or a State Apprenticeship Agency recognized by the Office, withdraws approval of an apprenticeship program, the contractor will no longer be permitted to utilize apprentices at less than the applicable predetermined rate for the work performed until an acceptable program is approved.

b. Trainees (programs of the USDOL).

Except as provided in 29 CFR 5.16, trainees will not be permitted to work at less than the predetermined rate for the work performed unless they are employed pursuant to and individually registered in a program which has received prior approval, evidenced by formal certification by the U.S. Department of Labor, Employment and Training Administration.

The ratio of trainees to journeymen on the job site shall not be greater than permitted under the plan approved by the Employment and Training Administration.

Every trainee must be paid at not less than the rate specified in the approved program for the trainee's level of progress, expressed as a percentage of the journeyman hourly rate specified in the applicable wage determination. Trainees shall be paid fringe benefits in accordance with the provisions of the trainee program. If the trainee program does not mention fringe benefits, trainees shall be paid the full amount of fringe benefits listed on the wage determination unless the Administrator of the Wage and Hour Division determines that there is an apprenticeship program associated with the

corresponding journeyman wage rate on the wage determination which provides for less than full fringe benefits for apprentices. Any employee listed on the payroll at a trainee rate who is not registered and participating in a training plan approved by the Employment and Training Administration shall be paid not less than the applicable wage rate on the wage determination for the classification of work actually performed. In addition, any trainee performing work on the job site in excess of the ratio permitted under the registered program shall be paid not less than the applicable wage rate on the wage determination for the work actually performed.

In the event the Employment and Training Administration withdraws approval of a training program, the contractor will no longer be permitted to utilize trainees at less than the applicable predetermined rate for the work performed until an acceptable program is approved.

c. Equal employment opportunity. The utilization of apprentices, trainees and journeymen under this part shall be in conformity with the equal employment opportunity requirements of Executive Order 11246, as amended, and 29 CFR part 30.

d. Apprentices and Trainees (programs of the U.S. DOT).

Apprentices and trainees working under apprenticeship and skill training programs which have been certified by the Secretary of Transportation as promoting EEO in connection with Federal-aid highway construction programs are not subject to the requirements of paragraph 4 of this Section IV. 23 CFR 230.111(e)(2). The straight time hourly wage rates for apprentices and trainees under such programs will be established by the particular programs. The ratio of apprentices and trainees to journeymen shall not be greater than permitted by the terms of the particular program.

5. Compliance with Copeland Act requirements. The contractor shall comply with the requirements of 29 CFR part 3, which are incorporated by reference in this contract as provided in 29 CFR 5.5.

6. Subcontracts. The contractor or subcontractor shall insert Form FHWA-1273 in any subcontracts and also require the subcontractors to include Form FHWA-1273 in any lower tier subcontracts. The prime contractor shall be responsible for the compliance by any subcontractor or lower tier subcontractor with all the contract clauses in 29 CFR 5.5.

7. Contract termination: debarment. A breach of the contract clauses in 29 CFR 5.5 may be grounds for termination of the contract, and for debarment as a contractor and a subcontractor as provided in 29 CFR 5.12.

8. Compliance with Davis-Bacon and Related Act requirements. All rulings and interpretations of the Davis-Bacon and Related Acts contained in 29 CFR parts 1, 3, and 5 are herein incorporated by reference in this contract as provided in 29 CFR 5.5.

9. Disputes concerning labor standards. As provided in 29 CFR 5.5, disputes arising out of the labor standards provisions of this contract shall not be subject to the general disputes clause of this contract. Such disputes shall be resolved in accordance with the procedures of the Department of Labor

set forth in 29 CFR parts 5, 6, and 7. Disputes within the meaning of this clause include disputes between the contractor (or any of its subcontractors) and the contracting agency, the U.S. Department of Labor, or the employees or their representatives.

10. Certification of eligibility (29 CFR 5.5)

a. By entering into this contract, the contractor certifies that neither it (nor he or she) nor any person or firm who has an interest in the contractor's firm is a person or firm ineligible to be awarded Government contracts by virtue of section 3(a) of the Davis-Bacon Act or 29 CFR 5.12(a)(1).

b. No part of this contract shall be subcontracted to any person or firm ineligible for award of a Government contract by virtue of section 3(a) of the Davis-Bacon Act or 29 CFR 5.12(a)(1).

c. The penalty for making false statements is prescribed in the U.S. Criminal Code, 18 U.S.C. 1001.

V. CONTRACT WORK HOURS AND SAFETY STANDARDS ACT

Pursuant to 29 CFR 5.5(b), the following clauses apply to any Federal-aid construction contract in an amount in excess of \$100,000 and subject to the overtime provisions of the Contract Work Hours and Safety Standards Act. These clauses shall be inserted in addition to the clauses required by 29 CFR 5.5(a) or 29 CFR 4.6. As used in this paragraph, the terms laborers and mechanics include watchmen and guards.

1. Overtime requirements. No contractor or subcontractor contracting for any part of the contract work which may require or involve the employment of laborers or mechanics shall require or permit any such laborer or mechanic in any workweek in which he or she is employed on such work to work in excess of forty hours in such workweek unless such laborer or mechanic receives compensation at a rate not less than one and one-half times the basic rate of pay for all hours worked in excess of forty hours in such workweek. 29 CFR 5.5.

2. Violation; liability for unpaid wages; liquidated damages. In the event of any violation of the clause set forth in paragraph 1 of this section, the contractor and any subcontractor responsible therefor shall be liable for the unpaid wages. In addition, such contractor and subcontractor shall be liable to the United States (in the case of work done under contract for the District of Columbia or a territory, to such District or to such territory), for liquidated damages. Such liquidated damages shall be computed with respect to each individual laborer or mechanic, including watchmen and guards, employed in violation of the clause set forth in paragraph 1 of this section, in the sum currently provided in 29 CFR 5.5(b)(2)* for each calendar day on which such individual was required or permitted to work in excess of the standard workweek of forty hours without payment of the overtime wages required by the clause set forth in paragraph 1 of this section. 29 CFR 5.5.

* \$27 as of January 23, 2019 (See 84 FR 213-01, 218) as may be adjusted annually by the Department of Labor; pursuant to the Federal Civil Penalties Inflation Adjustment Act of 1990).

3. Withholding for unpaid wages and liquidated damages.

The FHWA or the contracting agency shall upon its own action or upon written request of an authorized representative of the Department of Labor withhold or cause to be withheld, from any moneys payable on account of work performed by the contractor or subcontractor under any such contract or any other Federal contract with the same prime contractor, or any other federally-assisted contract subject to the Contract Work Hours and Safety Standards Act, which is held by the same prime contractor, such sums as may be determined to be necessary to satisfy any liabilities of such contractor or subcontractor for unpaid wages and liquidated damages as provided in the clause set forth in paragraph 2 of this section. 29 CFR 5.5.

4. Subcontracts. The contractor or subcontractor shall insert in any subcontracts the clauses set forth in paragraphs 1 through 4 of this section and also a clause requiring the subcontractors to include these clauses in any lower tier subcontracts. The prime contractor shall be responsible for compliance by any subcontractor or lower tier subcontractor with the clauses set forth in paragraphs 1 through 4 of this section. 29 CFR 5.5.

VI. SUBLETTING OR ASSIGNING THE CONTRACT

This provision is applicable to all Federal-aid construction contracts on the National Highway System pursuant to 23 CFR 635.116.

1. The contractor shall perform with its own organization contract work amounting to not less than 30 percent (or a greater percentage if specified elsewhere in the contract) of the total original contract price, excluding any specialty items designated by the contracting agency. Specialty items may be performed by subcontract and the amount of any such specialty items performed may be deducted from the total original contract price before computing the amount of work required to be performed by the contractor's own organization (23 CFR 635.116).

a. The term "perform work with its own organization" in paragraph 1 of Section VI refers to workers employed or leased by the prime contractor, and equipment owned or rented by the prime contractor, with or without operators. Such term does not include employees or equipment of a subcontractor or lower tier subcontractor, agents of the prime contractor, or any other assignees. The term may include payments for the costs of hiring leased employees from an employee leasing firm meeting all relevant Federal and State regulatory requirements. Leased employees may only be included in this term if the prime contractor meets all of the following conditions: (based on longstanding interpretation)

- (1) the prime contractor maintains control over the supervision of the day-to-day activities of the leased employees;
- (2) the prime contractor remains responsible for the quality of the work of the leased employees;
- (3) the prime contractor retains all power to accept or exclude individual employees from work on the project; and
- (4) the prime contractor remains ultimately responsible for the payment of predetermined minimum wages, the submission of payrolls, statements of compliance and all other Federal regulatory requirements.

b. "Specialty Items" shall be construed to be limited to work that requires highly specialized knowledge, abilities, or

equipment not ordinarily available in the type of contracting organizations qualified and expected to bid or propose on the contract as a whole and in general are to be limited to minor components of the overall contract. 23 CFR 635.102.

2. Pursuant to 23 CFR 635.116(a), the contract amount upon which the requirements set forth in paragraph (1) of Section VI is computed includes the cost of material and manufactured products which are to be purchased or produced by the contractor under the contract provisions.

3. Pursuant to 23 CFR 635.116(c), the contractor shall furnish (a) a competent superintendent or supervisor who is employed by the firm, has full authority to direct performance of the work in accordance with the contract requirements, and is in charge of all construction operations (regardless of who performs the work) and (b) such other of its own organizational resources (supervision, management, and engineering services) as the contracting officer determines is necessary to assure the performance of the contract.

4. No portion of the contract shall be sublet, assigned or otherwise disposed of except with the written consent of the contracting officer, or authorized representative, and such consent when given shall not be construed to relieve the contractor of any responsibility for the fulfillment of the contract. Written consent will be given only after the contracting agency has assured that each subcontract is evidenced in writing and that it contains all pertinent provisions and requirements of the prime contract. (based on long-standing interpretation of 23 CFR 635.116).

5. The 30-percent self-performance requirement of paragraph (1) is not applicable to design-build contracts; however, contracting agencies may establish their own self-performance requirements. 23 CFR 635.116(d).

VII. SAFETY: ACCIDENT PREVENTION

This provision is applicable to all Federal-aid construction contracts and to all related subcontracts.

1. In the performance of this contract the contractor shall comply with all applicable Federal, State, and local laws governing safety, health, and sanitation (23 CFR Part 635). The contractor shall provide all safeguards, safety devices and protective equipment and take any other needed actions as it determines, or as the contracting officer may determine, to be reasonably necessary to protect the life and health of employees on the job and the safety of the public and to protect property in connection with the performance of the work covered by the contract. 23 CFR 635.108.

2. It is a condition of this contract, and shall be made a condition of each subcontract, which the contractor enters into pursuant to this contract, that the contractor and any subcontractor shall not permit any employee, in performance of the contract, to work in surroundings or under conditions which are unsanitary, hazardous or dangerous to his/her health or safety, as determined under construction safety and health standards (29 CFR Part 1926) promulgated by the Secretary of Labor, in accordance with Section 107 of the Contract Work Hours and Safety Standards Act (40 U.S.C. 3704). 29 CFR 1926.10.

3. Pursuant to 29 CFR 1926.3, it is a condition of this contract that the Secretary of Labor or authorized representative thereof, shall have right of entry to any site of contract performance to inspect or investigate the matter of compliance

with the construction safety and health standards and to carry out the duties of the Secretary under Section 107 of the Contract Work Hours and Safety Standards Act (40 U.S.C. 3704).

VIII. FALSE STATEMENTS CONCERNING HIGHWAY PROJECTS

This provision is applicable to all Federal-aid construction contracts and to all related subcontracts.

In order to assure high quality and durable construction in conformity with approved plans and specifications and a high degree of reliability on statements and representations made by engineers, contractors, suppliers, and workers on Federal-aid highway projects, it is essential that all persons concerned with the project perform their functions as carefully, thoroughly, and honestly as possible. Willful falsification, distortion, or misrepresentation with respect to any facts related to the project is a violation of Federal law. To prevent any misunderstanding regarding the seriousness of these and similar acts, Form FHWA-1022 shall be posted on each Federal-aid highway project (23 CFR Part 635) in one or more places where it is readily available to all persons concerned with the project:

18 U.S.C. 1020 reads as follows:

"Whoever, being an officer, agent, or employee of the United States, or of any State or Territory, or whoever, whether a person, association, firm, or corporation, knowingly makes any false statement, false representation, or false report as to the character, quality, quantity, or cost of the material used or to be used, or the quantity or quality of the work performed or to be performed, or the cost thereof in connection with the submission of plans, maps, specifications, contracts, or costs of construction on any highway or related project submitted for approval to the Secretary of Transportation; or

Whoever knowingly makes any false statement, false representation, false report or false claim with respect to the character, quality, quantity, or cost of any work performed or to be performed, or materials furnished or to be furnished, in connection with the construction of any highway or related project approved by the Secretary of Transportation; or

Whoever knowingly makes any false statement or false representation as to material fact in any statement, certificate, or report submitted pursuant to provisions of the Federal-aid Roads Act approved July 11, 1916, (39 Stat. 355), as amended and supplemented;

Shall be fined under this title or imprisoned not more than 5 years or both."

IX. IMPLEMENTATION OF CLEAN AIR ACT AND FEDERAL WATER POLLUTION CONTROL ACT (42 U.S.C. 7606; 2 CFR 200.88; EO 11738)

This provision is applicable to all Federal-aid construction contracts in excess of \$150,000 and to all related subcontracts. 48 CFR 2.101; 2 CFR 200.326.

By submission of this bid/proposal or the execution of this contract or subcontract, as appropriate, the bidder, proposer, Federal-aid construction contractor, subcontractor, supplier, or vendor agrees to comply with all applicable standards, orders

or regulations issued pursuant to the Clean Air Act (42 U.S.C. 7401-7671q) and the Federal Water Pollution Control Act, as amended (33 U.S.C. 1251-1387). Violations must be reported to the Federal Highway Administration and the Regional Office of the Environmental Protection Agency. 2 CFR Part 200, Appendix II.

The contractor agrees to include or cause to be included the requirements of this Section in every subcontract, and further agrees to take such action as the contracting agency may direct as a means of enforcing such requirements. 2 CFR 200.326.

X. CERTIFICATION REGARDING DEBARMENT, SUSPENSION, INELIGIBILITY AND VOLUNTARY EXCLUSION

This provision is applicable to all Federal-aid construction contracts, design-build contracts, subcontracts, lower-tier subcontracts, purchase orders, lease agreements, consultant contracts or any other covered transaction requiring FHWA approval or that is estimated to cost \$25,000 or more – as defined in 2 CFR Parts 180 and 1200. 2 CFR 180.220 and 1200.220.

1. Instructions for Certification – First Tier Participants:

a. By signing and submitting this proposal, the prospective first tier participant is providing the certification set out below.

b. The inability of a person to provide the certification set out below will not necessarily result in denial of participation in this covered transaction. The prospective first tier participant shall submit an explanation of why it cannot provide the certification set out below. The certification or explanation will be considered in connection with the department or agency's determination whether to enter into this transaction. However, failure of the prospective first tier participant to furnish a certification or an explanation shall disqualify such a person from participation in this transaction. 2 CFR 180.320.

c. The certification in this clause is a material representation of fact upon which reliance was placed when the contracting agency determined to enter into this transaction. If it is later determined that the prospective participant knowingly rendered an erroneous certification, in addition to other remedies available to the Federal Government, the contracting agency may terminate this transaction for cause of default. 2 CFR 180.325.

d. The prospective first tier participant shall provide immediate written notice to the contracting agency to whom this proposal is submitted if any time the prospective first tier participant learns that its certification was erroneous when submitted or has become erroneous by reason of changed circumstances. 2 CFR 180.345 and 180.350.

e. The terms "covered transaction," "debarred," "suspended," "ineligible," "participant," "person," "principal," and "voluntarily excluded," as used in this clause, are defined in 2 CFR Parts 180, Subpart I, 180.900-180.1020, and 1200. "First Tier Covered Transactions" refers to any covered transaction between a recipient or subrecipient of Federal funds and a participant (such as the prime or general contract). "Lower Tier Covered Transactions" refers to any covered transaction under a First Tier Covered Transaction (such as subcontracts). "First Tier Participant" refers to the participant

who has entered into a covered transaction with a recipient or subrecipient of Federal funds (such as the prime or general contractor). "Lower Tier Participant" refers any participant who has entered into a covered transaction with a First Tier Participant or other Lower Tier Participants (such as subcontractors and suppliers).

f. The prospective first tier participant agrees by submitting this proposal that, should the proposed covered transaction be entered into, it shall not knowingly enter into any lower tier covered transaction with a person who is debarred, suspended, declared ineligible, or voluntarily excluded from participation in this covered transaction, unless authorized by the department or agency entering into this transaction. 2 CFR 180.330.

g. The prospective first tier participant further agrees by submitting this proposal that it will include the clause titled "Certification Regarding Debarment, Suspension, Ineligibility and Voluntary Exclusion-Lower Tier Covered Transactions," provided by the department or contracting agency, entering into this covered transaction, without modification, in all lower tier covered transactions and in all solicitations for lower tier covered transactions exceeding the \$25,000 threshold. 2 CFR 180.220 and 180.300.

h. A participant in a covered transaction may rely upon a certification of a prospective participant in a lower tier covered transaction that is not debarred, suspended, ineligible, or voluntarily excluded from the covered transaction, unless it knows that the certification is erroneous. 2 CFR 180.300; 180.320, and 180.325. A participant is responsible for ensuring that its principals are not suspended, debarred, or otherwise ineligible to participate in covered transactions. 2 CFR 180.335. To verify the eligibility of its principals, as well as the eligibility of any lower tier prospective participants, each participant may, but is not required to, check the System for Award Management website (<https://www.sam.gov/>). 2 CFR 180.300, 180.320, and 180.325.

i. Nothing contained in the foregoing shall be construed to require the establishment of a system of records in order to render in good faith the certification required by this clause. The knowledge and information of the prospective participant is not required to exceed that which is normally possessed by a prudent person in the ordinary course of business dealings.

j. Except for transactions authorized under paragraph (f) of these instructions, if a participant in a covered transaction knowingly enters into a lower tier covered transaction with a person who is suspended, debarred, ineligible, or voluntarily excluded from participation in this transaction, in addition to other remedies available to the Federal Government, the department or agency may terminate this transaction for cause or default. 2 CFR 180.325.

* * * * *

2. Certification Regarding Debarment, Suspension, Ineligibility and Voluntary Exclusion – First Tier Participants:

a. The prospective first tier participant certifies to the best of its knowledge and belief, that it and its principals:

(1) Are not presently debarred, suspended, proposed for debarment, declared ineligible, or voluntarily excluded from participating in covered transactions by any Federal department or agency, 2 CFR 180.335;.

(2) Have not within a three-year period preceding this proposal been convicted of or had a civil judgment rendered against them for commission of fraud or a criminal offense in connection with obtaining, attempting to obtain, or performing a public (Federal, State, or local) transaction or contract under a public transaction; violation of Federal or State antitrust statutes or commission of embezzlement, theft, forgery, bribery, falsification or destruction of records, making false statements, or receiving stolen property, 2 CFR 180.800;

(3) Are not presently indicted for or otherwise criminally or civilly charged by a governmental entity (Federal, State or local) with commission of any of the offenses enumerated in paragraph (a)(2) of this certification, 2 CFR 180.700 and 180.800; and

(4) Have not within a three-year period preceding this application/proposal had one or more public transactions (Federal, State or local) terminated for cause or default. 2 CFR 180.335(d).

(5) Are not a corporation that has been convicted of a felony violation under any Federal law within the two-year period preceding this proposal (USDOT Order 4200.6 implementing appropriations act requirements); and

(6) Are not a corporation with any unpaid Federal tax liability that has been assessed, for which all judicial and administrative remedies have been exhausted, or have lapsed, and that is not being paid in a timely manner pursuant to an agreement with the authority responsible for collecting the tax liability (USDOT Order 4200.6 implementing appropriations act requirements).

b. Where the prospective participant is unable to certify to any of the statements in this certification, such prospective participant should attach an explanation to this proposal. 2 CFR 180.335 and 180.340.

3. Instructions for Certification - Lower Tier Participants:

(Applicable to all subcontracts, purchase orders, and other lower tier transactions requiring prior FHWA approval or estimated to cost \$25,000 or more - 2 CFR Parts 180 and 1200). 2 CFR 180.220 and 1200.220.

a. By signing and submitting this proposal, the prospective lower tier participant is providing the certification set out below.

b. The certification in this clause is a material representation of fact upon which reliance was placed when this transaction was entered into. If it is later determined that the prospective lower tier participant knowingly rendered an erroneous certification, in addition to other remedies available to the Federal Government, the department, or agency with which this transaction originated may pursue available remedies, including suspension and/or debarment.

c. The prospective lower tier participant shall provide immediate written notice to the person to which this proposal is submitted if at any time the prospective lower tier participant learns that its certification was erroneous by reason of changed circumstances. 2 CFR 180.365.

d. The terms "covered transaction," "debarred," "suspended," "ineligible," "participant," "person," "principal," and "voluntarily excluded," as used in this clause, are defined in 2 CFR Parts 180, Subpart I, 180.900 – 180.1020, and 1200. You may contact the person to which this proposal is

submitted for assistance in obtaining a copy of those regulations. "First Tier Covered Transactions" refers to any covered transaction between a recipient or subrecipient of Federal funds and a participant (such as the prime or general contractor). "Lower Tier Covered Transactions" refers to any covered transaction under a First Tier Covered Transaction (such as subcontracts). "First Tier Participant" refers to the participant who has entered into a covered transaction with a recipient or subrecipient of Federal funds (such as the prime or general contractor). "Lower Tier Participant" refers any participant who has entered into a covered transaction with a First Tier Participant or other Lower Tier Participants (such as subcontractors and suppliers).

e. The prospective lower tier participant agrees by submitting this proposal that, should the proposed covered transaction be entered into, it shall not knowingly enter into any lower tier covered transaction with a person who is debarred, suspended, declared ineligible, or voluntarily excluded from participation in this covered transaction, unless authorized by the department or agency with which this transaction originated. 2 CFR 1200.220 and 1200.332.

f. The prospective lower tier participant further agrees by submitting this proposal that it will include this clause titled "Certification Regarding Debarment, Suspension, Ineligibility and Voluntary Exclusion-Lower Tier Covered Transaction," without modification, in all lower tier covered transactions and in all solicitations for lower tier covered transactions exceeding the \$25,000 threshold. 2 CFR 180.220 and 1200.220.

g. A participant in a covered transaction may rely upon a certification of a prospective participant in a lower tier covered transaction that is not debarred, suspended, ineligible, or voluntarily excluded from the covered transaction, unless it knows that the certification is erroneous. A participant is responsible for ensuring that its principals are not suspended, debarred, or otherwise ineligible to participate in covered transactions. To verify the eligibility of its principals, as well as the eligibility of any lower tier prospective participants, each participant may, but is not required to, check the System for Award Management website (<https://www.sam.gov/>), which is compiled by the General Services Administration. 2 CFR 180.300, 180.320, 180.330, and 180.335.

h. Nothing contained in the foregoing shall be construed to require establishment of a system of records in order to render in good faith the certification required by this clause. The knowledge and information of participant is not required to exceed that which is normally possessed by a prudent person in the ordinary course of business dealings.

i. Except for transactions authorized under paragraph e of these instructions, if a participant in a covered transaction knowingly enters into a lower tier covered transaction with a person who is suspended, debarred, ineligible, or voluntarily excluded from participation in this transaction, in addition to other remedies available to the Federal Government, the department or agency with which this transaction originated may pursue available remedies, including suspension and/or debarment. 2 CFR 180.325.

Certification Regarding Debarment, Suspension, Ineligibility and Voluntary Exclusion--Lower Tier Participants:

1. The prospective lower tier participant certifies, by submission of this proposal, that neither it nor its principals:

(a) is presently debarred, suspended, proposed for debarment, declared ineligible, or voluntarily excluded from participating in covered transactions by any Federal department or agency, 2 CFR 180.355;

(b) is a corporation that has been convicted of a felony violation under any Federal law within the two-year period preceding this proposal (USDOT Order 4200.6 implementing appropriations act requirements); and

(c) is a corporation with any unpaid Federal tax liability that has been assessed, for which all judicial and administrative remedies have been exhausted, or have lapsed, and that is not being paid in a timely manner pursuant to an agreement with the authority responsible for collecting the tax liability. (USDOT Order 4200.6 implementing appropriations act requirements)

2. Where the prospective lower tier participant is unable to certify to any of the statements in this certification, such prospective participant should attach an explanation to this proposal.

XI. CERTIFICATION REGARDING USE OF CONTRACT FUNDS FOR LOBBYING

This provision is applicable to all Federal-aid construction contracts and to all related subcontracts which exceed \$100,000. 49 CFR Part 20, App. A.

1. The prospective participant certifies, by signing and submitting this bid or proposal, to the best of his or her knowledge and belief, that:

a. No Federal appropriated funds have been paid or will be paid, by or on behalf of the undersigned, to any person for influencing or attempting to influence an officer or employee of any Federal agency, a Member of Congress, an officer or employee of Congress, or an employee of a Member of Congress in connection with the awarding of any Federal contract, the making of any Federal grant, the making of any Federal loan, the entering into of any cooperative agreement, and the extension, continuation, renewal, amendment, or modification of any Federal contract, grant, loan, or cooperative agreement.

b. If any funds other than Federal appropriated funds have been paid or will be paid to any person for influencing or attempting to influence an officer or employee of any Federal agency, a Member of Congress, an officer or employee of Congress, or an employee of a Member of Congress in connection with this Federal contract, grant, loan, or cooperative agreement, the undersigned shall complete and submit Standard Form-LLL, "Disclosure Form to Report Lobbying," in accordance with its instructions.

2. This certification is a material representation of fact upon which reliance was placed when this transaction was made or entered into. Submission of this certification is a prerequisite for making or entering into this transaction imposed by 31 U.S.C. 1352. Any person who fails to file the required certification shall be subject to a civil penalty of not less than \$10,000 and not more than \$100,000 for each such failure.

3. The prospective participant also agrees by submitting its bid or proposal that the participant shall require that the language of this certification be included in all lower tier

subcontracts, which exceed \$100,000 and that all such recipients shall certify and disclose accordingly.

XII. USE OF UNITED STATES-FLAG VESSELS:

This provision is applicable to all Federal-aid construction contracts, design-build contracts, subcontracts, lower-tier subcontracts, purchase orders, lease agreements, or any other covered transaction. 46 CFR Part 381.

This requirement applies to material or equipment that is acquired for a specific Federal-aid highway project. 46 CFR 381.7. It is not applicable to goods or materials that come into inventories independent of an FHWA funded-contract.

When oceanic shipments (or shipments across the Great Lakes) are necessary for materials or equipment acquired for a specific Federal-aid construction project, the bidder, proposer, contractor, subcontractor, or vendor agrees:

1. To utilize privately owned United States-flag commercial vessels to ship at least 50 percent of the gross tonnage (computed separately for dry bulk carriers, dry cargo liners, and tankers) involved, whenever shipping any equipment, material, or commodities pursuant to this contract, to the extent such vessels are available at fair and reasonable rates for United States-flag commercial vessels. 46 CFR 381.7.
2. To furnish within 20 days following the date of loading for shipments originating within the United States or within 30 working days following the date of loading for shipments originating outside the United States, a legible copy of a rated, 'on-board' commercial ocean bill-of-lading in English for each shipment of cargo described in paragraph (b)(1) of this section to both the Contracting Officer (through the prime contractor in the case of subcontractor bills-of-lading) and to the Office of Cargo and Commercial Sealift (MAR-620), Maritime Administration, Washington, DC 20590. (MARAD requires copies of the ocean carrier's (master) bills of lading, certified onboard, dated, with rates and charges. These bills of lading may contain business sensitive information and therefore may be submitted directly to MARAD by the Ocean Transportation Intermediary on behalf of the contractor). 46 CFR 381.7.

**ATTACHMENT A - EMPLOYMENT AND MATERIALS
PREFERENCE FOR APPALACHIAN DEVELOPMENT
HIGHWAY SYSTEM OR APPALACHIAN LOCAL ACCESS
ROAD CONTRACTS (23 CFR 633, Subpart B, Appendix B)**

This provision is applicable to all Federal-aid projects funded under the Appalachian Regional Development Act of 1965.

1. During the performance of this contract, the contractor undertaking to do work which is, or reasonably may be, done as on-site work, shall give preference to qualified persons who regularly reside in the labor area as designated by the DOL wherein the contract work is situated, or the subregion, or the Appalachian counties of the State wherein the contract work is situated, except:

a. To the extent that qualified persons regularly residing in the area are not available.

b. For the reasonable needs of the contractor to employ supervisory or specially experienced personnel necessary to assure an efficient execution of the contract work.

c. For the obligation of the contractor to offer employment to present or former employees as the result of a lawful collective bargaining contract, provided that the number of nonresident persons employed under this subparagraph (1c) shall not exceed 20 percent of the total number of employees employed by the contractor on the contract work, except as provided in subparagraph (4) below.

2. The contractor shall place a job order with the State Employment Service indicating (a) the classifications of the laborers, mechanics and other employees required to perform the contract work, (b) the number of employees required in each classification, (c) the date on which the participant estimates such employees will be required, and (d) any other pertinent information required by the State Employment Service to complete the job order form. The job order may be placed with the State Employment Service in writing or by telephone. If during the course of the contract work, the information submitted by the contractor in the original job order is substantially modified, the participant shall promptly notify the State Employment Service.

3. The contractor shall give full consideration to all qualified job applicants referred to him by the State Employment Service. The contractor is not required to grant employment to any job applicants who, in his opinion, are not qualified to perform the classification of work required.

4. If, within one week following the placing of a job order by the contractor with the State Employment Service, the State Employment Service is unable to refer any qualified job applicants to the contractor, or less than the number requested, the State Employment Service will forward a certificate to the contractor indicating the unavailability of applicants. Such certificate shall be made a part of the contractor's permanent project records. Upon receipt of this certificate, the contractor may employ persons who do not normally reside in the labor area to fill positions covered by the certificate, notwithstanding the provisions of subparagraph (1c) above.

5. The provisions of 23 CFR 633.207(e) allow the contracting agency to provide a contractual preference for the use of mineral resource materials native to the Appalachian region.

6. The contractor shall include the provisions of Sections 1 through 4 of this Attachment A in every subcontract for work which is, or reasonably may be, done as on-site work.

The wage rates listed herein are those predetermined by the Secretary of Labor and State Statute and listed in the United States Department of Labor's (USDOL) General Decisions dated **01-06-2023** and are the minimum wages to be paid accordingly for each specified classification. To determine the applicable wage rate zone, a list entitled "TEXAS COUNTIES IDENTIFIED BY WAGE RATE ZONES" is provided in the contract. Any wage rate that is not listed herein and not in the USDOL's general decision, must be submitted to the Engineer for approval. **IMPORTANT NOTICE FOR STATE PROJECTS:** only the controlling wage rate zone applies to the contract. Effective 01-06-2023.

CLASS. #	CLASSIFICATION DESCRIPTION	ZONE TX02 *(TX20230002)	ZONE TX03 *(TX20230003)	ZONE TX04 *(TX20230004)	ZONE TX05 *(TX20230005)	ZONE TX06 *(TX20230006)	ZONE TX07 *(TX20230007)	ZONE TX08 *(TX20230008)	ZONE TX24 *(TX20230024)	ZONE TX25 *(TX20230025)	ZONE TX27 *(TX20230027)	ZONE TX28 *(TX20230028)	ZONE TX29 *(TX20230029)	ZONE TX30 *(TX20230030)	ZONE TX37 *(TX20230037)	ZONE TX38 *(TX20230038)	ZONE TX42 *(TX20230042)
1428	Agricultural Tractor Operator						\$12.69					\$12.35			\$11.75		
1300	Asphalt Distributor Operator	\$14.87	\$13.48	\$13.88	\$15.72	\$15.58	\$15.55	\$15.72	\$13.28	\$15.32	\$15.62	\$14.36	\$14.25	\$14.03	\$13.75	\$14.06	\$14.40
1303	Asphalt Paving Machine Operator	\$13.40	\$12.25	\$12.35	\$13.87	\$14.05	\$14.36	\$14.20	\$13.26	\$13.99	\$14.68	\$12.92	\$13.44	\$12.53	\$14.00	\$14.32	\$12.99
1106	Asphalt Raker	\$12.28	\$10.61	\$12.02	\$14.21	\$11.65	\$12.12	\$11.64	\$11.44	\$12.69	\$12.05	\$11.34	\$11.67	\$11.40	\$12.59	\$12.36	\$11.78
1112	Batching Plant Operator, Asphalt																
1115	Batching Plant Operator, Concrete																
1214	Blaster																
1615	Boom Truck Operator						\$18.36										
1444	Boring Machine Operator																
1305	Broom or Sweeper Operator	\$11.21	\$10.33	\$10.08	\$11.99		\$11.04	\$11.62		\$11.74	\$11.41	\$10.30		\$10.23	\$10.60	\$12.68	\$11.05
1144	Communications Cable Installer																
1124	Concrete Finisher, Paving and Structures	\$13.55	\$12.46	\$13.16	\$12.85	\$12.64	\$12.56	\$12.77	\$12.44	\$14.12	\$13.04	\$13.38	\$12.64	\$12.80	\$12.79	\$12.98	\$13.32
1318	Concrete Pavement Finishing Machine Operator				\$16.05		\$15.48			\$16.05		\$19.31				\$13.07	
1315	Concrete Paving, Curing, Float, Texturing Machine Operator											\$16.34				\$11.71	
1333	Concrete Saw Operator				\$14.67					\$14.48	\$17.33					\$13.99	
1399	Concrete/Gunite Pump Operator																
1344	Crane Operator, Hydraulic 80 tons or less				\$18.22		\$18.36			\$18.12	\$18.04	\$20.21			\$18.63	\$13.86	
1345	Crane Operator, Hydraulic Over 80 Tons																
1342	Crane Operator, Lattice Boom 80 Tons or Less	\$16.82	\$14.39	\$13.85	\$17.27		\$15.87			\$17.27		\$14.67			\$16.42	\$14.97	\$13.87
1343	Crane Operator, Lattice Boom Over 80 Tons				\$20.52		\$19.38			\$20.52		\$17.49			\$25.13	\$15.80	
1306	Crawler Tractor Operator	\$13.96	\$16.63	\$13.62	\$14.26		\$15.67			\$14.07	\$13.15	\$13.38			\$14.60	\$13.68	\$13.50
1351	Crusher or Screen Plant Operator																
1446	Directional Drilling Locator						\$11.67										
1445	Directional Drilling Operator				\$20.32		\$17.24										
1139	Electrician	\$20.96		\$19.87	\$19.80		\$26.35		\$20.27	\$19.80		\$20.92				\$27.11	\$19.87
1347	Excavator Operator, 50,000 pounds or less	\$13.46	\$12.56	\$13.67	\$17.19		\$12.88	\$14.38	\$13.49	\$17.19		\$13.88			\$14.09	\$12.71	\$14.42
1348	Excavator Operator, Over 50,000 pounds		\$15.23	\$13.52	\$17.04		\$17.71			\$16.99	\$18.80	\$16.22				\$14.53	\$13.52
1150	Flagger	\$9.30	\$9.10	\$8.50	\$10.28	\$8.81	\$9.45	\$8.70		\$10.06	\$9.71	\$9.03	\$8.81	\$9.08	\$9.90	\$10.33	\$8.10
1151	Form Builder/Setter, Structures	\$13.52	\$12.30	\$13.38	\$12.91	\$12.71	\$12.87	\$12.38	\$12.26	\$13.84	\$12.98	\$13.07	\$13.61	\$12.82	\$14.73	\$12.23	\$12.25
1160	Form Setter, Paving & Curb	\$12.36	\$12.16	\$13.93	\$11.83	\$10.71	\$12.94			\$13.16	\$12.54	\$11.33	\$10.69		\$13.33	\$12.34	\$13.93
1360	Foundation Drill Operator, Crawler Mounted				\$17.99					\$17.99						\$17.43	
1363	Foundation Drill Operator, Truck Mounted		\$16.86	\$22.05	\$21.51		\$16.93			\$21.07	\$20.20	\$20.76		\$17.54	\$21.39	\$15.89	\$22.05
1369	Front End Loader Operator, 3 CY or Less	\$12.28	\$13.49	\$13.40	\$13.85		\$13.04	\$13.15	\$13.29	\$13.69	\$12.64	\$12.89			\$13.51	\$13.32	\$12.17
1372	Front End Loader Operator, Over 3 CY	\$12.77	\$13.69	\$12.33	\$14.96		\$13.21	\$12.86	\$13.57	\$14.72	\$13.75	\$12.32			\$13.19	\$13.17	\$13.02
1329	Joint Sealer																
1172	Laborer, Common	\$10.30	\$9.86	\$10.08	\$10.51	\$10.71	\$10.50	\$10.24	\$10.58	\$10.72	\$10.45	\$10.30	\$10.25	\$10.03	\$10.54	\$11.02	\$10.15
1175	Laborer, Utility	\$11.80	\$11.53	\$12.70	\$12.17	\$11.81	\$12.27	\$12.11	\$11.33	\$12.32	\$11.80	\$11.53	\$11.23	\$11.50	\$11.95	\$11.73	\$12.37
1346	Loader/Backhoe Operator	\$14.18	\$12.77	\$12.97	\$15.68		\$14.12			\$15.18	\$13.58	\$12.87		\$13.21	\$14.13	\$14.29	\$12.90
1187	Mechanic	\$20.14	\$15.47	\$17.47	\$17.74	\$17.00	\$17.10			\$17.68	\$18.94	\$18.58	\$17.00	\$16.61	\$18.46	\$16.96	\$17.47
1380	Milling Machine Operator	\$15.54	\$14.64	\$12.22	\$14.29		\$14.18			\$14.32	\$14.35	\$12.86			\$14.75	\$13.53	\$12.80

CLASS. #	CLASSIFICATION DESCRIPTION	ZONE TX02 *(TX20230002)	ZONE TX03 *(TX20230003)	ZONE TX04 *(TX20230004)	ZONE TX05 *(TX20230005)	ZONE TX06 *(TX20230006)	ZONE TX07 *(TX20230007)	ZONE TX08 *(TX20230008)	ZONE TX24 *(TX20230024)	ZONE TX25 *(TX20230025)	ZONE TX27 *(TX20230027)	ZONE TX28 *(TX20230028)	ZONE TX29 *(TX20230029)	ZONE TX30 *(TX20230030)	ZONE TX37 *(TX20230037)	ZONE TX38 *(TX20230038)	ZONE TX42 *(TX20230042)
1390	Motor Grader Operator, Fine Grade	\$17.49	\$16.52	\$16.88	\$17.12	\$18.37	\$18.51	\$16.69	\$16.13	\$17.19	\$18.35	\$17.07	\$17.74	\$17.47	\$17.08	\$15.69	\$20.01
1393	Motor Grader Operator, Rough	\$16.15	\$14.62	\$15.83	\$16.20	\$17.07	\$14.63	\$18.50		\$16.02	\$16.44	\$15.12	\$16.85	\$14.47	\$17.39	\$14.23	\$15.53
1413	Off Road Hauler			\$10.08	\$12.26		\$11.88			\$12.25		\$12.23			\$13.00	\$14.60	
1196	Painter, Structures Pavement Marking Machine Operator	\$16.42		\$13.10	\$13.55		\$19.17	\$12.01		\$13.63	\$14.60	\$13.17		\$16.65	\$10.54	\$11.18	\$13.10
1443	Percussion or Rotary Drill Operator																
1202	Piledriver															\$14.95	
1205	Pipelayer		\$11.87	\$14.64	\$13.17	\$11.17	\$12.79		\$11.37	\$13.24	\$12.66	\$13.24	\$11.17	\$11.67		\$12.12	\$14.64
1384	Reclaimer/Pulverizer Operator	\$12.85				\$11.90	\$12.88			\$11.01		\$10.46					
1500	Reinforcing Steel Worker	\$13.50	\$14.07	\$17.53	\$16.17		\$14.00			\$16.18	\$12.74	\$15.83		\$17.10		\$15.15	\$17.72
1402	Roller Operator, Asphalt	\$10.95		\$11.96	\$13.29		\$12.78	\$11.61		\$13.08	\$12.36	\$11.68			\$11.71	\$11.95	\$11.50
1405	Roller Operator, Other	\$10.36		\$10.44	\$11.82		\$10.50	\$11.64		\$11.51	\$10.59	\$10.30		\$12.04	\$12.85	\$11.57	\$10.66
1411	Scraper Operator	\$10.61	\$11.07	\$10.85	\$12.88		\$12.27		\$11.12	\$12.96	\$11.88	\$12.43		\$11.22	\$13.95	\$13.47	\$10.89
1417	Self-Propelled Hammer Operator																
1194	Servicer	\$13.98	\$12.34	\$14.11	\$14.74		\$14.51	\$15.56	\$13.44	\$14.58	\$14.31	\$13.83		\$12.43	\$13.72	\$13.97	\$14.11
1513	Sign Erector																
1708	Slurry Seal or Micro-Surfacing Machine Operator																
1341	Small Slipform Machine Operator									\$15.96							
1515	Spreader Box Operator	\$12.60		\$13.12	\$14.71		\$14.04			\$14.73	\$13.84	\$13.68		\$13.45	\$11.83	\$13.58	\$14.05
1705	Structural Steel Welder															\$12.85	
1509	Structural Steel Worker						\$19.29									\$14.39	
1339	Subgrade Trimmer																
1143	Telecommunication Technician																
1145	Traffic Signal/Light Pole Worker						\$16.00										
1440	Trenching Machine Operator, Heavy						\$18.48										
1437	Trenching Machine Operator, Light																
1609	Truck Driver Lowboy-Float	\$14.46	\$13.63	\$13.41	\$15.00	\$15.93	\$15.66			\$16.24	\$16.39	\$14.30	\$16.62	\$15.63	\$14.28	\$16.03	\$13.41
1612	Truck Driver Transit-Mix				\$14.14					\$14.14							
1600	Truck Driver, Single Axle	\$12.74	\$10.82	\$10.75	\$13.04	\$11.61	\$11.79	\$13.53	\$13.16	\$12.31	\$13.40	\$10.30	\$11.61		\$11.97	\$11.46	\$10.75
1606	Truck Driver, Single or Tandem Axle Dump Truck	\$11.33	\$14.53	\$11.95	\$12.95		\$11.68		\$14.06	\$12.62	\$11.45	\$12.28		\$13.08	\$11.68	\$11.48	\$11.10
1607	Truck Driver, Tandem Axle Tractor with Semi Trailer	\$12.49	\$12.12	\$12.50	\$13.42		\$12.81	\$13.16		\$12.86	\$16.22	\$12.50			\$13.80	\$12.27	\$12.50
1441	Tunneling Machine Operator, Heavy																
1442	Tunneling Machine Operator, Light																
1706	Welder		\$14.02		\$14.86		\$15.97		\$13.74	\$14.84					\$13.78		
1520	Work Zone Barricade Servicer	\$10.30	\$12.88	\$11.46	\$11.70	\$11.57	\$11.85	\$10.77		\$11.68	\$12.20	\$11.22	\$11.51	\$12.96	\$10.54	\$11.67	\$11.76

Notes:

*Represents the USDOL wage decision.

Any worker employed on this project shall be paid at the rate of one and one half (1-1/2) times the regular rate for every hour worked in excess of forty (40) hours per week.

For reference, the titles and descriptions for the classifications listed here are detailed further in the AGC of Texas' *Standard Job Classifications and Descriptions for Highway, Heavy, Utilities, and Industrial Construction in Texas* posted on the AGC's Web site for any contractor.

**TEXAS COUNTIES IDENTIFIED BY
WAGE RATE ZONES: 2, 3, 4, 5, 6, 7, 8, 24, 25, 27, 28, 29, 30, 37, 38, 42**

County Name	Zone	County Name	Zone	County Name	Zone	County Name	Zone
Anderson	28	Donley	37	Karnes	27	Reagan	37
Andrews	37	Duval	30	Kaufman	25	Real	37
Angelina	28	Eastland	37	Kendall	7	Red River	28
Aransas	29	Ector	2	Kenedy	30	Reeves	8
Archer	25	Edwards	8	Kent	37	Refugio	27
Armstrong	2	El Paso	24	Kerr	27	Roberts	37
Atascosa	7	Ellis	25	Kimble	37	Robertson	7
Austin	38	Erath	28	King	37	Rockwall	25
Bailey	37	Falls	28	Kinney	8	Runnels	37
Bandera	7	Fannin	28	Kleberg	27	Rusk	4
Bastrop	7	Fayette	27	Knox	37	Sabine	28
Baylor	37	Fisher	37	Lamar	28	San Augustine	28
Bee	27	Floyd	37	Lamb	37	San Jacinto	38
Bell	7	Foard	37	Lampasas	7	San Patricio	29
Bexar	7	Fort Bend	38	LaSalle	30	San Saba	37
Blanco	27	Franklin	28	Lavaca	27	Schleicher	37
Borden	37	Freestone	28	Lee	27	Scurry	37
Bosque	28	Frio	27	Leon	28	Shackelford	37
Bowie	4	Gaines	37	Liberty	38	Shelby	28
Brazoria	38	Galveston	38	Limestone	28	Sherman	37
Brazos	7	Garza	37	Lipscomb	37	Smith	4
Brewster	8	Gillespie	27	Live Oak	27	Somervell	28
Briscoe	37	Glasscock	37	Llano	27	Starr	30
Brooks	30	Goliad	29	Loving	37	Stephens	37
Brown	37	Gonzales	27	Lubbock	2	Sterling	37
Burleson	7	Gray	37	Lynn	37	Stonewall	37
Burnet	27	Grayson	25	Madison	28	Sutton	8
Caldwell	7	Gregg	4	Marion	28	Swisher	37
Calhoun	29	Grimes	28	Martin	37	Tarrant	25
Callahan	25	Guadalupe	7	Mason	27	Taylor	2
Cameron	3	Hale	37	Matagorda	27	Terrell	8
Camp	28	Hall	37	Maverick	30	Terry	37
Carson	2	Hamilton	28	McCulloch	37	Throckmorton	37
Cass	28	Hansford	37	McLennan	7	Titus	28
Castro	37	Hardeman	37	McMullen	30	Tom Green	2
Chambers	38	Hardin	38	Medina	7	Travis	7
Cherokee	28	Harris	38	Menard	37	Trinity	28
Childress	37	Harrison	42	Midland	2	Tyler	28
Clay	25	Hartley	37	Milam	28	Upshur	4
Cochran	37	Haskell	37	Mills	37	Upton	37
Coke	37	Hays	7	Mitchell	37	Uvalde	30
Coleman	37	Hemphill	37	Montague	37	Val Verde	8
Collin	25	Henderson	28	Montgomery	38	Van Zandt	28
Collingsworth	37	Hidalgo	3	Moore	37	Victoria	6
Colorado	27	Hill	28	Morris	28	Walker	28
Comal	7	Hockley	37	Motley	37	Waller	38
Comanche	37	Hood	28	Nacogdoches	28	Ward	37
Concho	37	Hopkins	28	Navarro	28	Washington	28
Cooke	37	Houston	28	Newton	28	Webb	3
Coryell	7	Howard	37	Nolan	37	Wharton	27
Cottle	37	Hudspeth	8	Nueces	29	Wheeler	37
Crane	37	Hunt	25	Ochiltree	37	Wichita	5
Crockett	8	Hutchinson	37	Oldham	37	Wilbarger	37
Crosby	2	Irion	2	Orange	38	Willacy	30
Culberson	8	Jack	28	Palo Pinto	28	Williamson	7
Dallam	37	Jackson	27	Panola	28	Wilson	7
Dallas	25	Jasper	28	Parker	25	Winkler	37
Dawson	37	Jeff Davis	8	Parmer	37	Wise	25
Deaf Smith	37	Jefferson	38	Pecos	8	Wood	28
Delta	25	Jim Hogg	30	Polk	28	Yoakum	37
Denton	25	Jim Wells	27	Potter	2	Young	37
DeWitt	27	Johnson	25	Presidio	8	Zapata	30
Dickens	37	Jones	25	Rains	28	Zavala	30
Dimmit	30			Randall	2		

Special Provision to Item 000

Nondiscrimination



1. DESCRIPTION

All recipients of federal financial assistance are required to comply with various nondiscrimination laws including Title VI of the Civil Rights Act of 1964, as amended, (Title VI). Title VI forbids discrimination against anyone in the United States on the grounds of race, color, or national origin by any agency receiving federal funds.

Owner, as a recipient of Federal financial assistance, and under Title VI and related statutes, ensures that no person shall on the grounds of race, religion (where the primary objective of the financial assistance is to provide employment per 42 U.S.C. § 2000d-3), color, national origin, sex, age or disability be excluded from participation in, be denied the benefits of, or otherwise be subjected to discrimination under any of Owner's programs or activities.

2. DEFINITION OF TERMS

Where the term "contractor" appears in the following six nondiscrimination clauses, the term "contractor" is understood to include all parties to contracts or agreements with the Owner.

3. NONDISCRIMINATION PROVISIONS

During the performance of this contract, the contractor agrees as follows:

- 3.1. **Compliance with Regulations.** The Contractor shall comply with the Regulations relative to nondiscrimination in Federally-assisted programs of the Department of Transportation (hereinafter, "DOT") Title 49, Code of Federal Regulations, Part 21, as they may be amended from time to time, (hereinafter referred to as the Regulations), which are herein incorporated by reference and made a part of this contract.
- 3.2. **Nondiscrimination.** The contractor, with regard to the work performed by it during the contract, shall not discriminate on the grounds of race, color, or national origin in the selection and retention of subcontractors, including procurements of materials and leases of equipment. The contractor shall not participate either directly or indirectly in the discrimination prohibited by section 21.5 of the Regulations, including employment practices when the contract covers a program set forth in Appendix B of the Regulations.
- 3.3. **Solicitations for Subcontracts, Including Procurements of Materials and Equipment:** In all solicitations either by competitive bidding or negotiation made by the contractor for work to be performed under a subcontract, including procurements of materials or leases of equipment, each potential subcontractor or supplier shall be notified by the contractor of the contractor's obligations under this contract and the Regulations relative to nondiscrimination on the grounds of race, color, or national origin.
- 3.4. **Information and Reports:** The contractor shall provide all information and reports required by the Regulations or directives issued pursuant thereto, and shall permit access to its books, records, accounts, other sources of information, and its facilities as may be determined by the Owner or the Texas Department of Transportation to be pertinent to ascertain compliance with such Regulations, orders and instructions. Where any information required of a contractor is in the exclusive possession of another who fails or refuses to furnish this information the contractor shall so certify to the Owner or the Texas Department of Transportation as appropriate, and shall set forth what efforts it has made to obtain the information.

- 3.5. **Sanctions for Noncompliance.** In the event of the contractor's noncompliance with the nondiscrimination provisions of this contract, the Owner shall impose such contract sanctions as it, the Owner may determine to be appropriate, including, but not limited to:
- withholding of payments to the contractor under the contract until the contractor complies, and/or
 - cancellation, termination or suspension of the contract, in whole or in part.
- 3.6. **Incorporation of Provisions.** The contractor shall include the provisions of paragraphs (3.1) through (3.6) in every subcontract, including procurements of materials and leases of equipment, unless exempt by the Regulations, or directives issued pursuant thereto. The contractor shall take such action with respect to any subcontract or procurement as the Owner may direct as a means of enforcing such provisions including sanctions for non-compliance: provided, however that, in the event a contractor becomes involved in, or is threatened with, litigation with a subcontractor or supplier as a result of such direction, the contractor may request the Owner to enter into such litigation to protect the interests of the Owner, and, in addition, the contractor may request the United States to enter into such litigation to protect the interests of the United States.

Special Provision to Item 000

Certification of Nondiscrimination in Employment



1. GENERAL

By signing this proposal, the Bidder certifies that Bidder has participated in a previous contract or subcontract subject to the equal opportunity clause, as required by Executive Orders 10925, 11114, or 11246, or if Bidder has not participated in a previous contract of this type, or if Bidder has had previous contract or subcontracts and has not filed, Bidder will file with the Joint Reporting Committee, the Director of the Office of Federal Contract Compliance, a Federal Government contracting or administering agency, or the former President's Committee on Equal Employment Opportunity, all reports due under the applicable filing requirements.

Note—The above certification is required by the Equal Employment Opportunity Regulations of the Secretary of Labor (41 CFR 60-1.7(b)(1)), and must be submitted by Bidders and proposed subcontractors only in connection with contracts and subcontracts which are subject to the equal opportunity clause. Contracts and subcontracts which are exempt from the equal opportunity clause are set forth in 41 CFR 60-1.5. (Generally only contracts or subcontracts of \$10,000 or under are exempt.)

Currently, Standard Form 100 (EEO-1) is the only report required by the Executive Orders or their implementing regulations.

Proposed prime contractors and subcontractors who have participated in a previous contract or subcontract subject to the Executive Orders and have not filed the required reports should note that 41 CFR 60-1.7(b)(1) prevents the award of contracts and subcontracts unless such contractor submits a report covering the delinquent period or such other period specified by the Federal Highway Administration or by the Director, Office of Federal Contract Compliance, U.S. Department of Labor.

Special Provision to Item 000

Notice of Requirement for Affirmative Action to Ensure Equal Employment Opportunity (Executive Order 11246)



1. GENERAL

In addition to the affirmative action requirements of the Special Provision titled "Standard Federal Equal Employment Opportunity Construction Contract Specifications" as set forth elsewhere in this proposal, the Bidder's attention is directed to the specific requirements for utilization of minorities and females as set forth below.

2. GOALS

2.1. Goals for minority and female participation are hereby established in accordance with 41 CFR 60-4.

2.2. The goals for minority and female participation expressed in percentage terms for the Contractor's aggregate work force in each trade on all construction work in the covered area are as follows:

Goals for minority participation in each trade, %	Goals for female participation in each trade, %
See Table 1	6.9

2.3. These goals are applicable to all the Contractor's construction work (whether or not it is Federal or federally assisted) performed in the covered area. If the Contractor performs construction work in a geographical area located outside of the covered area, it will apply the goals established for such geographical area where the work is actually performed. With regard to this second area, the Contractor also is subject to the goals for both its federally involved and non-federally involved construction. The Contractor's compliance with the Executive Order and the regulations in 41 CFR Part 60-4 will be based on its implementation of the Standard Federal Equal Employment Opportunity Construction Contract Specifications Special Provision and its efforts to meet the goals. The hours of minority and female employment and training must be substantially uniform throughout the length of the Contract, and in each trade, and the Contractor must make a good faith effort to employ minorities and women evenly on each of its projects. The transfer of minority and female employees or trainees from Contractor to Contractor or from project to project for the sole purpose of meeting the Contractor's goals will be a violation of the Contract, the Executive Order and the regulations in 41 CFR Part 60-4. Compliance with the goals will be measured against the total work hours performed.

2.4. A Contractor or subcontractor will be considered in compliance with these provisions by participation in the Texas Highway-Heavy Branch, AGC, Statewide Training and Affirmative Action Plan. Provided that each Contractor or subcontractor participating in this plan must individually comply with the equal opportunity clause set forth in 41 CFR 60-1.4 and must make a good faith effort to achieve the goals set forth for each participating trade in the plan in which it has employees. The overall good performance of other Contractors and subcontractors toward a goal in an approved plan does not excuse any covered Contractor's or subcontractor's failure to make good faith efforts to achieve the goals contained in these provisions. Contractors or subcontractors participating in the plan must be able to demonstrate their participation and document their compliance with the provisions of this Plan.

3. SUBCONTRACTING

The Contractor must provide written notification to the Owner within 10 working days of award of any construction subcontract in excess of \$10,000 at any tier for construction work under the Contract resulting from this solicitation pending concurrence of the Owner in the award. The notification will list the names,

address and telephone number of the subcontractor; employer identification number; estimated dollar amount of the subcontract; estimated starting and completion dates of the subcontract; and the geographical area in which the Contract is to be performed.

4. COVERED AREA

As used in this special provision, and in the Contract resulting from this solicitation, the geographical area covered by these goals for female participation is the State of Texas. The geographical area covered by these goals for other minorities are the counties in the State of Texas as indicated in Table 1.

5. REPORTS

The Contractor is hereby notified that he may be subject to the Office of Federal Contract Compliance Programs (OFCCP) reporting and record keeping requirements as provided for under Executive Order 11246 as amended. OFCCP will provide direct notice to the Contractor as to the specific reporting requirements that he will be expected to fulfill.

Table 1
Goals for Minority Participation

County	Participation, %	County	Participation, %
Anderson	22.5	Chambers	27.4
Andrews	18.9	Cherokee	22.5
Angelina	22.5	Childress	11.0
Aransas	44.2	Clay	12.4
Archer	11.0	Cochran	19.5
Armstrong	11.0	Coke	20.0
Atascosa	49.4	Coleman	10.9
Austin	27.4	Collin	18.2
Bailey	19.5	Collingsworth	11.0
Bandera	49.4	Colorado	27.4
Bastrop	24.2	Comal	47.8
Baylor	11.0	Comanche	10.9
Bee	44.2	Concho	20.0
Bell	16.4	Cooke	17.2
Bexar	47.8	Coryell	16.4
Blanco	24.2	Cottle	11.0
Borden	19.5	Crane	18.9
Bosque	18.6	Crockett	20.0
Bowie	19.7	Crosby	19.5
Brazoria	27.3	Culberson	49.0
Brazos	23.7	Dallam	11.0
Brewster	49.0	Dallas	18.2
Briscoe	11.0	Dawson	19.5
Brooks	44.2	Deaf Smith	11.0
Brown	10.9	Delta	17.2
Burleson	27.4	Denton	18.2
Burnet	24.2	DeWitt	27.4
Caldwell	24.2	Dickens	19.5
Calhoun	27.4	Dimmit	49.4
Callahan	11.6	Donley	11.0
Cameron	71.0	Duval	44.2
Camp	20.2	Eastland	10.9
Carson	11.0	Ector	15.1
Cass	20.2	Edwards	49.4
Castro	11.0	Ellis	18.2

County	Participation, %	County	Participation, %
El Paso	57.8	Kenedy	44.2
Erath	17.2	Kent	10.9
Falls	18.6	Kerr	49.4
Fannin	17.2	Kimble	20.0
Fayette	27.4	King	19.5
Fisher	10.9	Kinney	49.4
Floyd	19.5	Kleberg	44.2
Foard	11.0	Knox	10.9
Fort Bend	27.3	Lamar	20.2
Franklin	17.2	Lamb	19.5
Freestone	18.6	Lampasas	18.6
Frio	49.4	LaSalle	49.4
Gaines	19.5	Lavaca	27.4
Galveston	28.9	Lee	24.2
Garza	19.5	Leon	27.4
Gillespie	49.4	Liberty	27.3
Glasscock	18.9	Limestone	18.6
Goliad	27.4	Lipscomb	11.0
Gonzales	49.4	Live Oak	44.2
Gray	11.0	Llano	24.2
Grayson	9.4	Loving	18.9
Gregg	22.8	Lubbock	19.6
Grimes	27.4	Lynn	19.5
Guadalupe	47.8	Madison	27.4
Hale	19.5	Marion	22.5
Hall	11.0	Martin	18.9
Hamilton	18.6	Mason	20.0
Hansford	11.0	Matagorda	27.4
Hardeman	11.0	Maverick	49.4
Hardin	22.6	McCulloch	20.0
Harris	27.3	McLennan	20.7
Harrison	22.8	McMullen	49.4
Hartley	11.0	Medina	49.4
Haskell	10.9	Menard	20.0
Hays	24.1	Midland	19.1
Hemphill	11.0	Milam	18.6
Henderson	22.5	Mills	18.6
Hidalgo	72.8	Mitchell	10.9
Hill	18.6	Montague	17.2
Hockley	19.5	Montgomery	27.3
Hood	18.2	Moore	11.0
Hopkins	17.2	Morris	20.2
Houston	22.5	Motley	19.5
Howard	18.9	Nacogdoches	22.5
Hudspeth	49.0	Navarro	17.2
Hunt	17.2	Newton	22.6
Hutchinson	11.0	Nolan	10.9
Irion	20.0	Nueces	41.7
Jack	17.2	Ochiltree	11.0
Jackson	27.4	Oldham	11.0
Jasper	22.6	Orange	22.6
Jeff Davis	49.0	Palo Pinto	17.2
Jefferson	22.6	Panola	22.5
Jim Hogg	49.4	Parker	18.2
Jim Wells	44.2	Parmer	11.0
Johnson	18.2	Pecos	18.9
Jones	11.6	Polk	27.4
Karnes	49.4	Potter	9.3
Kaufman	18.2	Presidio	49.0
Kendall	49.4	Randall	9.3

County	Participation, %	County	Participation, %
Rains	17.2	Reagan	20.0
Real	49.4	Throckmorton	10.9
Red River	20.2	Titus	20.2
Reeves	18.9	Tom Green	19.2
Refugio	44.2	Travis	24.1
Roberts	11.0	Trinity	27.4
Robertson	27.4	Tyler	22.6
Rockwall	18.2	Upshur	22.5
Runnels	20.0	Upton	18.9
Rusk	22.5	Uvalde	49.4
Sabine	22.6	Val Verde	49.4
San Augustine	22.5	Van Zandt	17.2
San Jacinto	27.4	Victoria	27.4
San Patricio	41.7	Walker	27.4
San Saba	20.0	Waller	27.3
Schleicher	20.0	Ward	18.9
Scurry	10.9	Washington	27.4
Shackelford	10.9	Webb	87.3
Shelby	22.5	Wharton	27.4
Sherman	11.0	Wheeler	11.0
Smith	23.5	Wichita	12.4
Somervell	17.2	Wilbarger	11.0
Starr	72.9	Willacy	72.9
Stephens	10.9	Williamson	24.1
Sterling	20.0	Wilson	49.4
Stonewall	10.9	Winkler	18.9
Sutton	20.0	Wise	18.2
Swisher	11.0	Wood	22.5
Tarrant	18.2	Yoakum	19.5
Taylor	11.6	Young	11.0
Terrell	20.0	Zapata	49.4
Terry	19.5	Zavala	49.4

Special Provision to Item 000

Standard Federal Equal Employment Opportunity Construction Contract Specifications (Executive Order 11246)



1. GENERAL

1.1. As used in these specifications:

- "Covered area" means the geographical area described in the solicitation from which this Contract resulted;
- "Director" means Director, Office of Federal Contract Compliance Programs, United States Department of Labor, or any person to whom the Director delegates authority;
- "Employer identification number" means the Federal Social Security number used on the Employer's Quarterly Federal Tax Return, U.S. Treasury Department Form 941.
- "Minority" includes:
 - Black (all persons having origins in any of the Black African racial groups not of Hispanic origin);
 - Hispanic (all persons of Mexican, Puerto Rican, Cuban, Central or South American or other Spanish Culture or origin, regardless of race);
 - Asian and Pacific Islander (all persons having origins in any of the original peoples of the Far East, Southeast Asia, the Indian Subcontinent, or the Pacific Islands); and
 - American Indian or Alaskan Native (all persons having origins in any of the original peoples of North American and maintaining identifiable tribal affiliations through membership and participation or community identification).

1.2. Whenever the Contractor, or any Subcontractor at any tier, subcontracts a portion of the work involving any construction trade, it will physically include in each subcontract in excess of \$10,000 the provisions of these specifications and the Notice which contains the applicable goals for minority and female participation and which is set forth in the solicitations from which this Contract resulted.

1.3. If the Contractor is participating (pursuant to 41 CFR 60-4.5) in a Hometown Plan approved by the U. S. Department of Labor in the covered area either individually or through an association, its affirmative action obligations on all work in the Plan area (including goals and timetables) will be in accordance with that plan for those trades which have unions participating in the Plan. Contractors must be able to demonstrate their participation in and compliance with the provisions of any such Hometown Plan. Each Contractor or Subcontractor participating in an approved Plan is individually required to comply with its obligations under the equal employment opportunity (EEO) clause, and to make a good faith effort to achieve each goal under the Plan in each trade in which it has employees. The overall good faith performance by other Contractors or Subcontractors toward a goal in an approved Plan does not excuse any covered Contractor's or Subcontractor's failure to take good faith efforts to achieve the Plan goals and timetables.

1.4. The Contractor will implement the specific affirmative action standards provided in Section 1.7.1. through Section 1.7.16. of these specifications. The goals set forth in the solicitation from which this Contract resulted are expressed as percentages of the total hours of employment and training of minority and female utilization the Contractor should reasonably be able to achieve in each construction trade in which it has employees in the covered area. Covered construction Contractors performing Contracts in geographical areas where they do not have a Federal or federally assisted construction Contract will apply the minority and female goals established for the geographical area where the Contract is being performed. Goals are published periodically in the Federal Register in notice form and such notices may be obtained from any Office of Federal Contract Compliance Programs office or any Federal procurement contracting officer. The

Contractor is expected to make substantially uniform progress toward its goals in each craft during the period specified.

- 1.5. Neither the provisions of any collective bargaining agreement, nor the failure by a union with whom the Contractor has a collective bargaining agreement, to refer either minorities or women will excuse the Contractor's obligations under these specifications, Executive Order 11246, or the regulations promulgated pursuant thereto.
- 1.6. In order for the nonworking training hours of apprentices and trainees to be counted in meeting the goals, such apprentices and trainees must be employed by the Contractor during the training period, and the Contractor must have made a commitment to employ the apprentices and trainees at the completion of their training, subject to the availability of employment opportunities. Trainees must be trained pursuant to training programs approved by the U. S. Department of Labor.
- 1.7. The Contractor will take specific affirmative actions to ensure equal employment opportunity. The evaluation of the Contractor's compliance with these specifications will be based upon its effort to achieve maximum results from its actions. The Contractor will document these efforts fully, and will implement affirmative action steps at least as extensive as the following:
 - 1.7.1. Ensure and maintain a working environment free of harassment, intimidation, and coercion at all sites, and in all facilities at which the Contractor's employees are assigned to work. The Contractor, where possible, will assign two or more women to each construction project. The Contractor will specifically ensure that all foremen, superintendents, and other on-site supervisory personnel are aware of and carry out the Contractor's obligation to maintain such a working environment, with specific attention to minority or female individuals working at such sites or in such facilities.
 - 1.7.2. Establish and maintain a current list of minority and female recruitment sources, provide written notification to minority and female recruitment sources and to community organizations when the Contractor or its unions have employment opportunities available, and maintain a record of the organizations' responses.
 - 1.7.3. Maintain a current file of the names, addresses and telephone numbers of each minority and female off-the-street applicant and minority or female referral from a union, a recruitment source or community organization and of what action was taken with respect to each such individual. If such individual was sent to the union hiring hall for referral and was not referred back to the Contractor by the union or, if referred, not employed by the Contractor, this will be documented in the file with the reason therefor, along with whatever additional actions the Contractor may have taken.
 - 1.7.4. Provide immediate written notification to the Director when the union or unions with which the Contractor has a collective bargaining agreement has not referred to the Contractor a minority person or woman sent by the Contractor, or when the Contractor has other information that the union referral Process has impeded the Contractor's efforts to meet its obligations.
 - 1.7.5. Develop on-the-job training opportunities and/or participate in training programs for the area which expressly include minorities and women, including upgrading programs and apprenticeship and trainee programs relevant to the Contractor's employment needs, especially those programs funded or approved by the U.S. Department of Labor. The Contractor will provide notice of these programs to the sources compiled under 7b above.
 - 1.7.6. Disseminate the Contractor's EEO policy by providing notice of the policy to unions and training programs and requesting their cooperation in assisting the Contractor in meeting its EEO obligations; by including it in any policy manual and Collective bargaining agreement; by publicizing it in the company newspaper, annual report, etc.; by specific review of the policy with all management personnel and with all minority and female employees at least once a year; and by posting the company EEO policy on bulletin boards accessible to all employees at each location where construction work is performed.
 - 1.7.7. Review, at least annually, the company's EEO policy and affirmative action obligations under these specifications with all employees having any responsibility for hiring, assignment, layoff, termination or other

employment decisions including specific review of these items with on-site supervisory personnel such as Superintendents, General Foremen, etc., before the initiation of construction work at any job site. A written record must be made and maintained identifying the time and place of these meetings, persons attending, subject matter discussed, and disposition of the subject matter.

- 1.7.8. Disseminate the Contractor's EEO policy externally by including it in any advertising in the news media, specifically including minority and female news media, and providing written notification to and discussing the Contractor's EEO policy with other Contractors and Subcontractors with whom the Contractor does or anticipates doing business.
- 1.7.9. Direct its recruitment efforts, both oral and written, to minority, female and community organizations, to schools with minority and female students and to minority and female recruitment and training organizations serving the Contractor's recruitment area and employment needs. Not later than one month before the date for the acceptance of applications for apprenticeship or other training by any recruitment source, the Contractor will send written notification to organizations such as the above, describing the openings, screening procedures, and tests to be used in the selection process.
- 1.7.10. Encourage present minority and female employees to recruit other minority persons and women and, where reasonable, provide after school, summer and vacation employment to minority and female youth both on the site and in other areas of a Contractor's workforce.
- 1.7.11. Validate all tests and other selection requirements where there is an obligation to do so under 41 CFR Part 60-3.
- 1.7.12. Conduct, at least annually, an inventory and evaluation at least of all minority and female personnel for promotional opportunities and encourage these employees to seek or to prepare for, through appropriate training, etc., such opportunities.
- 1.7.13. Ensure that seniority practices, job classifications, work assignments and other personnel practices, do not have a discriminatory effect by continually monitoring all personnel and employment-related activities to ensure that the EEO policy and the Contractor's obligations under these specifications are being carried out.
- 1.7.14. Ensure that all facilities and company activities are non-segregated except that separate or single-user toilet and necessary changing facilities will be provided to assure privacy between the sexes.
- 1.7.15. Document and maintain a record of all solicitations of offers for subcontracts from minority and female construction contractors and suppliers, including circulation of solicitations to minority and female contractor associations and other business associations.
- 1.7.16. Conduct a review, at least annually, of all supervisors' adherence to and performance under the Contractor's EEO policies and affirmative action obligations.
- 1.8. Contractors are encouraged to participate in voluntary associations which assist in fulfilling one or more of their affirmative action obligations (Section 7.1. through Section 7.16.). The efforts of a contractor association, joint contractor-union, contractor-community, or other similar group of which the Contractor is a member and participant, may be asserted as fulfilling any one or more of its obligations under Section 7.1. through Section 7.16. of these Specifications provided that the Contractor actively participates in the group, makes every effort to assure that the group has a positive impact on the employment of minorities and women in the industry, ensures that the concrete benefits of the program are reflected in the Contractor's minority and female workforce participation, makes a good faith effort to meet its individual goals and timetables, and can provide access to documentation which demonstrates the effectiveness of actions taken on behalf of the Contractor. The obligation to comply, however, is the Contractor's and failure of such a group to fulfill an obligation will not be a defense for the Contractor's noncompliance.
- 1.9. A single goal for minorities and a separate single goal for women have been established. The Contractor, however, is required to provide equal employment opportunity and to take affirmative action for all minority groups, both male and female, and all women, both minority and non-minority. Consequently, the Contractor

may be in violation of the Executive Order if a particular group is employed in a substantially disparate manner (for example, even though the Contractor has achieved its goals for women generally, the Contractor may be in violation of the Executive Order if a specific minority group of women is underutilized).

- 1.10. The Contractor shall not use the goals and timetables or affirmative action standards to discriminate against any person because of race, color, religion, sex, or national origin.
- 1.11. The Contractor will not enter into any Subcontract with any person or firm debarred from Government Contracts pursuant to Executive Order 11246.
- 1.12. The Contractor will carry out such sanctions and penalties for violation of these specifications and of the Equal Opportunity Clause, including suspension, termination and cancellation of existing subcontracts as may be imposed or ordered pursuant to Executive Order 11246, as amended, and its implementing regulations, by the Office of Federal Contract Compliance Programs. Any Contractor who fails to carry out such sanctions and penalties will be in violation of these specifications and Executive Order 11246, as amended.
- 1.13. The Contractor, in fulfilling its obligations under these specifications, will implement specific affirmative action steps, at least as extensive as those standards prescribed in paragraph 7 of these specifications, so as to achieve maximum results from its efforts to ensure equal employment opportunity. If the Contractor fails to comply with the requirements of the Executive Order, the implementing regulations, or these specifications, the Director will proceed in accordance with 41 CFR 60-4.8.
- 1.14. The Contractor will designate a responsible official to monitor all employment-related activity to ensure that the company EEO policy is being carried out, to submit reports relating to the provisions hereof as may be required by the Government and to keep records. Records must at least include for each employee the name, address, telephone numbers, construction trade, union affiliation if any, employee identification number when assigned, social security number, race, sex, status (e.g., mechanic, apprentice, trainee, helper, or laborer), dates of changes in status, hours worked per week in the indicated trade, rate of pay, and locations at which the work was performed. Records must be maintained in an easily understandable and retrievable form; however, to the degree that existing records satisfy this requirement, Contractors shall not be required to maintain separate records.
- 1.15. Nothing herein provided will be construed as a limitation upon the application of other laws which establish different standards of compliance or upon the application of requirements for the hiring of local or other area residents (e.g., those under the Public Works Employment Act of 1977 and the Community Development Block Grant Program).
- 1.16. In addition to the reporting requirements set forth elsewhere in this Contract, the Contractor and the subcontractors holding subcontracts, not including material suppliers, of \$10,000 or more, will submit for every month of July during which work is performed, employment data as contained under Form PR 1391 (Appendix C to 23 CFR, Part 230), and in accordance with the included instructions.

Special Provision 000

Cargo Preference Act Requirements in Federal Aid Contracts



1. DESCRIPTION

All recipients of federal financial assistance are required to comply with the U.S. Department of Transportation's (DOT) Cargo Preference Act Requirements, 46 CFR Part 381, Use of United States-Flag Vessels.

This requirement applies to material or equipment that is acquired specifically for a Federal-aid highway project. It is not applicable to goods or materials that come into inventories independent of a Federal Highway Administration (FHWA) funded contract.

When oceanic shipments are necessary for materials or equipment acquired for a specific Federal-aid construction project, the contractor agrees to:

- Utilize privately owned United States-flag commercial vessels to ship at least 50 percent of the gross tonnage (computed separately for dry bulk carriers, dry cargo liners, and tankers) involved, whenever shipping any equipment, material, or commodities pursuant to this contract, to the extent such vessels are available at fair and reasonable rates for United States-flag commercial vessels.
- Furnish a legible copy of a rated, on-board commercial ocean bill-of-lading in English for each shipment of cargo described in paragraph (b) (1) of 46 CFR Part 381 Section 7, "Federal Grant, Guaranty, Loan and Advance of Funds Agreements," within 20 days following the date of loading for shipments originating within the United States or within 30 working days following the date of loading for shipments originating outside the United States, to both the Engineer (through the prime contractor in the case of subcontractor bills-of-lading) and to the Division of National Cargo, Office of Market Development, Maritime Administration, Washington, DC 20590.
- Insert the substance of the provisions of this clause in all subcontracts issued pursuant to this contract.

Special Provision to Item 000

Disadvantaged Business Enterprise in Federal-Aid Contracts



1. DESCRIPTION

The purpose of this Special Provision is to carry out the U.S. Department of Transportation's (DOT) policy of ensuring nondiscrimination in the award and administration of DOT-assisted Contracts and creating a level playing field on which firms owned and controlled by individuals who are determined to be socially and economically disadvantaged can compete fairly for DOT-assisted Contracts.

2. DISADVANTAGED BUSINESS ENTERPRISE IN FEDERAL-AID CONTRACTS

- 2.1. **Policy.** It is the policy of the DOT and the Texas Department of Transportation (Department) that DBEs, as defined in 49 CFR Part 26, Subpart A, and the Department's DBE Program, will have the opportunity to participate in the performance of Contracts financed in whole or in part with federal funds. The DBE requirements of 49 CFR Part 26, and the Department's DBE Program, apply to this Contract as follows.

The Contractor will solicit DBEs through reasonable and available means, as defined in 49 CFR Part 26, Appendix A, and the Department's DBE Program, or show a good faith effort to meet the DBE goal for this Contract.

The Contractor, subrecipient, or subcontractor will not discriminate on the basis of race, color, national origin, or sex in the performance of this Contract. Carry out applicable requirements of 49 CFR Part 26 in the award and administration of DOT-assisted Contracts. Failure to carry out these requirements is a material breach of this Contract, which may result in the termination of this Contract or such other remedy as the recipient deems appropriate.

The requirements of this Special Provision must be physically included in any subcontract.

By signing the Contract proposal, the Bidder is certifying that the DBE goal as stated in the proposal will be met by obtaining commitments from eligible DBEs or that the Bidder will provide acceptable evidence of good faith effort to meet the commitment.

2.2. Definitions.

- 2.2.1. **Administrative Reconsideration.** A process by which the low bidder may request reconsideration when the Department determines the good faith effort (GFE) requirements have not been met.

- 2.2.2. **Commercially Useful Function (CUF).** A CUF occurs when a DBE has the responsibility for the execution of the work and carrying out such responsibilities by actually performing, managing, and supervising the work.

- 2.2.3. **Disadvantaged Business Enterprise (DBE).** A for-profit small business certified through the Texas Unified Certification Program in accordance with 49 CFR Part 26, that is at least 51% owned by one or more socially and economically disadvantaged individuals, or in the case of a publicly owned business, in which is at least 51% of the stock is owned by one or more socially and economically disadvantaged individuals, and whose management and daily business operations are controlled by one or more of the individuals who own it.

- 2.2.4. **DBE Joint Venture.** An association of a DBE firm and one or more other firms to carry out a single business enterprise for profit for which purpose they combine their property, capital, efforts, skills, and knowledge, and

in which the DBE is responsible for a distinct, clearly defined portion of the work of the Contract and whose share in the capital contribution, control, management, risks, and profits of the joint venture are commensurate with its ownership interest.

- 2.2.5. **DOT.** The U.S. Department of Transportation, including the Office of the Secretary, the Federal Highway Administration (FHWA), the Federal Transit Administration (FTA), and the Federal Aviation Administration (FAA).
- 2.2.6. **Federal-Aid Contract.** Any Contract between the Owner and a Contractor that is paid for in whole or in part with DOT financial assistance.
- 2.2.7. **Good Faith Effort.** All necessary and reasonable steps to achieve the contract goal which, by their scope, intensity, and appropriateness to the objective, could reasonably be expected to obtain sufficient DBE participation, even if not fully successful. Good faith efforts are evaluated prior to award and throughout performance of the Contract. For guidance on good faith efforts, see 49 CFR Part 26, Appendix A.
- 2.2.8. **North American Industry Classification System (NAICS).** A designation that best describes the primary business of a firm. The NAICS is described in the North American Industry Classification Manual—United States, which is available on the Internet at the U.S. Census Bureau website:
<http://www.census.gov/eos/www/naics/>.
- 2.2.9. **Race-Conscious.** A measure or program that is focused specifically on assisting only DBEs, including women-owned businesses.
- 2.2.10. **Race-Neutral DBE Participation.** Any participation by a DBE through customary competitive procurement procedures.
- 2.2.11. **Texas Unified Certification Program (TUCP) Directory.** An online directory listing all DBEs currently certified by the TUCP. The Directory identifies DBE firms whose participation on a Contract may be counted toward achievement of the assigned DBE Contract goal.
- 2.3. **Contractor's Responsibilities.**
 - 2.3.1. **DBE Liaison Officer.** Designate a DBE liaison officer who will administer the Contractor's DBE program and who will be responsible for maintenance of records of efforts and contacts made to subcontract with DBEs.
 - 2.3.2. **Compliance Tracking System (CTS).** This Contract is subject to Contract compliance tracking. Contractors and DBEs are required to provide any noted and requested Contract compliance-related data to the Owner. This includes, but is not limited to, commitments, payments, substitutions, and good faith efforts. Contractors and DBEs are responsible for responding by any noted response date or due date to any instructions or request for information by the Owner.
 - 2.3.3. **Apparent Low Bidder.** The apparent low bidder must submit DBE commitments to satisfy the DBE goal or submit good faith effort Form 2603 and supporting documentation demonstrating why the goal could not be achieved, in whole or part, no later than 5 calendar days after bid opening. The means of transmittal and the risk of timely receipt of the information will be the bidder's responsibility and no extension of the 5-calendar-day timeframe will be allowed for any reason.
 - 2.3.4. **DBE Contractor.** A DBE Contractor may receive credit toward the DBE goal for work performed by its own forces and work subcontracted to DBEs. In the event a DBE subcontracts to a non-DBE, that information must be reported monthly.
 - 2.3.5. **DBE Committal.** Only those DBEs certified by the TUCP are eligible to be used for goal attainment. The Directory can be accessed at the following Internet address:
<https://txdot.txdotcms.com/FrontEnd/VendorSearchPublic.asp?TN=txdot&XID=2340>.

A DBE must be certified on the day the commitment is considered and at time of subcontract execution. It is the Contractor's responsibility to ensure firms identified for participation are approved certified DBE firms.

The Bidder is responsible to ensure that all submittals are checked for accuracy. Any and all omissions, deletions, and/or errors that may affect the end result of the commitment package are the sole liabilities of the bidder.

Commitments in excess of the goal are considered race-neutral commitments.

- 2.3.6. **Good Faith Effort Requirements.** A Contractor who cannot meet the Contract goal, in whole or in part, must make adequate good faith efforts to obtain DBE participation as so stated and defined in 49 CFR Part 26, Appendix A.

- 2.3.6.1. **Administrative Reconsideration.** If the Owner determines that the apparent low bidder has failed to satisfy the good faith efforts requirement, the Owner will notify the Bidder of the failure and will give the Bidder an opportunity for administrative reconsideration.

The Bidder must request an administrative reconsideration of that determination within 3 days of the date of receipt of the notice. The request must be submitted directly to the Owner.

If a reconsideration request is timely received, the reconsideration decision will be made by the Owner's DBE liaison officer or, if the DBE liaison officer took part in the original determination that the Bidder failed to satisfy the good faith effort requirements, an Owner employee who holds a senior leadership position and reports directly to the executive officer, and who did not take part in the original determination will act as an administrative hearing officer. The Bidder may provide written documentation or argument concerning whether the assigned DBE contract goal was met or whether adequate good faith efforts were made to meet the Contract goal.

The DBE liaison or other Owner employee making the reconsideration determination may request a meeting with the Bidder to discuss whether the goal commitments were met or whether adequate good faith efforts were made to obtain the commitments to meet the Contract goal.

The meeting must be held within 7 days of the date of the request submitted under this section. If the Bidder is unavailable to meet during the 7-day period, the reconsideration decision will be made on the written information provided by the Bidder.

The Owner will provide to the Bidder a written decision that explains the basis for finding that the Bidder did not meet the Contract goal or did not make adequate good faith efforts to meet the Contract goal, within 7 days of the date of the notice issued in this section.

The reconsideration decision is final and not subject to administrative appeal.

- 2.3.7. **Determination of DBE Participation.** The work performed by the DBE must be reasonably construed to be included in the work area and NAICS work code identified by the Contractor in the approved commitment.

Participation by a DBE on a Contract will not be counted toward DBE goals until the amount of the participation has been paid to the DBE.

Payments made to a DBE that was not on the original commitment may be counted toward the Contract goal if that DBE was certified as a DBE before the execution of the subcontract and has performed a Commercially Useful Function.

The total amount paid to the DBE for work performed with its own forces is counted toward the DBE goal. When a DBE subcontracts part of the work of its Contract to another firm, the value of the subcontracted work may be counted toward DBE goals only if the subcontractor is itself a DBE.

DBE Goal credit for the DBE subcontractors leasing of equipment or purchasing of supplies from the Contractor or its affiliates is not allowed. Project materials or supplies acquired from an affiliate of the Contractor cannot directly or indirectly (second or lower tier subcontractor) be used for DBE goal credit.

If a DBE firm is declared ineligible due to DBE decertification after the execution of the DBE's subcontract, the DBE firm may complete the work and the DBE firm's participation will be counted toward the Contract goal. If the DBE firm is decertified before the DBE firm has signed a subcontract, the Contractor is obligated to replace the ineligible DBE firm or demonstrate that it has made good faith efforts to do so.

The Contractor may count 100% of its expenditure to a DBE manufacturer. According to 49 CFR 26.55(e)(1)(i), a DBE manufacturer is a firm that operates or maintains a factory or establishment that produces, on the premises, the materials, supplies, articles, or equipment required under the Contract and of the general character described by the specifications.

The Contractor may count only 60% of its expenditure to a DBE regular dealer. According to 49 CFR 26.55(e)(2)(i), a DBE regular dealer is a firm that owns, operates, or maintains a store, warehouse, or other establishment in which the materials, supplies, articles, or equipment of the general character described by the specifications and required under the Contract are bought, kept in stock, and regularly sold or leased to the public in the usual course of business. A firm may be a regular dealer in such bulk items as petroleum products, steel, cement, gravel, stone, or asphalt without owning, operating, or maintaining a place of business if the firm both owns and operates distribution equipment for the products. Any supplementing of regular dealers' own distribution equipment must be by a long-term lease agreement and not on an ad hoc or contract-by-contract basis. A long-term lease with a third-party transportation company is not eligible for 60% goal credit.

With respect to materials or supplies purchased from a DBE that is neither a manufacturer nor a regular dealer, the Contractor may 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 materials or supplies required on a job site.

A Contractor may count toward its DBE goal a portion of the total value of the Contract amount paid to a DBE joint venture equal to the distinct, clearly defined portion of the work of the Contract performed by the DBE.

2.3.8. **Commercially Useful Function.** It is the Contractor's obligation to ensure that each DBE used on federal-assisted contracts performs a commercially useful function on the Contract.

The Owner will monitor performance during the Contract to ensure each DBE is performing a CUF.

Under the terms established in 49 CFR 26.55, a DBE performs a CUF when it is responsible for execution of the work of the Contract and is carrying out its responsibilities by actually performing, managing, and supervising the work involved.

With respect to material and supplies used on the Contract, a DBE must be responsible for negotiating price, determining quality and quantity, ordering the material, installing the material, if applicable, and paying for the material itself.

With respect to trucking, the DBE trucking firm must own and operate at least one fully licensed, insured, and operational truck used on the Contract. The DBE may lease trucks from another DBE firm, including an owner-operator who is certified as a DBE. The DBE who leases trucks from another DBE receives credit for the total value of the transportation services the lessee DBE provides on the Contract. The DBE may also lease trucks from a non-DBE firm, including from an owner-operator. The DBE that leases trucks equipped with drivers from a non-DBE is entitled to credit for the total value of transportation services provided by non-DBE leased trucks equipped with drivers not to exceed the value of transportation services on the Contract provided by DBE-owned trucks or leased trucks with DBE employee drivers. Additional participation by non-DBE owned trucks equipped with drivers receives credit only for the fee or commission it receives as a result of the lease arrangement.

A DBE does not perform a CUF when its role is limited to that of an extra participant in a transaction, Contract, or project through which funds are passed in order to obtain the appearance of DBE participation. The Owner will evaluate similar transactions involving non-DBEs in order to determine whether a DBE is an extra participant.

If a DBE does not perform or exercise responsibility for at least 30% of the total cost of its Contract with its own work force, or the DBE subcontracts a greater portion of the work than would be expected on the basis of normal industry practice for the type of work involved, the Owner will presume that the DBE is not performing a CUF.

If the Owner determines that a DBE is not performing a CUF, no work performed by such DBE will count as eligible participation. The denial period of time may occur before or after a determination has been made by the Owner.

In case of the denial of credit for non-performance, the Contractor will be required to provide a substitute DBE to meet the Contract goal or provide an adequate good faith effort when applicable.

- 2.3.8.1. **Rebuttal of a Finding of No Commercially Useful Function.** Consistent with the provisions of 49 CFR 26.55(c)(4)&(5), before the Owner makes a final finding that no CUF has been performed by a DBE, the Owner will notify the DBE and provide the DBE the opportunity to provide rebuttal information.

CUF determinations are not subject to administrative appeal.

- 2.3.9. **Joint Check.** The use of joint checks between a Contractor and a DBE is allowed with Owner approval. To obtain approval, the Contractor must submit a completed Form 2178, "DBE Joint Check Approval," to the Owner.

The Owner will closely monitor the use of joint checks to ensure that such a practice does not erode the independence of the DBE nor inhibit the DBE's ability to perform a CUF. When joint checks are utilized, DBE credit toward the Contract goal will be allowed only when the subcontractor is performing a CUF in accordance with 49 CFR 26.55(c)(1).

Long-term or open-ended joint checking arrangements may be a basis for further scrutiny and may result in the lack of participation towards the Contract goal requirement if DBE independence cannot be established.

Joint checks will not be allowed simply for the convenience of the Contractor.

If the proper procedures are not followed or the Owner determines that the arrangements result in a lack of independence for the DBE involved, no credit for the DBE's participation as it relates to the material cost will be used toward the Contract goal requirement, and the Contractor will need to make up the difference elsewhere on the project.

- 2.3.10. **DBE Termination and Substitution.** No DBE named in the commitment submitted under Section 2.3.5. will be terminated for convenience, in whole or part, without the Owner's approval. This includes, but is not limited to, instances in which a Contractor seeks to perform work originally designated for a DBE subcontractor with its own forces or those of an affiliate, a non-DBE firm, or with another DBE firm.

Unless consent is provided, the Contractor will not be entitled to any payment for work or material unless it is performed or supplied by the listed DBE.

The Contractor, prior to submitting its request to terminate, must first give written notice to the DBE of its intent to terminate and the reason for the termination. The Contractor will copy the Owner on the Notice of Intent to terminate.

The DBE has 5 calendar days to respond to the Contractor's notice and will advise the Contractor and the Owner of the reasons, if any, why it objects to the proposed termination of its subcontract and why the Owner should not approve the prime Contractor's request for termination.

The Owner may provide a shorter response time if required in a particular case as a matter of public necessity.

The Owner will consider both the Contractor's request and DBE's stated position prior to approving the request. The Owner may provide a written approval only if it agrees, for reasons stated in its concurrence document, that the Contractor has good cause to terminate the DBE. If the Owner does not approve the request, the Contractor must continue to use the committed DBE firm in accordance with the Contract. For guidance on what good cause includes, see 49 CFR 26.53.

Good cause does not exist if the Contractor seeks to terminate, reduce, or substitute a DBE it relied upon to obtain the Contract so that the Contractor can self-perform the work for which the DBE firm was engaged.

When a DBE subcontractor is terminated, make good faith efforts to find, as a substitute for the original DBE, another DBE to perform, at least to the extent needed to meet the established Contract goal, the work that the original DBE was to have performed under the Contract.

Submit the completed Form 2228, "DBE Termination Substitution Request," within seven (7) days, which may be extended for an additional 7 days if necessary at the request of the Contractor. The Owner will provide a written determination to the Contractor stating whether or not good faith efforts have been demonstrated.

- 2.3.11. **Reports and Records.** By the 15th of each month and after work begins, report payments to meet the DBE goal and for DBE race-neutral participation on projects with or without goals. These payment reports will be required until all DBE subcontracting or material supply activity is completed. Negative payment reports are required when no activity has occurred in a monthly period.

Notify the Owner if payment to any DBE subcontractor is withheld or reduced.

Before receiving final payment from the Owner, the Contractor must indicate a final payment on the compliance tracking system. The final payment is a summary of all payments made to the DBEs on the project.

All records must be retained for a period of 3 years following completion of the Contract work, and must be available at reasonable times and places for inspection by authorized representatives of the Owner, Texas Department of Transportation or the DOT. Provide copies of subcontracts or agreements and other documentation upon request.

- 2.3.12. **Failure to Comply.** If the Owner determines the Contractor has failed to demonstrate good faith efforts to meet the assigned goal, the Contractor will be given an opportunity for reconsideration by the Owner.

A Contractor's failure to comply with the requirements of this Special Provision will constitute a material breach of this Contract. In such a case, the Owner reserves the right to terminate the Contract; to deduct the amount of DBE goal not accomplished by DBEs from the money due or to become due the Contractor; or to secure a refund, not as a penalty but as liquidated damages, to the Owner or such other remedy or remedies as the Owner deems appropriate.

- 2.3.13. **Investigations.** The Owner may conduct reviews or investigations of participants as necessary. All participants, including, but not limited to, DBEs and complainants using DBE Subcontractors to meet the Contract goal, are required to cooperate fully and promptly with compliance reviews, investigations, and other requests for information.

2.3.14.

Falsification and Misrepresentation. If the Owner determines that a Contractor or subcontractor was a knowing and willing participant in any intended or actual subcontracting arrangement contrived to artificially inflate DBE participation or any other business arrangement determined by the Owner to be unallowable, or if the Contractor engages in repeated violations, falsification, or misrepresentation, the Owner may:

- refuse to count any fraudulent or misrepresented DBE participation;
- withhold progress payments to the Contractor commensurate with the violation;
- refer the matter to the Office of Inspector General of the US Department of Transportation for investigation; and/or
- seek any other available contractual remedy.

Special Provision to Item 000

Schedule of Liquidated Damages



The dollar amount of daily contract administration Liquidated Damages per Working Day is \$

In addition to the amount shown above, the Liquidated Damages will be increased by the amount shown in Item 8 of the General Notes for Road User Cost (RUC), when applicable.

Special Provision to Item 2L

Instructions to Bidders



Item 2L, "Instructions to Bidders," of the Standard Specifications is amended with respect to the clauses cited below. No other clauses or requirements of this Item are waived or changed.

Article 2L.3., "Issuing Bid Documents," second paragraph, is supplemented by the following.

The Owner will not issue a proposal form if one or more of the following apply:

- the Bidder or affiliate of the Bidder that was originally determined as the apparent low Bidder on a project but was deemed nonresponsive for failure to submit a DBE commitment as specified in Article 2L.13., "Disadvantaged Business Enterprise (DBE)," is prohibited from rebidding that specific project.

Article 2L.7., "Nonresponsive Bid," is supplemented by the following:

The Owner will not accept a nonresponsive bid. A bid that has one or more of the deficiencies listed below is considered nonresponsive:

- the Bidder failed to submit a DBE commitment as specified in Article 2L.13., "Disadvantaged Business Enterprise (DBE)."

Article 2L.13., "Disadvantaged Business Enterprise (DBE)," is added.

The apparent low bidder must submit DBE commitment information on federally funded projects with DBE goals within 5 calendar days (as defined in 49 CFR Part 26, Subpart A) of bid opening. For a submission that meets the 5-day requirement, administrative corrections will be allowed.

If the apparent low Bidder fails to submit their DBE information within the specified timeframe, the apparent low bidder will be deemed nonresponsive and the proposal guaranty will become the property of the Owner, not as a penalty, but as liquidated damages. The Bidder forfeiting the proposal guaranty will not be considered in future proposals for the same work unless there has been a substantial change in the design of the work. The Owner may recommend:

- reject all bids, or
- award the Contract to the new apparent low Bidder, if the new apparent low Bidder submits DBE information within one calendar day of notification by the Owner.

If the new apparent low Bidder is unable to submit the required DBE information within one calendar day:

- the new apparent low Bidder will not be deemed nonresponsive,
- the Bidder's guaranty will not be forfeited,
- the Owner will reject all bids, and
- the Bidder will remain eligible to receive future proposals for the same project.

Special Provision to Item 006

Control of Materials



Item 6, "Control of Materials" of the Standard Specifications is amended with respect to the clauses cited below. No other clauses or requirements of this Item are waived or changed.

Section 1.1, "Buy America," The section is removed and replaced by the following:

Comply with the latest provisions of Build America, Buy America Act (BABA Act) of the Bipartisan Infrastructure Law which restricts funds being made available from Federal financial assistance programs unless all the iron products, steel products, manufactured products, and construction materials used in the project are produced in the United States. Use steel or iron products, manufactured products, or construction materials produced in the United States except when:

- a waiver exists exempting the material from Buy America compliance,
- the cost of materials, including delivery, does not exceed 0.1% of the total Contract cost or \$2,500, whichever is greater,
- the Contract contains an alternate item for a foreign source product and the Contract is awarded based on the alternate item, or
- the materials are temporarily installed.

For construction materials submit a notarized original of TxDOT Construction Material Buy America Certification Form (Department Form 2806) with the proper attachments for verification of compliance. Form 2806 is not required for materials classified as manufactured products.

Construction Materials are classified as an article, material, or supply—other than an item of primarily iron or steel; a manufactured product; cement and cementitious materials; aggregates such as stone, sand, or gravel; or aggregate binding agents or additives—that is or consists primarily of:

- Non-ferrous metals,
- Plastic and polymer-based products (including polyvinylchloride, composite building materials, and polymers used in fiber optic cables),
- Glass (including optic glass)
- Lumber, or
- Drywall.

Details shown on the plans provide additional clarification on Buy America requirements for this project. Refer to the Buy America Material Classification Sheet for clarification on material categorization, located at: <https://www.txdot.gov/business/resources/materials/buy-america-material-classification-sheet.html>.

For steel or iron materials submit a notarized original of the FORM D-9-USA-1 (Department Form 1818) with the proper attachments for verification of compliance. For steel or iron materials the manufacturing process includes any process that modifies the chemical content, physical shape or size, or final finish of a product. The manufacturing process begins with initial melting and mixing and continues through fabrication (cutting, drilling, welding, bending, etc.) and coating (paint, galvanizing, epoxy, etc.).

Special Provision to Item 7L

Legal Relations and Responsibilities



Item 7L, "Legal Relations and Responsibilities," of the Standard Specifications is amended with respect to the clauses cited below.

Section 1.5.2., "Flaggers," the first paragraph is voided and replaced by the following:

- 1.5.2 **Flaggers.** Designate in writing, a flagger instructor who will serve as a flagging supervisor and is responsible for training and assuring that all flaggers are qualified to perform flagging duties. Certify to the Engineer that all flaggers will be trained and make available upon request a list of flaggers trained to perform flagging duties.

Section 1.5.5., "Training," is voided and replaced by the following:

- 1.5.5 **Training.** Train workers involved with the traffic control using Department-approved training as shown on the "Traffic Control Training" Material Producer List.

Coordinate enrollment, pay associated fees, and successfully complete Department-approved training or Contractor-developed training. Training is valid for the period prescribed by the provider. Except for law enforcement personnel training, refresher training is required every 4 yr. from the date of completion unless otherwise specified by the course provider. The Engineer may require training at a frequency instead of the period prescribed based on the Department's needs. Training and associated fees will not be measured or paid for directly but are considered subsidiary to pertinent Items.

Certify to the Engineer that workers involved in traffic control and other work zone personnel have been trained and make available upon request a copy of the certification of completion to the Engineer. Ensure the following is included in the certification of completion:

- name of provider and course title,
- name of participant,
- date of completion, and
- date of expiration.

Where Contractor-developed training or a Department-approved training course does not produce a certification, maintain a log of attendees. Make the log available upon request. Ensure the log is legible and includes the following:

- printed name and signature of participant,
- name and title of trainer, and
- date of training.

- 1.5.5.1. **Contractor-developed Training.** Develop and deliver Contractor-developed training meeting the minimum requirements established by the Department. The outline for this training must be submitted to the Engineer for approval at the preconstruction meeting. The CRP or designated alternate may deliver the training instead of the Department-approved training. The work performed and materials furnished to develop and deliver the training will not be measured or paid for directly but will be considered subsidiary to pertinent Items.

- 1.5.5.1.1. **Flagger Training Minimum Requirements.** A Contractor's certified flagging instructor is permitted to train other flaggers.

1.5.5.1.2.

Optional Contractor-developed Training for Other Work Zone Personnel. For other work zone personnel, the Contractor may provide training meeting the curriculum shown below instead of Department-approved training.

Minimum curriculum for Contractor-provided training is as follows:

Contractor-developed training must provide information on the use of personnel protection equipment, occupational hazards and health risks, and other pertinent topics related to traffic management. The type and amount of training will depend on the job duties and responsibilities. Develop training applicable to the work being performed. Develop training to include the following topics.

- The Life You Save May Be Your Own (or other similar company safety motto).
- Purpose of the training.
 - It's the Law.
 - To make work zones safer for workers and motorists.
 - To understand what is needed for traffic control.
 - To save lives including your own.
- Personal and Co-Worker Safety.
 - **High Visibility Safety Apparel.** Discuss compliant requirements; inspect regularly for fading and reduced reflective properties; if night operations are required, discuss the additional and appropriate required apparel in addition to special night work risks; if moving operations are underway, discuss appropriate safety measures specific to the situation and traffic control plan.
 - **Blind Areas.** A blind area is the area around a vehicle or piece of construction equipment not visible to the operators, either by line of sight or indirectly by mirrors. Discuss the "Circle of Safety" around equipment and vehicles; use of spotters; maintain eye contact with equipment operators; and use of hand signals.
 - **Runovers and Backovers.** Remain alert at all times; keep a safe distance from traffic; avoid turning your back to traffic and if you must then use a spotter; and stay behind protective barriers, whenever possible. Note: It is not safe to sit on or lean against a concrete barrier, these barriers can deflect four plus feet when struck by a vehicle.
 - Look out for each other, warn co-workers.
 - Be courteous to motorists.
 - Do not run across active roadways.
 - Workers must obey traffic laws and drive courteously while operating vehicles in the work zones.
 - Workers must be made aware of company distracted driving policies.
- **Night Time Operations.** Focus should be placed on projects with a nighttime element.
- **Traffic Control Training.** Basics of Traffic Control.
 - Identify work zone traffic control supervisor and other appropriate persons to report issues to when they arise.
 - Emphasize that work zone traffic control devices must be in clean and in undamaged condition. If devices have been hit but not damaged, put back in their correct place and report to traffic control supervisor. If devices have been damaged, replace with new one and report to traffic control supervisor. If devices are dirty, faded or have missing or damaged reflective tape clean or replace and report to traffic control supervisor. Show examples of non-acceptable device conditions. Discuss various types of traffic control devices to be used and where spacing requirements can be found.
 - **Channelizing Devices and Barricades with Slanted Stripes.** Stripes are to slant in the direction you want traffic to stay or move to; demonstrate this with a device.
 - **Traffic Queuing.** Workers must be made aware of traffic queuing and the dangers created by it. Workers must be instructed to immediately notify the traffic control supervisor and other supervisory personnel if traffic is queuing beyond advance warning sign and devices or construction limits.

- **Signs.** Signs must be straight and not leaning. Report problems to the traffic control supervisor or other as designated for immediate repair. Covered signs must be fully covered. If covers are damaged or out of place, report to traffic control supervisor or other as designated.

Special Provision to Item 9L

Measurement and Payment



Item 9, "Measurement and Payment" of the Standard Specifications is amended with respect to the clauses cited below. No other clauses or requirements of this Item are waived or changed.

Section 7.1.4.3., "Standby Equipment Costs," is voided and replaced by the following:

7.1.4.3. **Standby Equipment Costs.** Payment for standby equipment will be made in accordance with Section 9L.7.1.4., "Equipment," except that the 15% markup will not be allowed and that:

Section 7.1.4.3.1., "Contractor-Owned Equipment," is voided and replaced by the following:

7.1.4.3.1. **Contractor-Owned Equipment.** For Contractor-owned equipment:

- Standby will be paid at 50% of the monthly Equipment Watch rate after the regional and age adjustment factors have been applied. Operating costs will not be allowed. Calculate the standby rate as follows.

Standby rate = (FHWA hourly rate - operating costs) × 50%
- If an hourly rate is needed, divide the monthly *Equipment Watch* rate by 176.
- No more than 8 hr. of standby will be paid during a 24-hr. day period, nor more than 40 hr. per week.
- Standby costs will not be allowed during periods when the equipment would have otherwise been idle.

Special Provision to Item 506

Temporary Erosion, Sedimentation, and Environmental Controls



For this project, item 506, "Temporary Erosion, Sedimentation, and Environmental Controls," of the standard specifications, is hereby voided and replaced with the following.

1. DESCRIPTION

Install, maintain, and remove erosion, sedimentation, and environmental control measures to prevent or reduce the discharge of pollutants in accordance with the Storm Water Pollution Prevention Plan (SWP3) in the plans and the Texas Pollutant Discharge Elimination System (TPDES) General Permit TXR150000.

2. MATERIALS

Furnish materials in accordance with the following:

- Item 161, "Compost"
- Item 432, "Riprap"
- Item 556, "Pipe Underdrains"

2.1. Rock Filter Dams.

2.1.1. **Aggregate.** Furnish aggregate with hardness, durability, cleanliness, and resistance to crumbling, flaking, and eroding acceptable to the Owner. Provide the following:

- Types 1, 2, and 4 Rock Filter Dams. Use 3 to 6 in. aggregate.
- Type 3 Rock Filter Dams. Use 4 to 8 in. aggregate.

2.1.2. **Wire.** Provide minimum 20 gauge galvanized wire for the steel wire mesh and tie wires for Types 2 and 3 rock filter dams. Type 4 dams require:

- a double-twisted, hexagonal weave with a nominal mesh opening of 2-1/2 in. × 3-1/4 in.;
- minimum 0.0866 in. steel wire for netting;
- minimum 0.1063 in. steel wire for selvages and corners; and
- minimum 0.0866 in. for binding or tie wire.

2.1.3. **Sandbag Material.** Furnish sandbags meeting Section 506.2.8., "Sandbags," except that any gradation of aggregate may be used to fill the sandbags.

2.2. **Temporary Pipe Slope Drains.** Provide corrugated metal pipe, polyvinyl chloride (PVC) pipe, flexible tubing, watertight connection bands, grommet materials, prefabricated fittings, and flared entrance sections that conform to the plans. Recycled and other materials meeting these requirements are allowed if approved.

Furnish concrete in accordance with Item 432, "Riprap."

2.3. **Temporary Paved Flumes.** Furnish asphalt concrete, hydraulic cement concrete, or other comparable non-erodible material that conforms to the plans. Provide rock or rubble with a minimum diameter of 6 in. and a maximum volume of 1/2 cu. ft. for the construction of energy dissipaters.

- 2.4. **Construction Exits.** Provide materials that meet the details shown on the plans and this Section.
- 2.4.1. **Rock Construction Exit.** Provide crushed aggregate for long- and short-term construction exits. Furnish aggregates that are clean, hard, durable, and free from adherent coatings such as salt, alkali, dirt, clay, loam, shale, soft or flaky materials, and organic and injurious matter. Use 4- to 8-in. aggregate for Type 1. Use 2- to 4-in. aggregate for Type 3.
- 2.4.2. **Timber Construction Exit.** Furnish No. 2 quality or better railroad ties and timbers for long-term construction exits, free of large and loose knots and treated to control rot. Fasten timbers with nuts and bolts or lag bolts, of at least 1/2 in. diameter, unless otherwise shown on the plans or allowed. Provide plywood or pressed wafer board at least 1/2 in. thick for short-term exits.
- 2.4.3. **Foundation Course.** Provide a foundation course consisting of flexible base, bituminous concrete, hydraulic cement concrete, or other materials as shown on the plans or directed.
- 2.5. **Embankment for Erosion Control.** Provide rock, loam, clay, topsoil, or other earth materials that will form a stable embankment to meet the intended use.
- 2.6. **Pipe.** Provide pipe outlet material in accordance with Item 556, "Pipe Underdrains," and details shown on the plans.
- 2.7. **Construction Perimeter Fence.**
- 2.7.1. **Posts.** Provide essentially straight wood or steel posts that are at least 60 in. long. Furnish soft wood posts with a minimum diameter of 3 in., or use nominal 2 × 4 in. boards. Furnish hardwood posts with a minimum cross-section of 1-1/2 × 1-1/5 in. Furnish T- or L-shaped steel posts with a minimum weight of 0.5 lb. per foot.
- 2.7.2. **Fence.** Provide orange construction fencing as approved.
- 2.7.3. **Fence Wire.** Provide 11 gauge or larger galvanized smooth or twisted wire. Provide 16 gauge or larger tie wire.
- 2.7.4. **Flagging.** Provide brightly-colored flagging that is fade-resistant and at least 3/4 in. wide to provide maximum visibility both day and night.
- 2.7.5. **Staples.** Provide staples with a crown at least 1/2 in. wide and legs at least 1/2 in. long.
- 2.7.6. **Used Materials.** Previously used materials meeting the applicable requirements may be used if approved.
- 2.8. **Sandbags.** Provide sandbag material of polypropylene, polyethylene, or polyamide woven fabric with a minimum unit weight of 4 oz. per square yard, a Mullen burst-strength exceeding 300 psi, and an ultraviolet stability exceeding 70%.

Use natural coarse sand or manufactured sand meeting the gradation given in Table 1 to fill sandbags. Filled sandbags must be 24 to 30 in. long, 16 to 18 in. wide, and 6 to 8 in. thick.

Table 1
Sand Gradation

Sieve #	Retained (% by Weight)
4	Maximum 3%
100	Minimum 80%
200	Minimum 95%

Aggregate may be used instead of sand for situations where sandbags are not adjacent to traffic. The aggregate size shall not exceed 3/8 in.

- 2.9. **Temporary Sediment Control Fence.** Provide a net-reinforced fence using woven geo-textile fabric. Logos visible to the traveling public will not be allowed.
- 2.9.1. **Fabric.** Provide fabric materials in accordance with DMS-6230, "Temporary Sediment Control Fence Fabric."
- 2.9.2. **Posts.** Provide essentially straight wood or steel posts with a minimum length of 48 in., unless otherwise shown on the plans. Furnish soft wood posts at least 3 in. in diameter, or use nominal 2 × 4 in. boards. Furnish hardwood posts with a minimum cross-section of 1-1/2 × 1-1/2 in. Furnish T- or L-shaped steel posts with a minimum weight of 1.3 lb. per foot.
- 2.9.3. **Net Reinforcement.** Provide net reinforcement of at least 12-1/2 gauge galvanized welded wire mesh, with a maximum opening size of 2 × 4 in., at least 24 in. wide, unless otherwise shown on the plans.
- 2.9.4. **Staples.** Provide staples with a crown at least 3/4 in. wide and legs 1/2 in. long.
- 2.9.5. **Used Materials.** Use recycled material meeting the applicable requirements if approved.
- 2.10. **Biodegradable Erosion Control Logs.**
- 2.10.1. **Core Material.** Furnish core material that is biodegradable or recyclable. Use compost, mulch, aspen excelsior wood fibers, chipped site vegetation, agricultural rice or wheat straw, coconut fiber, 100% recyclable fibers, or any other acceptable material unless specifically called out on the plans. Permit no more than 5% of the material to escape from the containment mesh. Furnish compost meeting the requirements of Item 161, "Compost."
- 2.10.2. **Containment Mesh.** Furnish containment mesh that is 100% biodegradable, photodegradable, or recyclable such as burlap, twine, UV photodegradable plastic, polyester, or any other acceptable material.
- Furnish biodegradable or photodegradable containment mesh when log will remain in place as part of a vegetative system.
- Furnish recyclable containment mesh for temporary installations.
- 2.10.3. **Size.** Furnish biodegradable erosion control logs with diameters shown on the plans or as directed. Stuff containment mesh densely so logs do not deform.

3. CONSTRUCTION

- 3.1. **Contractor Responsibilities.** Implement the Owner's Storm Water Pollution Prevention Plan (SWP3) for the project in accordance with the plans and specifications, TPDES General Permit TXR150000, and as directed by the Owner. Develop and implement an SWP3 for project-specific material supply plants within and outside of the Owner's right of way in accordance with the specific or general storm water permit requirements. Prevent water pollution from storm water associated with construction activity from entering any surface water or private property on or adjacent to the project site.
- 3.2. **General.**
- 3.2.1. **Phasing.** Implement control measures in the area to be disturbed before beginning construction, or as directed. Limit the disturbance to the area shown on the plans or as directed. If, in the opinion of the Owner, the Contractor cannot control soil erosion and sedimentation resulting from construction operations, the Owner will limit the disturbed area to that which the Contractor is able to control. Minimize disturbance to vegetation.
- 3.2.2. **Maintenance.** Immediately correct ineffective control measures. Implement additional controls as directed. Remove excavated material within the time requirements specified in the applicable storm water permit.

- 3.2.3. **Stabilization.** Stabilize disturbed areas where construction activities will be temporarily stopped in accordance with the applicable storm water permit. Establish a uniform vegetative cover. The project will not be accepted until a 70% density of existing adjacent undisturbed areas is obtained, unless otherwise shown on the plans. When shown on the plans, the Owner may accept the project when adequate controls are in place that will control erosion, sedimentation, and water pollution until sufficient vegetative cover can be established.
- 3.2.4. **Finished Work.** Upon acceptance of vegetative cover, remove and dispose of all temporary control measures, temporary embankments, bridges, matting, falsework, piling, debris, or other obstructions placed during construction that are not a part of the finished work, or as directed.
- 3.2.5. **Restricted Activities and Required Precautions.** Do not discharge onto the ground or surface waters any pollutants such as chemicals, raw sewage, fuels, lubricants, coolants, hydraulic fluids, bitumens, or any other petroleum product. Operate and maintain equipment on-site to prevent actual or potential water pollution. Manage, control, and dispose of litter on-site such that no adverse impacts to water quality occur. Prevent dust from creating a potential or actual unsafe condition, public nuisance, or condition endangering the value, utility, or appearance of any property. Wash out concrete trucks only as described in the TPDES General Permit TXR150000. Utilize appropriate controls to minimize the offsite transport of suspended sediments and other pollutants if it is necessary to pump or channel standing water (i.e. dewatering). Prevent discharges that would contribute to a violation of Edwards Aquifer Rules, water quality standards, the impairment of a listed water body, or other state or federal law.
- 3.3. **Installation, Maintenance, and Removal Work.** Perform work in accordance with the SWP3, according to manufacturers' guidelines, and in accordance with the TPDES General Permit TXR150000. Install and maintain the integrity of temporary erosion and sedimentation control devices to accumulate silt and debris until soil disturbing activities are completed and permanent erosion control features are in place or the disturbed area has been adequately stabilized as determined by the Owner. . If a device ceases to function as intended, repair or replace the device or portions thereof as necessary. Remove sediment, debris, and litter. When approved, sediments may be disposed of within embankments, or in the right of way in areas where the material will not contribute to further siltation. Dispose of removed material in accordance with federal, state, and local regulations.
- Remove devices upon approval or as directed. Finish-grade and dress the area upon removal. Stabilize disturbed areas in accordance with the permit, and as shown on the plans or directed. Materials removed are considered consumed by the project. Retain ownership of stockpiled material and remove it from the project when new installations or replacements are no longer required.
- 3.3.1. **Rock Filter Dams for Erosion Control.** Remove trees, brush, stumps, and other objectionable material that may interfere with the construction of rock filter dams. Place sandbags as a foundation when required or at the Contractor's option.
- Place the aggregate to the lines, height, and slopes specified, without undue voids for Types 1, 2, 3, and 5. Place the aggregate on the mesh and then fold the mesh at the upstream side over the aggregate and secure it to itself on the downstream side with wire ties, or hog rings for Types 2 and 3, or as directed. Place rock filter dams perpendicular to the flow of the stream or channel unless otherwise directed. Construct filter dams according to the following criteria unless otherwise shown on the plans:
- 3.3.1.1. **Type 1 (Non-reinforced).**
- 3.3.1.1.1. **Height.** At least 18 in. measured vertically from existing ground to top of filter dam.
- 3.3.1.1.2. **Top Width.** At least 2 ft.
- 3.3.1.1.3. **Slopes.** No steeper than 2:1.
- 3.3.1.2. **Type 2 (Reinforced).**

- 3.3.1.2.1. **Height.** At least 18 in. measured vertically from existing ground to top of filter dam.
- 3.3.1.2.2. **Top Width.** At least 2 ft.
- 3.3.1.2.3. **Slopes.** No steeper than 2:1.
- 3.3.1.3. **Type 3 (Reinforced).**
 - 3.3.1.3.1. **Height.** At least 36 in. measured vertically from existing ground to top of filter dam.
 - 3.3.1.3.2. **Top Width.** At least 2 ft.
 - 3.3.1.3.3. **Slopes.** No steeper than 2:1.
- 3.3.1.4. **Type 4 (Sack Gabions).** Unfold sack gabions and smooth out kinks and bends. Connect the sides by lacing in a single loop—double loop pattern on 4- to 5-in. spacing for vertical filling. Pull the end lacing rod at one end until tight, wrap around the end, and twist 4 times. Fill with stone at the filling end, pull the rod tight, cut the wire with approximately 6 in. remaining, and twist wires 4 times.

Place the sack flat in a filling trough, fill with stone, connect sides, and secure ends as described above for horizontal filling.

Lift and place without damaging the gabion. Shape sack gabions to existing contours.
- 3.3.1.5. **Type 5.** Provide rock filter dams as shown on the plans.
- 3.3.2. **Temporary Pipe Slope Drains.** Install pipe with a slope as shown on the plans or as directed. Construct embankment for the drainage system in 8-in. lifts to the required elevations. Hand-tamp the soil around and under the entrance section to the top of the embankment as shown on the plans or as directed. Form the top of the embankment or earth dike over the pipe slope drain at least 1 ft. higher than the top of the inlet pipe at all points. Secure the pipe with hold-downs or hold-down grommets spaced a maximum of 10 ft. on center. Construct the energy dissipaters or sediment traps as shown on the plans or as directed. Construct the sediment trap using concrete or rubble riprap in accordance with Item 432, "Riprap," when designated on the plans.
- 3.3.3. **Temporary Paved Flumes.** Construct paved flumes as shown on the plans or as directed. Provide excavation and embankment (including compaction of the subgrade) of material to the dimensions shown on the plans unless otherwise indicated. Install a rock or rubble riprap energy dissipater, constructed from the materials specified above, to a minimum depth of 9 in. at the flume outlet to the limits shown on the plans or as directed.
- 3.3.4. **Construction Exits.** Prevent traffic from crossing or exiting the construction site or moving directly onto a public roadway, alley, sidewalk, parking area, or other right of way areas other than at the location of construction exits when tracking conditions exist. Construct exits for either long- or short-term use.
 - 3.3.4.1. **Long-Term.** Place the exit over a foundation course as required. Grade the foundation course or compacted subgrade to direct runoff from the construction exits to a sediment trap as shown on the plans or as directed. Construct exits with a width of at least 14 ft. for one-way and 20 ft. for two-way traffic for the full width of the exit, or as directed.
 - 3.3.4.1.1. **Type 1.** Construct to a depth of at least 8 in. using crushed aggregate as shown on the plans or as directed.
 - 3.3.4.1.2. **Type 2.** Construct using railroad ties and timbers as shown on the plans or as directed.
 - 3.3.4.2. **Short-Term.**

- 3.3.4.2.1. **Type 3.** Construct using crushed aggregate, plywood, or wafer board. This type of exit may be used for daily operations where long-term exits are not practical.
- 3.3.4.2.2. **Type 4.** Construct as shown on the plans or as directed.
- 3.3.5. **Earthwork for Erosion Control.** Perform excavation and embankment operations to minimize erosion and to remove collected sediments from other erosion control devices.
- 3.3.5.1. **Excavation and Embankment for Erosion Control Features.** Place earth dikes, swales, or combinations of both along the low crown of daily lift placement, or as directed, to prevent runoff spillover. Place swales and dikes at other locations as shown on the plans or as directed to prevent runoff spillover or to divert runoff. Construct cuts with the low end blocked with undisturbed earth to prevent erosion of hillsides. Construct sediment traps at drainage structures in conjunction with other erosion control measures as shown on the plans or as directed.
- Create a sediment basin, where required, providing 3,600 cu. ft. of storage per acre drained, or equivalent control measures for drainage locations that serve an area with 10 or more disturbed acres at one time, not including offsite areas.
- 3.3.5.2. **Excavation of Sediment and Debris.** Remove sediment and debris when accumulation affects the performance of the devices, after a rain, and when directed.
- 3.3.6. **Construction Perimeter Fence.** Construct, align, and locate fencing as shown on the plans or as directed.
- 3.3.6.1. **Installation of Posts.** Embed posts 18 in. deep or adequately anchor in rock, with a spacing of 8 to 10 ft.
- 3.3.6.2. **Wire Attachment.** Attach the top wire to the posts at least 3 ft. from the ground. Attach the lower wire midway between the ground and the top wire.
- 3.3.6.3. **Flag Attachment.** Attach flagging to both wire strands midway between each post. Use flagging at least 18 in. long. Tie flagging to the wire using a square knot.
- 3.3.7. **Sandbags for Erosion Control.** Construct a berm or dam of sandbags that will intercept sediment-laden storm water runoff from disturbed areas, create a retention pond, detain sediment, and release water in sheet flow. Fill each bag with sand so that at least the top 6 in. of the bag is unfilled to allow for proper tying of the open end. Place the sandbags with their tied ends in the same direction. Offset subsequent rows of sandbags 1/2 the length of the preceding row. Place a single layer of sandbags downstream as a secondary debris trap. Place additional sandbags as necessary or as directed for supplementary support to berms or dams of sandbags or earth.
- 3.3.8. **Temporary Sediment-Control Fence.** Provide temporary sediment-control fence near the downstream perimeter of a disturbed area to intercept sediment from sheet flow. Incorporate the fence into erosion-control measures used to control sediment in areas of higher flow. Install the fence as shown on the plans, as specified in this Section, or as directed.
- 3.3.8.1. **Installation of Posts.** Embed posts at least 18 in. deep, or adequately anchor, if in rock, with a spacing of 6 to 8 ft. and install on a slight angle toward the runoff source.
- 3.3.8.2. **Fabric Anchoring.** Dig trenches along the uphill side of the fence to anchor 6 to 8 in. of fabric. Provide a minimum trench cross-section of 6 × 6 in. Place the fabric against the side of the trench and align approximately 2 in. of fabric along the bottom in the upstream direction. Backfill the trench, then hand-tamp.
- 3.3.8.3. **Fabric and Net Reinforcement Attachment.** Attach the reinforcement to wooden posts with staples, or to steel posts with T-clips, in at least 4 places equally spaced unless otherwise shown on the plans. Sewn vertical pockets may be used to attach reinforcement to end posts. Fasten the fabric to the top strand of reinforcement by hog rings or cord every 15 in. or less.

- 3.3.8.4. **Fabric and Net Splices.** Locate splices at a fence post with a minimum lap of 6 in. attached in at least 6 places equally spaced unless otherwise shown on the plans. Do not locate splices in concentrated flow areas.

Requirements for installation of used temporary sediment-control fence include the following:

- fabric with minimal or no visible signs of biodegradation (weak fibers),
- fabric without excessive patching (more than 1 patch every 15 to 20 ft.),
- posts without bends, and
- backing without holes.

- 3.3.9. **Biodegradable Erosion Control Logs.** Install biodegradable erosion control logs near the downstream perimeter of a disturbed area to intercept sediment from sheet flow. Incorporate the biodegradable erosion control logs into the erosion measures used to control sediment in areas of higher flow. Install, align, and locate the biodegradable erosion control logs as specified below, as shown in plans or as directed.

Secure biodegradable erosion control logs in a method adequate to prevent displacement as a result of normal rain events, prevent damage to the logs, and to the satisfaction of the Owner such that flow is not allowed under the logs. Temporarily removing and replacing biodegradable erosion logs as to facilitate daily work is allowed at the Contractor's expense.

- 3.3.10. **Vertical Tracking.** Perform vertical tracking on slopes to temporarily stabilize soil. Provide equipment with a track undercarriage capable of producing a linear soil impression measuring a minimum of 12 in. long × 2 to 4 in. wide × 1/2 to 2 in. deep. Do not exceed 12 in. between track impressions. Install continuous linear track impressions where the 12 in. length impressions are perpendicular to the slope. Vertical tracking is required on projects where soil disturbing activities have occurred unless otherwise approved.

4. MEASUREMENT

- 4.1. **Rock Filter Dams.** Installation or removal of rock filter dams will be measured by the foot or by the cubic yard. The measured volume will include sandbags, when used.
- 4.1.1. **Linear Measurement.** When rock filter dams are measured by the foot, measurement will be along the centerline of the top of the dam.
- 4.1.2. **Volume Measurement.** When rock filter dams are measured by the cubic yard, measurement will be based on the volume of rock computed by the method of average end areas.
- 4.1.2.1. **Installation.** Measurement will be made in final position.
- 4.1.2.2. **Removal.** Measurement will be made at the point of removal.
- 4.2. **Temporary Pipe Slope Drains.** Temporary pipe slope drains will be measured by the foot.
- 4.3. **Temporary Paved Flumes.** Temporary paved flumes will be measured by the square yard of surface area. The measured area will include the energy dissipater at the flume outlet.
- 4.4. **Construction Exits.** Construction exits will be measured by the square yard of surface area.
- 4.5. **Earthwork for Erosion and Sediment Control.**
- 4.5.1. **Equipment and Labor Measurement.** Equipment and labor used will be measured by the actual number of hours the equipment is operated and the labor is engaged in the work.
- 4.5.2. **Volume Measurement.**

- 4.5.2.1. **In Place.**
- 4.5.2.1.1. **Excavation.** Excavation will be measured by the cubic yard in its original position and the volume computed by the method of average end areas.
- 4.5.2.1.2. **Embankment.** Embankment will be measured by the cubic yard in its final position by the method of average end areas. The volume of embankment will be determined between:
- the original ground surfaces or the surface upon that the embankment is to be constructed for the feature and
 - the lines, grades and slopes of the accepted embankment for the feature.
- 4.5.2.2. **In Vehicles.** Excavation and embankment quantities will be combined and paid for under "Earthwork (Erosion and Sediment Control, In Vehicle)." Excavation will be measured by the cubic yard in vehicles at the point of removal. Embankment will be measured by the cubic yard in vehicles measured at the point of delivery. Shrinkage or swelling factors will not be considered in determining the calculated quantities.
- 4.6. **Construction Perimeter Fence.** Construction perimeter fence will be measured by the foot.
- 4.7. **Sandbags for Erosion Control.** Sandbags will be measured as each sandbag or by the foot along the top of sandbag berms or dams.
- 4.8. **Temporary Sediment-Control Fence.** Installation or removal of temporary sediment-control fence will be measured by the foot.
- 4.9. **Biodegradable Erosion Control Logs.** Installation or removal of biodegradable erosion control logs will be measured by the foot along the centerline of the top of the control logs.
- 4.10. **Vertical Tracking.** Vertical tracking will not be measured or paid for directly but is considered subsidiary to this Item.

5. PAYMENT

The following will not be paid for directly but are subsidiary to pertinent Items:

- erosion-control measures for Contractor project-specific locations (PSLs) inside and outside the right of way (such as construction and haul roads, field offices, equipment and supply areas, plants, and material sources);
- removal of litter, unless a separate pay item is shown on the plans;
- repair to devices and features damaged by Contractor operations;
- added measures and maintenance needed due to negligence, carelessness, lack of maintenance, and failure to install permanent controls;
- removal and reinstallation of devices and features needed for the convenience of the Contractor;
- finish grading and dressing upon removal of the device; and
- minor adjustments including but not limited to plumbing posts, reattaching fabric, minor grading to maintain slopes on an erosion embankment feature, or moving small numbers of sandbags.

Stabilization of disturbed areas will be paid for under pertinent Items.

Furnishing and installing pipe for outfalls associated with sediment traps and ponds will not be paid for directly but is subsidiary to the excavation and embankment under this Item.

- 5.1. **Rock Filter Dams.** The work performed and materials furnished in accordance with this Item and measured as provided under "Measurement" will be paid for at the unit price bid as follows:

- 5.1.1. **Installation.** Installation will be paid for as "Rock Filter Dams (Install)" of the type specified. This price is full compensation for furnishing and operating equipment, finish backfill and grading, lacing, proper disposal, labor, materials, tools, and incidentals.

- 5.1.2. **Removal.** Removal will be paid for as "Rock Filter Dams (Remove)." This price is full compensation for furnishing and operating equipment, proper disposal, labor, materials, tools, and incidentals.

When the Owner directs that the rock filter dam installation or portions thereof be replaced, payment will be made at the unit price bid for "Rock Filter Dams (Remove)" and for "Rock Filter Dams (Install)" of the type specified. This price is full compensation for furnishing and operating equipment, finish backfill and grading, lacing, proper disposal, labor, materials, tools, and incidentals.

- 5.2. **Temporary Pipe Slope Drains.** The work performed and materials furnished in accordance with this Item and measured as provided under "Measurement" will be paid for at the unit price bid for "Temporary Pipe Slope Drains" of the size specified. This price is full compensation for furnishing materials, removal and disposal, furnishing and operating equipment, labor, tools, and incidentals.

Removal of temporary pipe slope drains will not be paid for directly but is subsidiary to the installation Item. When the Owner directs that the pipe slope drain installation or portions thereof be replaced, payment will be made at the unit price bid for "Temporary Pipe Slope Drains" of the size specified, which is full compensation for the removal and reinstallation of the pipe drain.

Earthwork required for the pipe slope drain installation, including construction of the sediment trap, will be measured and paid for under "Earthwork for Erosion and Sediment Control."

Riprap concrete or stone, when used as an energy dissipater or as a stabilized sediment trap, will be measured and paid for in accordance with Item 432, "Riprap."

- 5.3. **Temporary Paved Flumes.** The work performed and materials furnished in accordance with this Item and measured as provided under "Measurement" will be paid for at the unit price bid for "Temporary Paved Flume (Install)" or "Temporary Paved Flume (Remove)." This price is full compensation for furnishing and placing materials, removal and disposal, equipment, labor, tools, and incidentals.

When the Owner directs that the paved flume installation or portions thereof be replaced, payment will be made at the unit prices bid for "Temporary Paved Flume (Remove)" and "Temporary Paved Flume (Install)." These prices are full compensation for the removal and replacement of the paved flume and for equipment, labor, tools, and incidentals.

Earthwork required for the paved flume installation, including construction of a sediment trap, will be measured and paid for under "Earthwork for Erosion and Sediment Control."

- 5.4. **Construction Exits.** Contractor-required construction exits from off right of way locations or on-right of way PSLs will not be paid for directly but are subsidiary to pertinent Items.

The work performed and materials furnished in accordance with this Item and measured as provided under "Measurement" for construction exits needed on right of way access to work areas required by the Owner will be paid for at the unit price bid for "Construction Exits (Install)" of the type specified or "Construction Exits (Remove)." This price is full compensation for furnishing and placing materials, excavating, removal and disposal, cleaning vehicles, labor, tools, and incidentals.

When the Owner directs that a construction exit or portion thereof be removed and replaced, payment will be made at the unit prices bid for "Construction Exit (Remove)" and "Construction Exit (Install)" of the type specified. These prices are full compensation for the removal and replacement of the construction exit and for equipment, labor, tools, and incidentals.

Construction of sediment traps used in conjunction with the construction exit will be measured and paid for under "Earthwork for Erosion and Sediment Control."

5.5. **Earthwork for Erosion and Sediment Control.**

- 5.5.1. **Initial Earthwork for Erosion and Sediment Control.** The work performed and materials furnished in accordance with this Item and measured as provided under "Measurement" will be paid for at the unit price bid for "Excavation (Erosion and Sediment Control, In Place)," "Embankment (Erosion and Sediment Control, In Place)," "Excavation (Erosion and Sediment Control, In Vehicle)," "Embankment (Erosion and Sediment Control, In Vehicle)," or "Earthwork (Erosion and Sediment Control, In Vehicle)."

This price is full compensation for excavation and embankment including hauling, disposal of material not used elsewhere on the project; embankments including furnishing material from approved sources and construction of erosion-control features; and equipment, labor, tools, and incidentals.

Sprinkling and rolling required by this Item will not be paid for directly, but will be subsidiary to this Item.

- 5.5.2. **Maintenance Earthwork for Erosion and Sediment Control for Cleaning and Restoring Control Measures.** The work performed and materials furnished in accordance with this Item and measured as provided under "Measurement" will be paid under a Contractor Force Account Item from invoice provided to the Owner.

This price is full compensation for excavation, embankment, and re-grading including removal of accumulated sediment in various erosion control installations as directed, hauling, and disposal of material not used elsewhere on the project; excavation for construction of erosion-control features; embankments including furnishing material from approved sources and construction of erosion-control features; and equipment, labor, tools, and incidentals.

Earthwork needed to remove and obliterate erosion-control features will not be paid for directly but is subsidiary to pertinent Items unless otherwise shown on the plans.

Sprinkling and rolling required by this Item will not be paid for directly, but will be subsidiary to this Item.

- 5.6. **Construction Perimeter Fence.** The work performed and materials furnished in accordance with this Item and measured as provided under "Measurement" will be paid for at the unit price bid for "Construction Perimeter Fence." This price is full compensation for furnishing and placing the fence; digging, fence posts, wire, and flagging; removal and disposal; and materials, equipment, labor, tools, and incidentals.

Removal of construction perimeter fence will not be paid for directly but is subsidiary to the installation Item. When the Owner directs that the perimeter fence installation or portions thereof be removed and replaced, payment will be made at the unit price bid for "Construction Perimeter Fence," which is full compensation for the removal and reinstallation of the construction perimeter fence.

- 5.7. **Sandbags for Erosion Control.** Sandbags will be paid for at the unit price bid for "Sandbags for Erosion Control" (of the height specified when measurement is by the foot). This price is full compensation for materials, placing sandbags, removal and disposal, equipment, labor, tools, and incidentals.

Removal of sandbags will not be paid for directly but is subsidiary to the installation Item. When the Owner directs that the sandbag installation or portions thereof be replaced, payment will be made at the unit price bid for "Sandbags for Erosion Control," which is full compensation for the reinstallation of the sandbags.

- 5.8. **Temporary Sediment-Control Fence.** The work performed and materials furnished in accordance with this Item and measured as provided under "Measurement" will be paid for at the unit price bid as follows:

- 5.8.1. **Installation.** Installation will be paid for as "Temporary Sediment-Control Fence (Install)." This price is full compensation for furnishing and operating equipment finish backfill and grading, lacing, proper disposal, labor, materials, tools, and incidentals.
- 5.8.2. **Removal.** Removal will be paid for as "Temporary Sediment-Control Fence (Remove)." This price is full compensation for furnishing and operating equipment, proper disposal, labor, materials, tools, and incidentals.
- 5.9. **Biodegradable Erosion Control Logs.** The work performed and materials furnished in accordance with this Item and measured as provided under "Measurement" will be paid for at the unit price bid as follows:
- 5.9.1. **Installation.** Installation will be paid for as "Biodegradable Erosion Control Logs (Install)" of the size specified. This price is full compensation for furnishing and operating equipment finish backfill and grading, staking, proper disposal, labor, materials, tools, and incidentals.
- 5.9.2. **Removal.** Removal will be paid for as "Biodegradable Erosion Control Logs (Remove)." This price is full compensation for furnishing and operating equipment, proper disposal, labor, materials, tools, and incidentals.
- 5.10. **Vertical Tracking.** Vertical tracking will not be measured or paid for directly but is considered subsidiary to this Item.

TXDOT TECHNICAL SPECIFICATIONS

Item 104

Removing Concrete



1. DESCRIPTION

Break, remove, and salvage or dispose of existing hydraulic cement concrete.

2. CONSTRUCTION

Remove existing hydraulic cement concrete from locations shown on the plans. Avoid damaging concrete that will remain in place. Saw-cut and remove the existing concrete to neat lines. Replace any concrete damaged by the Contractor at no expense to the Department. Accept ownership and properly dispose of broken concrete in accordance with federal, state, and local regulations unless otherwise shown on the plans.

3. MEASUREMENT

Removing concrete pavement, floors, porches, patios, riprap, medians, foundations, sidewalks, driveways, and other appurtenances will be measured by the square yard (regardless of thickness) or by the cubic yard of calculated volume, in its original position.

Removing curb, curb and gutter, and concrete traffic barrier will be measured by the foot in its original position. The removal of monolithic concrete curb or dowelled concrete curb will be included in the concrete pavement measurement.

Removing retaining walls will be measured by the square yard along the front face from the top of the wall to the top of the footing.

This is a plans quantity measurement Item. The quantity to be paid is the quantity shown in the proposal, unless modified by Article 9.2., "Plans Quantity Measurement." Additional measurements or calculations will be made if adjustments of quantities are required.

4. PAYMENT

The work performed and materials furnished in accordance with this Item and measured as provided under "Measurement" will be paid for at the unit price bid for "Removing Concrete" of the type specified. This price is full compensation for breaking the concrete; loading, hauling, and salvaging or disposing of the material; and equipment, labor, tools, and incidentals.

Removing retaining wall footings will not be paid for directly but will be considered subsidiary to this Item.

Item 105**Removing Treated and Untreated
Base and Asphalt Pavement**

1. DESCRIPTION

Break, remove, and store or dispose of existing asphalt pavement, including surface treatments, and treated or untreated base materials.

2. CONSTRUCTION

Break material retained by the Department into pieces not larger than 24 in. unless otherwise shown on the plans. Remove existing asphalt pavement before disturbing stabilized base. Avoid contamination of the asphalt materials and damage to adjacent areas. Repair material damaged by operations outside the designated locations.

Stockpile materials designated salvageable at designated sites when shown on the plans or as directed. Prepare stockpile site by removing vegetation and trash and by providing for proper drainage. Material not designated to be salvaged will become the property of the Contractor. When this material is disposed of, do so in accordance with federal, state, and local regulations.

3. MEASUREMENT

This Item will be measured by the 100-ft. station along the baseline of each roadbed, by the square yard of existing treated or untreated base and asphalt pavement in its original position, or by the cubic yard of existing treated or untreated base and asphalt pavement in its original position, as calculated by the average end area method. Square yard and cubic yard measurement will be established by the widths and depths shown on the plans and the lengths measured in the field.

4. PAYMENT

The work performed in accordance with this Item and measured as provided under "Measurement" will be paid for at the unit price bid for "Removing Treated and Untreated Base and Asphalt Pavement" of the depth specified. This price is full compensation for breaking the material, loading, hauling, unloading, stockpiling or disposing; repair to areas outside designated locations for removal; and equipment, labor, tools, and

Item 160

Topsoil



1. DESCRIPTION

Furnish and place topsoil to the depths and on the areas shown on the plans.

2. MATERIALS

Use easily cultivated, fertile topsoil that is free from objectionable material and resists erosion. Obtain topsoil from the right of way at sites of proposed excavation or embankment when specified on the plans, or as directed. Secure additional topsoil, if necessary, from approved sources outside the right of way in accordance with the requirements of Article 7.7., "Preservation of Cultural and Natural Resources and the Environment." Ensure that the topsoil obtained from sites outside the right of way has a pH of 5.5 to 8.5, per [Tex-128-E](#). Topsoil is subject to testing by the Engineer. Furnish water in accordance with Article 168.2., "Materials."

3. CONSTRUCTION

Remove and dispose of objectionable material from the topsoil source before beginning the work. Stockpile topsoil, when necessary, in a windrow at designated locations along the right of way line or as directed. Keep source and stockpile areas drained during the period of topsoil removal and leave them in a neat condition when removal is complete. Cultivate the area to a depth of 4 in. before placing topsoil. Spread the topsoil to a uniform loose cover at the thickness specified. Place and shape the topsoil as directed. Water and roll the topsoil with a light roller or other suitable equipment.

4. MEASUREMENT

This Item will be measured by the 100-ft. station along the baseline of each roadbed, by the square yard complete in place, or by the cubic yard in vehicles at the point of delivery.

5. PAYMENT

The work performed and the materials furnished in accordance with this Item and measured as provided under "Measurement" will be paid for at the unit price bid for "Furnishing and Placing Topsoil" of the depth specified on the plans (except for measurement by the cubic yard). This price is full compensation for securing necessary sources and royalties; furnishing topsoil; excavation, loading, hauling, stockpiling and placing; watering; rolling; and equipment, labor, materials, tools, and incidentals. Limits of excavation and embankment for payment are shown in Figure 1.

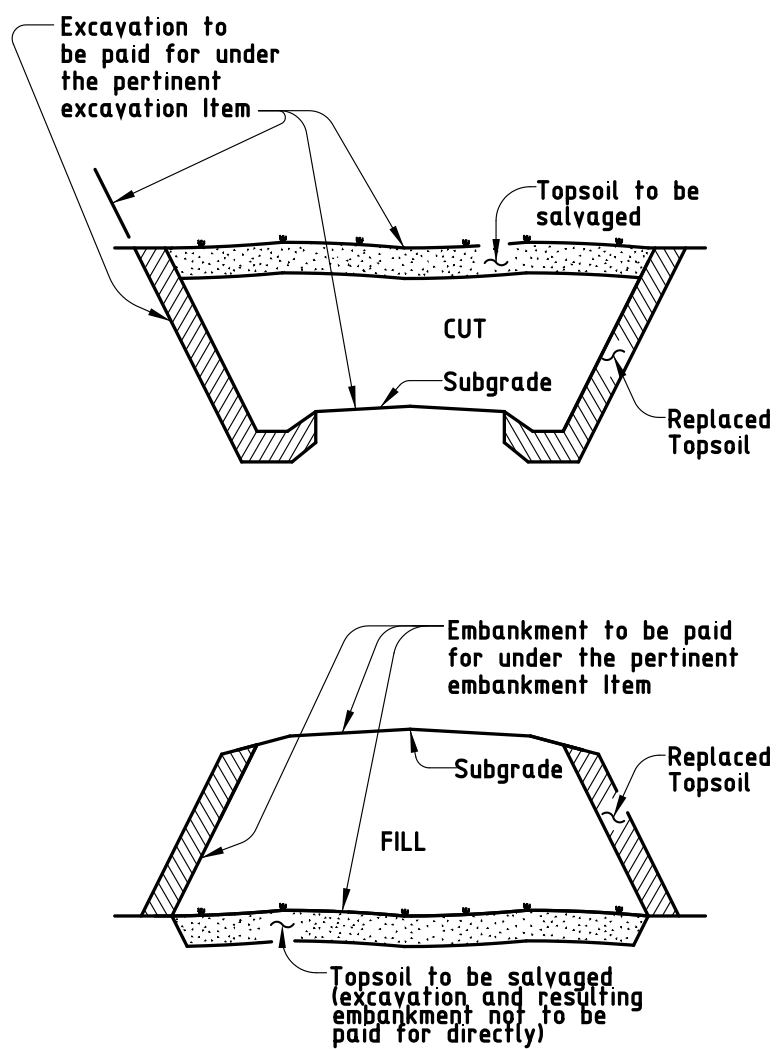


Figure 1
Roadway Cross-

Item 162

Sodding for Erosion Control



1. DESCRIPTION

Provide and install grass sod as shown on the plans or as directed.

2. MATERIALS

Use live, growing grass sod of the type specified on the plans. Use grass sod with a healthy root system and dense matted roots throughout the soil of the sod for a minimum thickness of 1 in. Do not use sod from areas where the grass is thinned out. Keep sod material moist from the time it is dug until it is planted. Grass sod with dried roots is unacceptable.

- 2.1. **Block Sod.** Use block, rolled, or solid sod free from noxious weeds, Johnson grass, other grasses, or any matter deleterious to the growth and subsistence of the sod.
- 2.2. **Mulch Sod.** Use mulch sod from an approved source, free from noxious weeds, Johnson grass, other grasses, or any matter deleterious to the growth and subsistence of the sod.
- 2.3. **Fertilizer.** Furnish fertilizer in accordance with Article 166.2., "Materials."
- 2.4. **Water.** Furnish water in accordance with Article 168.2., "Materials."
- 2.5. **Mulch.** Use straw mulch consisting of oat, wheat, or rice straw or hay mulch of either Bermudagrass or prairie grasses. Use straw or hay mulch free of Johnson grass and other noxious and foreign materials. Keep the mulch dry and do not use molded or rotted material.
- 2.6. **Tacking Methods.** Use a tacking agent applied in accordance with the manufacturer's recommendations or a crimping method on all straw or hay mulch operations. Use tacking agents as approved or as specified on the plans.

3. CONSTRUCTION

Cultivate the area to a depth of 4 in. before placing the sod. Plant the sod specified and mulch, if required, after the area has been completed to lines and grades as shown on the plans. Apply fertilizer uniformly over the entire area in accordance with Article 166.3., "Construction," and water in accordance with Article 168.3., "Construction." Plant between the average date of the last freeze in the Spring and 6 weeks before the average date for the first freeze in the Fall according to the Texas Almanac for the project area.

- 3.1. **Sodding Types.**
 - 3.1.1. **Spot Sodding.** Use only Bermudagrass sod. Create furrows parallel to the roadway, approximately 5 in. deep and on 18-in. centers. Sod a continuous row not less than 3 in. wide in the 2 furrows adjacent to the roadway. Place 3-in. squares of sod on 15-in. centers in the remaining furrows. Place sod so that the root system will be completely covered by the soil. Firm all sides of the sod with the soil without covering the sod with soil.
 - 3.1.2. **Block Sodding.** Place sod over the prepared area. Roll or tamp the sodded area to form a thoroughly compacted, solid mat filling all voids in the sodded area with additional sod. Trim and remove all visible netting and backing materials. Keep sod along edges of curbs, driveways, walkways, etc., trimmed until acceptance.

- 3.1.3. **Mulch Sodding.** Mow sod source to no shorter than 4 in., rake and remove cuttings. Disk the sod in 2 directions, cutting the sod to a minimum of 4 in. Excavate the sod material to a depth of no more than 6 in. Keep excavated material moist or it will be rejected. Distribute the mulch sod uniformly over the area to a depth of 6 in. loose, unless otherwise shown on the plans, and roll with a light roller or other suitable equipment.
- Add or reshape the mulch sod to meet the requirements of Section 162.3.2., "Finishing."
- 3.2. **Finishing.** Smooth and shape the area after planting to conform to the desired cross-sections. Spread any excess soil uniformly over adjacent areas or dispose of the excess soil as directed.
- 3.3. **Straw or Hay Mulch.** Apply straw or hay mulch for "Spot Sodding" and "Mulch Sodding" uniformly over the area as shown on the plans. Apply straw mulch at 2 to 2-1/2 tons per acre. Apply hay mulch at 1-1/2 to 2 tons per acre. Use a tacking method over the mulched area.

4. MEASUREMENT

"Spot Sodding," "Block Sodding," and "Straw or Hay Mulch" will be measured by the square yard in its final position. "Mulch Sodding" will be measured by the square yard in its final position or by the cubic yard in vehicles as delivered to the planting site.

5. PAYMENT

The work performed and materials furnished in accordance with this Item and measured as provided under "Measurement" will be paid for at the unit price bid for "Spot Sodding," "Block Sodding," "Straw or Hay Mulch," or "Mulch Sodding." This price is full compensation for securing a source, excavation, loading, hauling, placing, rolling, finishing, furnishing materials, equipment, labor, tools, supplies, and incidentals. Fertilizer will not be paid for directly but will be subsidiary to this Item.

Unless otherwise specified on the plans, water, except for that used for maintaining and preparing the sod before planting

Item 168

Vegetative Watering



1. DESCRIPTION

Provide and distribute water to promote growth of vegetation as directed.

2. MATERIALS

Use water that is clean and free of industrial wastes and other substances harmful to the growth of vegetation.

3. CONSTRUCTION

Apply water when directed. Furnish and operate equipment to distribute water at a uniform and controllable rate. Ensure that watering does not erode soil or plantings. Apply water in the required quantity where shown on the plans or as directed.

4. MEASUREMENT

This Item will be measured by the 1,000 gal. as applied.

5. PAYMENT

The work performed and materials furnished in accordance with this Item and measured as provided under "Measurement" will be paid for at the unit price bid for "Vegetative Watering." This price is full compensation for furnishing and operating watering equipment and measuring devices and for furnishing and applying water, including hauling,

Item 170

Irrigation System



1. DESCRIPTION

Furnish and install an irrigation system as shown on the plans.

2. MATERIALS

Unless otherwise shown on the plans, use materials that meet the following:

- 2.1. **Irrigation Pipe.** Use polyvinyl chloride (PVC) pipe meeting ASTM D2241, SDR 13.5, SDR 17, SDR 21; or ASTM D1785, Schedule 40.
- 2.2. **Fittings.** Furnish fittings as shown on the plans. PVC fittings must meet ASTM D2466.
- 2.3. **Encasement Pipe.** Use PVC pipe meeting ASTM D1785, Schedule 40, with an inside diameter at least 1 in. larger than the outside diameter of the irrigation pipe, unless otherwise shown on the plans.
- 2.4. **Low-Voltage Wire.** Use minimum 14 gauge UL-approved wire for direct burial.
- 2.5. **Bentonite Slurry.** Use a viscous mixture of commercial bentonite and fresh water containing 2% to 8% bentonite by weight.
- 2.6. **Accessories.** Use valves, sprinkler heads, and controllers that meet the requirements shown on the plans. Use backflow preventers that meet the requirements of the controlling water utility authority.
- 2.7. **Electrical Service.** Use materials meeting the requirements of Section 170.3.1., "Electrical Service," for installations requiring over 100 V.

3. CONSTRUCTION

Perform irrigation system work under the supervision of a person possessing an irrigator's license issued by the TCEQ. Provide documentation of this license. Follow the codes of the controlling utility authority for water and electrical connection and service.

Coordinate irrigation system installation with plant installation, when plant installation is specified, to ensure that watering requirements are met. Prevent damage to vegetation, slopes, utilities, structures, and other amenities. Repair any damage within the right of way caused by the Contractor. Perform the following activities as required:

- 3.1. **Electrical Service.** Construct installations requiring over 100 V in accordance with the details shown on the plans and the pertinent requirements of the following:
 - Item 618, "Conduit,"
 - Item 620, "Electrical Conductors,"
 - Item 622, "Duct Cable,"
 - Item 624, "Ground Boxes," and
 - Item 628, "Electrical Services."
- 3.2. **Excavation and Trenching.** Excavate and trench to a sufficient depth to provide for a minimum of 12-in. soil cover for all lines or as shown on the plans. Use common trenches for irrigation lines and wire runs where

feasible. Protect trenches and boring pits less than 5 ft. deep using approved methods. Protect trenches and boring pits 5 ft. deep or deeper in accordance with Item 402, "Trench Excavation Protection," and Item 403, "Temporary Special Shoring."

- 3.3. **Boring.** Bore at the locations shown on the plans or as directed. Avoid weakening or damaging roadways or other facilities. Bore the lengths in one direction only. Maintain horizontal and vertical alignment to an accuracy of 1 in. in 10 ft. Use water or other approved fluids in connection with boring operations only to lubricate cuttings.

Bentonite slurry may be used in unconsolidated soil formations to consolidate cuttings for the bit, seal the walls of the hole, and furnish lubrication for subsequent removal of cuttings and installation of the pipe immediately thereafter.
- 3.4. **Water Jetting.** Use water jetting only when shown on the plans or approved in writing. Water jet the lengths in one direction only. Cease operations and complete all necessary work by boring when jetting operations fail to produce a smooth stable hole.
- 3.5. **Encasement.** Provide a minimum of 12 in. of cover over encasement pipe. Cover is measured to the top of the subgrade for paved areas and to the bottom of the slab for sidewalks or non-load-bearing slabs.
- 3.6. **Pipe and Valve Assembly.** Assemble pipe and fittings as recommended by the manufacturers. Clean pipe and fittings of dust, dirt, and moisture before assembly. Make connections between plastic pipe and metal valves with threaded fittings and plastic adapters. Install backflow preventers as required by ordinances of the controlling water utility authority. Install pipe, valves, and valve boxes a minimum of 12 in. from sidewalks, buildings, walls, and other objects, or as directed.
- 3.7. **Sprinkler Heads and Drip Tubing.** Install sprinkler heads and drip tubing in accordance with the manufacturer's recommendations at locations shown on the plans or as directed.
- 3.8. **Controller.** Install controllers in accordance with the manufacturer's recommendations at locations shown on the plans or as directed.
- 3.9. **Low-Voltage Wire.** Install wire in trenches below the pipe or in a minimum 1-in. PVC pipe with at least 12 in. of cover over its entire run. Install wire in continuous lengths. Splice wire, if required, in valve boxes using waterproof materials.
- 3.10. **Closing and Flushing of PVC Pipe.** Cap or plug pipe after installation to prevent entry of foreign materials that would obstruct the flow of water. Leave caps or plugs in place until removal is necessary for completion of the installation. Thoroughly flush all water lines.
- 3.11. **Hydrostatic Tests.** Notify the Engineer in writing at least 48 hr. before testing. Center load all pipe with enough backfill to prevent arching or slipping while under pressure. After all welded joints have cured for at least 24 hr., test the main lines from the meter to the valves, with all valves closed, for at least 2 consecutive hours by applying a continuous and static minimum 80-psi water pressure. Repair leaks if necessary and retest. Maintain the lines under static pressure for 24 hr. without leaks before final approval.
- 3.12. **Backfill and Compaction.** Backfill trenches and other excavations with soil free of objectionable material after the irrigation system is fully operational, all tests and inspections have been performed, and the results are approved. Backfill and compact in 8-in. layers. Smooth and shape disturbed soil to final grade or as directed.

4. MEASUREMENT

This Item will be measured by the lump sum or by each complete system.

5. PAYMENT

For "lump sum" measurement, the work performed and the materials furnished in accordance with this Item and measured as provided under "Measurement" will be paid for at the unit price bid for "Irrigation System." For "each" measurement, the work performed and the materials furnished in accordance with this Item and measured as provided under "Measurement" will be paid for at the unit price bid for "Irrigation System." of the design specified. This price is full compensation for furnishing and installing all components; flushing and testing water lines; furnishing and operating equipment; and labor, tools, and incidentals. Protection methods for excavations 5 ft. deep or deeper will be measured and paid for as required under Item 402, "Trench Excavation Protection," or Item 403, "Temporary Special Shoring." Electrical work required in accordance with Section 170.3.1., "Electrical Service," will be measured and paid for under Item 628, "Electrical Services." Power and water consumed will be paid for by the Department unless otherwise shown on the plans. Backflow preventer, system inspection, and maintenance fees will be paid by the Department unless otherwise shown on the plans.

Item 192

Landscape Planting



1. DESCRIPTION

Provide and install plants and related materials at designated locations. Maintain plants, related materials, and landscaped areas at the specified frequency.

2. MATERIALS

Comply with the latest standards as follows, unless otherwise shown on the plans.

- The most recently published edition of the *American Standard for Nursery Stock* (ANSI Z60.1).
- *Standardized Plant Names* published by the American Joint Committee on Horticultural Nomenclature.
- Meet additional requirements for plants and related materials as shown on the plans.

2.1. **Plants.** Provide nursery-grown plants unless otherwise shown on the plans. Provide vigorous, healthy, well-rooted, plants with well-formed crowns, true to sizes, and of typical shape and characteristics of the species. Provide plants with nametags attached showing the genus, species, and specified variety.

2.2. **Rejection of Plants.** Plants with any of the following characteristics are subject to rejection:

- disease or insect infestation, including eggs and larvae;
- dried or damaged root system or crown;
- excessive abrasion of the bark;
- prematurely opened or damaged buds;
- disfiguring knots;
- evidence of heat, freeze, or wind burn, mold, sun scald, or similar conditions;
- damaged, pruned, crooked, or multiple leaders, unless multiple leaders are specified or are normal for the species;
- cut limbs over 3/4 in. in diameter that have not completely callused;
- dry, soggy, loose, cracked, broken, misshapen, or undersized root balls;
- processed balled roots (bench balled);
- root balls encased in impervious material;
- overgrown or root-bound plants;
- undersized or unsound containers;
- stock not well established in containers;
- containers with less than 3/4 planting medium depth;
- an abnormal balance between height and spread for the species;
- missing or broken serialized locking tags, when specified;
- any condition that does not conform to the plans or nursery stock standards; or
- conditions that would prevent thriving growth or cause an unacceptable appearance.

2.3. **Backfill and Plant Soil Mix.** Use soil excavated from the plant pits or beds or provide a loose, friable soil mix as shown on the plans. Provide a soil mix free of reproductive parts of weeds and grasses, harmful substances, and detrimental amounts of foreign matter. Use compost in accordance with Section 161.2.3., "General Use Compost (GUC)," when specified on the plans.

- 2.4. **Mulch.** Provide loose, organic mulch derived from plants unless other types are shown on the plans. Use mulch free of excessive amounts of leaves, sticks, harmful substances, and detrimental amounts of soil or other foreign matter.
- 2.5. **Water.** Furnish water in accordance with Article 168.2., "Materials."
- 2.6. **Fertilizer.** Use fertilizer in accordance with Article 166.2., "Materials," unless otherwise shown on the plans.
- 2.7. **Other Materials.** Provide additional incidental materials associated with landscape planting that meet the requirements shown on the plans.

3. CONSTRUCTION

Prevent damage to vegetation, slopes, utilities, structures, and other amenities. Repair any damage within the right of way caused by the Contractor at no additional expense to the Department. Provide and document a licensed pesticide applicator for the treatment of insects, diseases, animals, and vegetation in accordance with the Texas Department of Agriculture in the appropriate use category.

- 3.1. **Plant Inspection Before Delivery.** Plants are subject to inspection at the nursery or location of collection. Provide and use serialized locking tags on plants selected by the Engineer as directed.
- 3.2. **Plant Delivery.** Notify the Engineer at least 48 hr. before delivering plants to the worksite. Coordinate with the Engineer for inspection and approval of materials upon delivery. Remove rejected plants from the worksite and replace as directed.
- 3.3. **Mark Plant Locations and Bed Outlines.** Provide and install coded markings, such as wooden stakes, to mark the locations, type of plants, and the outline of planting beds. Obtain approval of the plant and bed locations before excavation begins.
- 3.4. **Plant Pit Excavation.** Excavate pits for container, balled and burlapped (B&B), and fabric bag grown stock to the depth shown on the plans or at least the depth of the root ball. Excavate pits for bare root plants equal to the depth of the root system. Excavate pits on slopes using measurements shown on the plans or at least the depth of the root ball based on the uphill side of the pit. Excavate the receiving pits for mechanically transplanted plants with the same type and size equipment used to dig the plants.

Provide a minimum horizontal dimension of 12 in. between the root ball and pit walls for the following, unless otherwise shown on the plans:

- 15-gal. or larger pots,
- 14-in. or larger boxes, and
- larger than 14-in. root balls of B&B and fabric bag grown plants.

Provide a minimum horizontal dimension of 2 times the root ball diameter across the pit for the following, unless otherwise shown on the plans:

- less than 15-gal. pots, and
- 14-in. or smaller root balls of B&B and fabric bag grown plants.

Provide a minimum pit diameter for bare root plants that permits the roots to spread without crowding or curving around the walls of the pit.

- 3.5. **Plant Installation.** Install plants within 24 hr. of excavating plant pits. Scarify the walls of pits as plant installation begins. Center all plants in a pit, except those mechanically collected, backfill in lifts, each lift 1/3 of the depth of the root ball, and fill the pit with water after each lift to remove air pockets. Prune protruding roots, from the root ball, for mechanically collected plants, to a point even with the cutting blades. Place the plant in the pit and work sand between the pit walls and the root ball with water until the sand fills all the cavities.

Apply fertilizer according to the plans. Ensure that the top of the root ball remains at the grade shown on the plans after final settlement.

- 3.6. **Plant Basin Construction.** Construct a basin at least 8 in. deep with an inside diameter equal to the pit diameter and with a level top around the plant unless otherwise shown on the plans. Use excavated soil from the plant pits or beds, backfill material, or other approved material for the basin. Spread excess excavated materials over the right of way as directed or remove and dispose of material in accordance with local, state, and federal requirements at locations outside the right of way.
- 3.7. **Watering.** Coordinate the planting work to ensure that an irrigation system, when specified, operates properly to meet the watering requirements. Apply water to plants or planting areas at the rate and frequency specified for an irrigation system or for the application method shown on the plans. Keep the ground and backfill moist at least 12 in. around the entire root ball if a watering rate and frequency are not specified.
- 3.8. **Using Antitranspirants.** Apply antitranspirants, when shown on the plans, in accordance with the manufacturer's instructions.
- 3.9. **Pruning.** Accomplish pruning in accordance with ANSI A300 (Part 1) pruning standards unless otherwise shown on the plans or as directed. Retain the natural shape of plants according to the species. Limit pruning to removal of dead and broken branches, and an additional amount as specified or directed to improve the appearance and health of plants.

Prune B&B and collected plants to reduce the original crown by approximately 20% by removing interior branches, entangled limbs, and small branches unless otherwise shown on the plans. Prune to develop the central leader or leaders. Remove and dispose of pruning debris.

Apply wound dressing on oak (*Quercus*) species within 20 min. of causing bark damage or making a pruning cut. Apply wound dressing on other plants when shown on the plans or as directed. Use wound dressing in accordance with the pruning standards.
- 3.10. **Plant Support Installation.** Install plant supports such as staking, guying, and bracing as shown on the plans. Support and keep plants in a vertical position or as directed.
- 3.11. **Tree Trunk Protection.** Install tree trunk protection guards when shown on the plans and in accordance with the manufacturer's instructions.
- 3.12. **Landscape Edge Installation.** Install landscape edging when shown on the plans and in accordance with the manufacturer's instructions.
- 3.13. **Plant Bed Preparation.** Prepare the bed and install the planting soil mix, vegetation barrier, and other materials as shown on the plans.
- 3.14. **Mulching.** Mulch plant basins and beds to a depth of 2 in. unless otherwise shown on the plans.
- 3.15. **Maintenance.** Begin maintenance of each plant under this Item when the installation is completed and approved, or as directed. Perform maintenance until final acceptance of the project, or for a minimum of 90 days should the final acceptance occur less than 90 days after the plant installation is completed and approved, by following the work schedule and frequencies shown on the plans. Perform the minimum requirements stated below if a work schedule and frequency are not shown on the plans.
 - 3.15.1. **Watering.** Water in accordance with Section 192.3.7., "Watering."
 - 3.15.2. **Mowing, Trimming, and Edging.** Mow, trim, and edge the designated locations. Mow, trim, and edge every 15 days during the growing season or as directed, mowing at a 3-4 in. height. Keep cord trimmers at least 1 ft. from plants to prevent damage to the plants. Plants damaged during the maintenance work are subject to rejection and replacement according to Section 192.3.15.9., "Plant Replacement."

- 3.15.3. **Plant Basin, Bed, and Worksite Maintenance.** Chemically control weeds and unwanted grasses in plant basins, beds, along and in structures, and around existing plants every 15 days, unless otherwise directed. Reshape plant basins and beds every 30 days to conform to the plans. Maintain mulch in accordance with Section 192.3.14., "Mulching." Ensure that herbicides do not contact desirable plants. Follow the manufacturer's instruction for handling and applying herbicides.
- 3.15.4. **Plant Supports.** Replace, repair, and adjust supports to meet the requirements of the plans and in accordance with Section 192.3.10., "Plant Support Installation." Adjust staking and guying to prevent girdling of plant trunks. Remove or dispose of support material as directed.
- 3.15.5. **Pruning.** Prune as shown on the plans and in accordance with Section 192.3.9., "Pruning."
- 3.15.6. **Insect, Disease, and Animal Inspection and Treatment.** Inspect plants and planted areas at least every 15 days. Notify the Engineer of concerns and problems and recommend corrective measures in writing for approval. Treat the plants and planted areas in accordance with TDA or TSPCB laws and regulations. Follow the manufacturer's instructions for handling and applying pesticides.
- 3.15.7. **Litter and Debris Collection and Disposal.** Collect litter and debris within the worksite before mowing and trimming at least every 15 days. Dispose of litter and debris as directed.
- 3.15.8. **Tree Trunk Wrap and Protection Guard Removal and Disposal.** Remove and dispose of tree trunk wrapping material and protection guards as directed.
- 3.15.9. **Plant Replacement.** Remove and dispose of dead and damaged plants from the worksite as directed. Replace plants as originally specified within 10 days of notification. Plant replacement must be completed and approved before payment is approved when notification is made between the starting date and day 30 of the maintenance work, according to Section 192.5.2., "30-Day Payment." Plant replacement must be completed and approved before payment is approved when notification is made between days 31 and 60 of the maintenance work, according to Section 192.5.3., "60-Day Payment." Plant replacement must be completed and approved before payment is approved when notification is made between days 61 and either the date of project final acceptance or day 90 of the maintenance work, whichever occurs later, according to Section 192.5.4., "Final Payment."

4. MEASUREMENT

This Item will be measured by each plant. When mulch is specified as a separate pay item, it will be measured by the cu. yd. or the sq. yd. When plant soil mix is specified as a separate pay item, it will be measured by the cu. yd. When landscape edge is specified as a separate pay item, it will be measured by the ft. When plant bed preparation is specified as a separate pay item, it will be measured by the sq. yd. When vegetation barrier is specified as a separate pay item, it will be measured by the sq. yd.

When mulch, plant bed preparation, and vegetation barrier are specified as separate pay items and measured by the square yard, they are plans quantity measurement Items. The quantity to be paid is the quantity shown in the proposal, unless modified by Article 9.2., "Plans Quantity Measurement." Additional measurements or calculations will be made if adjustments of quantities are required.

5. PAYMENT

The work performed and materials furnished in accordance with this Item and measured as provided under "Measurement" will be paid for at the unit price bid for "Plant Material" of the size or "Plant Material" of the size and type specified. This price is full compensation for furnishing the plant, mulch, plant soil mix, landscape edge, plant bed preparation, and vegetation barrier, unless mulch, plant soil mix, landscape edge, plant bed preparation, and vegetation barrier are specified as separate items. Payment for "Plant Material" will be handled in the following manner:

- 5.1. **Initial Payment.** When the planting and installation of related materials are completed and approved, 55% of the unit price bid for each related plant will be paid.
- 5.2. **30-Day Payment.** When the first 30 days of the plant maintenance (see Section 192.3.15., "Maintenance,") are completed and approved, an additional 15% of the unit price bid for each related plant will be paid, but if the maintenance is not completed and approved, that 15% will be forfeited.
- 5.3. **60-Day Payment.** When the second 30 days of the plant maintenance are completed and approved, an additional 15% of the unit price bid for each related plant will be paid, but if the maintenance is not completed and approved, that 15% will be forfeited.
- 5.4. **Final Payment.** After the final inspection and acceptance of the project or the completion of the 90-day maintenance, whichever occurs later, an additional 15% of the unit price bid for all plants will be paid, but if the maintenance is not completed and approved, that 15% will be forfeited.

When mulch, plant soil mix, landscape edge, plant bed preparation, and vegetation barrier are specified as separate pay items, the work performed and materials furnished in accordance with this Item and measured as provided under "Measurement" will be paid for at the unit price bid for "Mulch" or "Mulch" of the type specified, "Plant Soil Mix" or "Plant Soil Mix" of the type specified, "Landscape Edge" or "Landscape Edge" of the type specified, "Plant Bed Preparation" or "Plant Bed Preparation" of the type specified, and "Vegetation Barrier" or "Vegetation Barrier" of the type specified." Each price is full compensation for materials, equipment, labor, tools, and incidentals.

Item 193

Landscape Establishment



1. DESCRIPTION

Establish landscape plantings and maintain landscaped areas at designated locations. Begin this Item after the final payment is approved in accordance with Section 192.5.4., "Final Payment," if used with Item 192, "Landscape Planting."

2. MATERIALS

Furnish the following materials unless otherwise shown on the plans:

- fertilizer in accordance with Article 166.2., "Materials;"
- mulch consisting of loose organic materials such as wood chips or shredded bark that is free from harmful chemicals, soil, and other foreign matter that may promote compaction of the mulch or cause injury to the plants;
- water that is clean and free of industrial wastes and other substances harmful to the growth of vegetation;
- replacement plants as originally installed or as approved;
- pesticides conforming to the requirements of Section 193.3.1., "Plant Maintenance;"
- supports of the same type as originally installed or as approved; and
- irrigation system replacement parts of the same type and manufacturer as originally installed or approved equal.

3. WORK METHODS

Inspect the site at least every 2 weeks, and perform the required maintenance when "Plant Maintenance" or "Irrigation System Operation and Maintenance" are measured by the month. Perform the following maintenance activities, and conform to requirements shown on the plans.

- 3.1. **Plant Maintenance.** Maintain vegetation within the site in a healthy and vigorous growing condition. Apply pesticides, when required, under the supervision of a person possessing a license in the appropriate use category issued by the Texas Department of Agriculture. Provide documentation of this license, and obtain approval of the pesticides before applications. Ensure pesticide applications conform to label directions and all pertinent laws and regulations.
 - 3.1.1. **Pruning.** Prune in accordance with ANSI A300 (Part 1) when shown on the plans. Remove dead or dying plants and dead, diseased, or damaged limbs on trees and shrubs. Remove sucker-growth on trunks of trees. Apply an approved wound dressing to all oak (*Quercus*) species within 20 min. of causing bark damage or making a pruning cut. Remove and dispose of pruning debris.
 - 3.1.2. **Insect, Disease, and Animal Control.** Notify the Engineer in writing of problems with insects, diseases, or animals as such problems arise. Treat the plants or planted areas as directed.
 - 3.1.3. **Fertilization.** Apply fertilizer uniformly to all plants designated to receive fertilizer.
 - 3.1.4. **Mulching, Plant Basin, and Plant Bed Maintenance.** Physically remove or apply herbicide to weeds and grasses within plant basins and plant beds before placing additional mulch. Apply and maintain mulch at a depth of 2 in. Maintain plant basins and plant beds free of weeds and grasses, except those that have been

treated with herbicides may remain in place until removal is directed. Reshape plant basins and plant beds as necessary to conform to plan details.

- 3.1.5. **Mowing, Trimming, and Edging.** Remove and dispose of litter within the designated areas before mowing. Mow and trim grassed areas at the designated height and frequency. Edge where required. Do not use nylon cord trimmers inside plant basins or inside beds containing plant material. Trim vegetation and remove debris from curbs, sidewalks, and other hardscape features.
- 3.1.6. **Staking, Guying, and Bracing of Plants.** Stake, guy, or brace plants as directed. Remove support materials when directed, and dispose of removed materials.
- 3.2. **Plant Replacement.** Remove plants selected by the Engineer and replace with plants of the original species, size, and characteristics or with approved substitutes, if required on the plans. Replace plants that have been damaged or killed due to the actions or negligence of the Contractor at no additional cost to the Department. Replace plants within the next scheduled work period following notification to begin replacement unless otherwise directed. Backfill in conformance with the plans or as directed.
- 3.3. **Vegetative Watering.** Apply water at the designated rate and frequency to plants or planting areas not serviced by an existing irrigation system. Apply water as directed, adjusting rate and frequency to provide adequate moisture to plant material. Use watering equipment with accurate measuring devices.
- 3.4. **Irrigation System Operation and Maintenance.** Maintain the system under the supervision of a person possessing an irrigator's license issued by the TCEQ, and provide documentation of this license. Verify and adhere to all local, state, and federal regulations. Coordinate and obtain required backflow preventer testing at no cost to the Department. Operate the system using water provided by the Department unless otherwise shown on the plans. Ensure that all zones are functioning properly and providing adequate moisture to plant material using an approved watering schedule. Winterize the system, when required, to prevent freeze damage in locations where temperatures fall below 32°F. Repair the system using replacement parts of the same type and manufacturer as originally installed or an approved equal. Provide plant irrigation by an approved alternate method at no cost to the Department if the system fails due to the Contractor's actions or neglect.

4. MEASUREMENT

"Plant Maintenance" will be measured by the month or by the cycle. "Plant Replacement" will be measured by each plant. "Vegetative Watering" will be measured by the 1,000 gal. of water. "Irrigation System Operation and Maintenance" will be measured by the month.

5. PAYMENT

The work performed and materials furnished in accordance with this Item and measured as provided under "Measurement" will be paid for at the unit price bid for "Plant Maintenance," "Plant Replacement" of the size specified, "Plant Replacement" of the size and type specified, "Plant Replacement" of the group specified, "Vegetative Watering," and "Irrigation System Operation and Maintenance." This price is full compensation for furnishing and operating equipment and for litter pickup, mowing, trimming, edging, pruning, fertilizer, labor, materials, tools, and incidentals. Plant replacement needed due to Contractor negligence will be at no additional cost to the Department.

wed on the plans but not required to complete the above work.

Item 360

Concrete Pavement



1. DESCRIPTION

Construct hydraulic cement concrete pavement with or without curbs on the concrete pavement.

2. MATERIALS

- 2.1. **Hydraulic Cement Concrete.** Provide hydraulic cement concrete in accordance with Item 421, "Hydraulic Cement Concrete." Use compressive strength testing unless otherwise shown on the plans. Provide Class P concrete designed to meet a minimum average compressive strength of 3,200 psi or a minimum average flexural strength of 450 psi at 7 days or a minimum average compressive strength of 4,000 psi or a minimum average flexural strength of 570 psi at 28 days. Test in accordance with [Tex-448-A](#) or [Tex-418-A](#).
- Obtain written approval if the concrete mix design exceeds 520 lb. per cubic yard of cementitious material.
- Use coarse aggregates for continuously reinforced concrete pavements to produce concrete with a coefficient of thermal expansion not more than 5.5×10^{-6} in./in./°F. Provide satisfactory [Tex-428-A](#) test data from an approved testing laboratory if the coarse aggregate coefficient of thermal expansion listed on the Department's *Concrete Rated Source Quality Catalog* is not equal to or less than 5.5×10^{-6} in./in./°F.
- Provide Class HES concrete for very early opening of small pavement areas or leave-outs to traffic when shown on the plans or allowed. Design Class HES to meet the requirements of Class P and a minimum average compressive strength of 3,200 psi or a minimum average flexural strength of 450 psi in 24 hr., unless other early strength and time requirements are shown on the plans or allowed.
- Use Class A or P concrete meeting the requirements of Item 421, "Hydraulic Cement Concrete," and this Item for curbs that are placed separately from the pavement.
- 2.2. **Reinforcing Steel.** Provide Grade 60 or above, deformed steel for bar reinforcement in accordance with Item 440, "Reinforcement for Concrete." Provide positioning and supporting devices (baskets and chairs) capable of securing and holding the reinforcing steel in proper position before and during paving. Provide corrosion protection when shown on the plans.
- 2.2.1. **Dowels.** Provide smooth, straight dowels of the size shown on the plans, free of burrs, and conforming to the requirements of Item 440, "Reinforcement for Concrete." Coat dowels with a thin film of grease, wax, silicone or other approved de-bonding material. Provide dowel caps on the lubricated end of each dowel bar used in an expansion joint. Provide dowel caps filled with a soft compressible material with enough range of movement to allow complete closure of the expansion joint.
- 2.2.2. **Tie Bars.** Provide straight deformed steel tie bars. Provide either multiple-piece tie bars or single-piece tie bars as shown on the plans. Furnish multiple piece tie bar assemblies from the list of approved multiple-piece tie bars that have been prequalified in accordance with DMS-4515, "Multiple Piece Tie Bars for Concrete Pavements," when used. Multiple-piece tie bars used on individual projects must be sampled in accordance with [Tex-711-I](#), and tested in accordance with DMS-4515 "Multiple Piece Tie Bars for Concrete Pavements."
- 2.3. **Alternative Reinforcing Materials.** Provide reinforcement materials of the dimensions and with the physical properties specified when allowed or required by the plans. Provide manufacturer's certification of required material properties.

- 2.4. **Curing Materials.** Provide Type 2 membrane curing compound conforming to [DMS-4650](#), "Hydraulic Cement Concrete Curing Materials and Evaporation Retardants." Provide SS-1 emulsified asphalt conforming to Item 300, "Asphalts, Oils, and Emulsions," for concrete pavement to be overlaid with asphalt concrete under this Contract unless otherwise shown on the plans or approved. Provide materials for other methods of curing conforming to the requirements of Item 422, "Concrete Superstructures." Provide insulating blankets for curing fast track concrete pavement with a minimum thermal resistance (R) rating of 0.5 hour-square foot F/BTU. Use insulating blankets that are free from tears and are in good condition.
- 2.5. **Epoxy.** Provide Type III, Class C epoxy in accordance with [DMS-6100](#), "Epoxies and Adhesives," for installing all drilled-in reinforcing steel. Submit a work plan and request approval for the use of epoxy types other than Type III, Class C.
- 2.6. **Evaporation Retardant.** Provide evaporation retardant conforming to [DMS-4650](#), "Hydraulic Cement Concrete Curing Materials and Evaporation Retardants."
- 2.7. **Joint Sealants and Fillers.** Provide Class 5 or Class 8 joint-sealant materials and fillers unless otherwise shown on the plans or approved and other sealant materials of the size, shape, and type shown on the plans in accordance with [DMS-6310](#), "Joint Sealants and Fillers."

3. EQUIPMENT

Furnish and maintain all equipment in good working condition. Use measuring, mixing, and delivery equipment conforming to the requirements of Item 421, "Hydraulic Cement Concrete." Obtain approval for other equipment used.

- 3.1. **Placing, Consolidating, and Finishing Equipment.** Provide approved self-propelled paving equipment that uniformly distributes the concrete with minimal segregation and provides a smooth machine-finished consolidated concrete pavement conforming to plan line and grade. Provide an approved automatic grade control system on slip-forming equipment. Provide approved mechanically-operated finishing floats capable of producing a uniformly smooth pavement surface. Provide equipment capable of providing a fine, light water fog mist.

When string-less paving equipment is used, use Section 5.9.3, "Method C," and establish control points at maximum intervals of 500 ft. Use these control points as reference to perform the work.

Provide mechanically-operated vibratory equipment capable of adequately consolidating the concrete. Provide immersion vibrators on the paving equipment at sufficiently close intervals to provide uniform vibration and consolidation of the concrete over the entire width and depth of the pavement and in accordance with the manufacturer's recommendations. Provide immersion vibrator units that operate at a frequency in air of at least 8,000 cycles per minute. Provide enough hand-operated immersion vibrators for timely and proper consolidation of the concrete along forms, at all joints and in areas not covered by other vibratory equipment. Surface vibrators may be used to supplement equipment-mounted immersion vibrators. Provide tachometers to verify the proper operation of all vibrators.

For small or irregular areas or when approved, the paving equipment described in this Section is not required.

- 3.2. **Forming Equipment.**
- 3.2.1. **Pavement Forms.** Provide metal side forms of sufficient cross-section, strength, and rigidity to support the paving equipment and resist the impact and vibration of the operation without visible springing or settlement. Use forms that are free from detrimental kinks, bends, or warps that could affect ride quality or alignment. Provide flexible or curved metal or wood forms for curves of 100-ft. radius or less.
- 3.2.2. **Curb Forms.** Provide curb forms for separately placed curbs that are not slipformed that conform to the requirements of Item 529, "Concrete Curb, Gutter, and Combined Curb and Gutter."

- 3.3. **Reinforcing Steel Inserting Equipment.** Provide inserting equipment that accurately inserts and positions reinforcing steel in the plastic concrete parallel to the profile grade and horizontal alignment in accordance to plan details when approved.
- 3.4. **Texturing Equipment.**
 - 3.4.1. **Carpet Drag.** Provide a carpet drag mounted on a work bridge or a manual moveable support system. Provide a single piece of carpet of sufficient transverse length to span the full width of the pavement being placed and adjustable so that a sufficient longitudinal length of carpet is in contact with the concrete being placed to produce the desired texture. Obtain approval to vary the length and width of the carpet to accommodate specific applications.
 - 3.4.2. **Tining Equipment.** Provide a self-propelled metal tine device equipped with steel tines with cross-section approximately 1/32 in. thick × 1/12 in. wide. Provide tines for transverse tining equipment spaced at approximately 1 in., center-to-center, or provide tines for longitudinal tining equipment spaced at approximately 3/4 in., center-to-center. Manual methods that produce an equivalent texture may be used when it is impractical to use self-propelled equipment, such as for small areas, narrow width sections, and in emergencies due to equipment breakdown.
- 3.5. **Curing Equipment.** Provide a self-propelled machine for applying membrane curing compound using mechanically-pressurized spraying equipment with atomizing nozzles. Provide equipment and controls that maintain the required uniform rate of application over the entire paving area. Provide curing equipment that is independent of all other equipment when required to meet the requirements of Section 360.4.9., "Curing." Hand-operated pressurized spraying equipment with atomizing nozzles may only be used on small or irregular areas, narrow width sections, or in emergencies due to equipment breakdown.
- 3.6. **Sawing Equipment.** Provide power-driven concrete saws to saw the joints shown on the plans. Provide standby power-driven concrete saws during concrete sawing operations.
- 3.7. **Grinding Equipment.** Provide self-propelled powered grinding equipment that is specifically designed to smooth and texture concrete pavement using circular diamond blades when required. Provide equipment with automatic grade control capable of grinding at least a 3-ft. width longitudinally in each pass without damaging the concrete.
- 3.8. **Testing Equipment.** Provide testing equipment regardless of job-control testing responsibilities in accordance with Item 421, "Hydraulic Cement Concrete," unless otherwise shown on the plans or specified.
- 3.9. **Coring Equipment.** Provide coring equipment capable of extracting cores in accordance with the requirements of [Tex-424-A](#) when required.
- 3.10. **Miscellaneous Equipment.** Furnish both 10-ft. and 15-ft. steel or magnesium long-handled, standard straightedges. Furnish enough work bridges, long enough to span the pavement, for finishing and inspection operations.

4. CONSTRUCTION

Obtain approval for adjustments to plan grade-line to maintain thickness over minor subgrade or base high spots while maintaining clearances and drainage. Maintain subgrade or base in a smooth, clean, compacted condition in conformity with the required section and established grade until the pavement concrete is placed. Keep subgrade or base damp with water before placing pavement concrete.

Adequately light the active work areas for all nighttime operations. Provide and maintain tools and materials to perform testing.

- 4.1. **Paving and Quality Control Plan.** Submit a paving and quality control plan for approval before beginning pavement construction operations. Include details of all operations in the concrete paving process, including

methods to construct transverse joints, methods to consolidate concrete at joints, longitudinal construction joint layout, sequencing, curing, lighting, early opening, leave-outs, sawing, inspection, testing, construction methods, other details and description of all equipment. List certified personnel performing the testing. Submit revisions to the paving and quality control plan for approval.

- 4.2. **Job-Control Testing.** Perform all fresh and hardened concrete job-control testing at the specified frequency unless otherwise shown on the plans. Provide job-control testing personnel meeting the requirements of Item 421, "Hydraulic Cement Concrete." Provide and maintain testing equipment, including strength testing equipment at a location acceptable to the Engineer. Use of a commercial laboratory is acceptable. Maintain all testing equipment calibrated in accordance with pertinent test methods. Make strength-testing equipment available to the Engineer for verification testing.

Provide the Engineer the opportunity to witness all tests. The Engineer may require a retest if not given the opportunity to witness. Furnish a copy of all test results to the Engineer daily. Check the first few concrete loads for slump and temperature to verify concrete conformance and consistency on start-up production days. Sample and prepare strength-test specimens (2 specimens per test) on the first day of production and for each 3,000 sq. yd. or fraction thereof of concrete pavement thereafter. Prepare at least 1 set of strength-test specimens for each production day. Perform slump and temperature tests each time strength specimens are made. Monitor concrete temperature to ensure that concrete is consistently within the temperature requirements. The Engineer will direct random job-control sampling and testing. Immediately investigate and take corrective action as approved if any Contractor test result, including tests performed for verification purposes, does not meet specification requirements.

The Engineer will perform job-control testing when the testing by the Contractor is waived by the plans; however, this does not waive the Contractor's responsibility for providing materials and work in accordance with this Item.

- 4.2.1. **Job-Control Strength.** Use 7-day job-control concrete strength testing in accordance with [Tex-448-A](#) or [Tex-418-A](#) unless otherwise shown on the plans or permitted.

Use a compressive strength of 3,200 psi or a lower job-control strength value proven to meet a 28-day compressive strength of 4,000 psi as correlated in accordance with [Tex-427-A](#) for 7-day job-control by compressive strength. Use a flexural strength of 450 psi or a lower job-control strength value proven to meet a 28-day flexural strength of 570 psi as correlated in accordance with [Tex-427-A](#) for 7-day job-control by flexural strength.

Job control of concrete strength may be correlated to an age other than 7 days in accordance with [Tex-427-A](#) when approved. Job-control strength of Class HES concrete is based on the required strength and time.

Investigate the strength test procedures, the quality of materials, the concrete production operations, and other possible problem areas to determine the cause when a job-control concrete strength test value is more than 10% below the required job-control strength or when 3 consecutive job-control strength values fall below the required job-control strength. Take necessary action to correct the problem, including redesign of the concrete mix if needed. The Engineer may suspend concrete paving if the Contractor is unable to identify, document, and correct the cause of low-strength test values in a timely manner. The Engineer will evaluate the structural adequacy of the pavements if any job-control strength is more than 15% below the required job-control strength. Remove and replace pavements found to be structurally inadequate at no additional cost when directed.

- 4.2.2. **Split-Sample Verification Testing.** Perform split-sample verification testing with the Engineer on random samples taken and split by the Engineer at a rate of at least 1 for every 10 job-control samples. The Engineer will evaluate the results of split-sample verification testing. Immediately investigate and take corrective action as approved when results of split-sample verification testing differ more than the allowable differences shown in Table 1, or the average of 10 job-control strength results and the Engineer's split-sample strength result differ by more than 10%.

Table 1
Verification Testing Limits

Test Method	Allowable Differences
Temperature, Tex-422-A	2°F
Flexural strength, Tex-448-A	19%
Compressive strength, Tex-418-A	10%

- 4.3. **Reinforcing Steel and Joint Assemblies.** Accurately place and secure in position all reinforcing steel as shown on the plans. Place dowels at mid-depth of the pavement slab, parallel to the surface. Place dowels for transverse contraction joints parallel to the pavement edge. Tolerances for location and alignment of dowels will be shown on the plans. Stagger the lap locations so that no more than 1/3 of the longitudinal steel is spliced in any given 12-ft. width and 2-ft. length of the pavement. Use multiple-piece tie bars, drill and epoxy grout tie bars, or, if approved, mechanically-inserted single-piece tie bars at longitudinal construction joints. Verify that tie bars that are drilled and epoxied or mechanically inserted into concrete at longitudinal construction joints develop a pullout resistance equal to a minimum of 3/4 of the yield strength of the steel after 7 days. Test 15 bars using ASTM E488, except that alternate approved equipment may be used. All 15 tested bars must meet the required pullout strength. Perform corrective measures to provide equivalent pullout resistance if any of the test results do not meet the required minimum pullout strength. Repair damage from testing. Acceptable corrective measures include but are not limited to installation of additional or longer tie bars.
- 4.3.1. **Manual Placement.** Secure reinforcing bars at alternate intersections with wire ties or locking support chairs. Tie all splices with wire.
- 4.3.2. **Mechanical Placement.** Complete the work using manual placement methods described above if mechanical placement of reinforcement results in steel misalignment or improper location, poor concrete consolidation, or other inadequacies.
- 4.4. **Joints.** Install joints as shown on the plans. Joint sealants are not required on concrete pavement that is to be overlaid with asphaltic materials. Clean and seal joints in accordance with Item 438, "Cleaning and Sealing Joints." Repair excessive spalling of the joint saw groove using an approved method before installing the sealant. Seal all joints before opening the pavement to all traffic. Install a rigid transverse bulkhead, for the reinforcing steel, and shaped accurately to the cross-section of the pavement when placing of concrete is stopped.
- 4.4.1. **Placing Reinforcement at Joints.** Complete and place the assembly of parts at pavement joints at the required location and elevation, with all parts rigidly secured in the required position, when shown on the plans.
- 4.4.2. **Transverse Construction Joints.**
- 4.4.2.1. **Continuously Reinforced Concrete Pavement (CRCP).** Install additional longitudinal reinforcement through the bulkhead when shown on the plans. Protect the reinforcing steel immediately beyond the construction joint from damage, vibration, and impact.
- 4.4.2.2. **Concrete Pavement Contraction Design (CPCD).** Install and rigidly secure a complete joint assembly and bulkhead in the planned transverse contraction joint location when the placing of concrete is intentionally stopped. Install a transverse construction joint either at a planned transverse contraction joint location or mid-slab between planned transverse contraction joints when the placing of concrete is unintentionally stopped. Install tie bars of the size and spacing used in the longitudinal joints for mid-slab construction joints.
- 4.4.2.3. **Curb Joints.** Provide joints in the curb of the same type and location as the adjacent pavement. Use expansion joint material of the same thickness, type, and quality required for the pavement and of the section shown for the curb. Extend expansion joints through the curb. Construct curb joints at all transverse pavement joints. Place reinforcing steel into the plastic concrete pavement for non-monolithic curbs as shown on the plans unless otherwise approved. Form or saw the weakened plane joint across the full width

of concrete pavement and through the monolithic curbs. Construct curb joints in accordance with Item 529, "Concrete Curb, Gutter, and Combined Curb and Gutter."

- 4.5. **Placing and Removing Forms.** Use clean and oiled forms. Secure forms on a base or firm subgrade that is accurately graded and that provides stable support without deflection and movement by form riding equipment. Pin every form at least at the middle and near each end. Tightly join and key form sections together to prevent relative displacement.

Set side forms far enough in advance of concrete placement to permit inspection. Check conformity of the grade, alignment, and stability of forms immediately before placing concrete, and make all necessary corrections. Use a straightedge or other approved method to test the top of forms to ensure that the ride quality requirements for the completed pavement will be met. Stop paving operations if forms settle or deflect more than 1/8 in. under finishing operations. Reset forms to line and grade, and refinish the concrete surface to correct grade.

Avoid damage to the edge of the pavement when removing forms. Repair damage resulting from form removal and honeycombed areas with a mortar mix within 24 hr. after form removal unless otherwise approved. Clean joint face and repair honeycombed or damaged areas within 24 hr. after a bulkhead for a transverse construction joint has been removed unless otherwise approved. Promptly apply membrane curing compound to the edge of the concrete pavement when forms are removed before 72 hr. after concrete placement.

Forms that are not the same depth as the pavement, but are within 2 in. of that depth are permitted if the subbase is trenched or the full width and length of the form base is supported with a firm material to produce the required pavement thickness. Promptly repair the form trench after use. Use flexible or curved wood or metal forms for curves of 100-ft. radius or less.

- 4.6. **Concrete Delivery.** Clean delivery equipment as necessary to prevent accumulation of old concrete before loading fresh concrete. Use agitated delivery equipment for concrete designed to have a slump of more than 5 in. Segregated concrete is subject to rejection.

Begin the discharge of concrete delivered in agitated delivery equipment conforming to the requirements of Item 421, "Hydraulic Cement Concrete." Place non-agitated concrete within 45 min. after batching. Reduce times as directed when hot weather or other conditions cause quick setting of the concrete.

- 4.7. **Concrete Placement.** Do not allow the pavement edge to deviate from the established paving line by more than 1/2 in. at any point. Place the concrete as near as possible to its final location, and minimize segregation and rehandling. Distribute concrete using shovels where hand spreading is necessary. Do not use rakes or vibrators to distribute concrete.

- 4.7.1. **Consolidation.** Consolidate all concrete by approved mechanical vibrators operated on the front of the paving equipment. Use immersion-type vibrators that simultaneously consolidate the full width of the placement when machine finishing. Keep vibrators from dislodging reinforcement. Use hand-operated vibrators to consolidate concrete along forms, at all joints and in areas not accessible to the machine-mounted vibrators. Do not operate machine-mounted vibrators while the paving equipment is stationary. Vibrator operations are subject to review.

- 4.7.2. **Curbs.** Conform to the requirements of Item 529, "Concrete Curb, Gutter, and Combined Curb and Gutter" where curbs are placed separately.

- 4.7.3. **Temperature Restrictions.** Place concrete that is between 40°F and 95°F when measured in accordance with [Tex-422-A](#) at the time of discharge, except that concrete may be used if it was already in transit when the temperature was found to exceed the allowable maximum. Take immediate corrective action or cease concrete production when the concrete temperature exceeds 95°F.

Do not place concrete when the ambient temperature in the shade is below 40°F and falling unless approved. Concrete may be placed when the ambient temperature in the shade is above 35°F and rising or

above 40°F. Protect the pavement with an approved insulating material capable of protecting the concrete for the specified curing period when temperatures warrant protection against freezing. Submit for approval proposed measures to protect the concrete from anticipated freezing weather for the first 72 hr. after placement. Repair or replace all concrete damaged by freezing.

- 4.8. **Spreading and Finishing.** Finish all concrete pavement with approved self-propelled equipment. Use power-driven spreaders, power-driven vibrators, power-driven strike-off, screed, or approved alternate equipment. Use the transverse finishing equipment to compact and strike-off the concrete to the required section and grade without surface voids. Use float equipment for final finishing. Use concrete with a consistency that allows completion of all finishing operations without addition of water to the surface. Use the minimal amount of water fog mist necessary to maintain a moist surface. Reduce fogging if float or straightedge operations result in excess slurry.
- 4.8.1. **Finished Surface.** Perform sufficient checks with long-handled 10-ft. and 15-ft. straightedges on the plastic concrete to ensure the final surface is within the tolerances specified in Surface Test A in Item 585, "Ride Quality for Pavement Surfaces." Check with the straightedge parallel to the centerline.
- 4.8.2. **Maintenance of Surface Moisture.** Prevent surface drying of the pavement before application of the curing system by means that may include water fogging, the use of wind screens, and the use of evaporation retardants. Apply evaporation retardant at the manufacturer's recommended rate. Reapply the evaporation retardant as needed to maintain the concrete surface in a moist condition until curing system is applied. Do not use evaporation retardant as a finishing aid. Failure to take acceptable precautions to prevent surface drying of the pavement will be cause for shutdown of pavement operations.
- 4.8.3. **Surface Texturing.** Complete final texturing before the concrete has attained its initial set. Drag the carpet longitudinally along the pavement surface with the carpet contact surface area adjusted to provide a satisfactory coarsely textured surface. Prevent the carpet from getting plugged with grout. Do not perform carpet dragging operations while there is excessive bleed water.

A metal-tine texture finish is required unless otherwise shown on the plans. Provide transverse tining unless otherwise shown on the plans. Immediately following the carpet drag, apply a single coat of evaporation retardant, if needed, at the rate recommended by the manufacturer. Provide the metal-tine finish immediately after the concrete surface has set enough for consistent tining. Operate the metal-tine device to obtain grooves approximately 3/16 in. deep, with a minimum depth of 1/8 in., and approximately 1/12 in. wide. Do not overlap a previously tined area. Use manual methods to achieve similar results on ramps, small or irregular areas, and narrow width sections of pavements. Repair damage to the edge of the slab and joints immediately after texturing. Do not tine pavement that will be overlaid or that is scheduled for blanket diamond grinding or shot blasting.

Target a carpet drag texture of 0.04 in., as measured by [Tex-436-A](#), when carpet drag is the only surface texture required on the plans. Ensure adequate and consistent macro-texture is achieved by applying enough weight to the carpet and by keeping the carpet from getting plugged with grout. Correct any location with a texture less than 0.03 in. by diamond grinding or shot blasting. The Engineer will determine the test locations at points located transversely to the direction of traffic in the outside wheel path.

- 4.8.4. **Small, Irregular Area, or Narrow Width Placements.** Use hand equipment and procedures that produce a consolidated and finished pavement section to the line and grade where machine placements and finishing of concrete pavement are not practical.
- 4.8.5. **Emergency Procedures.** Use hand-operated equipment for applying texture, evaporation retardant, and cure in the event of equipment breakdown.
- 4.9. **Curing.** Keep the concrete pavement surface from drying as described in Section 360.4.8.2., "Maintenance of Surface Moisture," until the curing material has been applied. Maintain and promptly repair damage to curing materials on exposed surfaces of concrete pavement continuously for at least 3 curing days. A curing day is defined as a 24-hr. period when either the temperature taken in the shade away from artificial heat is above 50°F for at least 19 hr. or the surface temperature of the concrete is maintained above 40°F for 24 hr.

Curing begins when the concrete curing system has been applied. Stop concrete paving if curing compound is not being applied promptly and maintained adequately. Other methods of curing in accordance with Item 422, "Concrete Superstructures," may be used when specified or approved.

- 4.9.1. **Membrane Curing.** Spray the concrete surface uniformly with 2 coats of membrane curing compound at an individual application rate of no more than 180 sq. ft. per gallon. Apply the curing compound before allowing the concrete surface to dry.

Manage finishing and texturing operations to ensure placement of curing compound on a moist concrete surface, relatively free of bleed water, to prevent any plastic shrinkage cracking. Time the application of curing compound to prevent plastic shrinkage cracking.

Maintain curing compounds in a uniformly agitated condition, free of settlement before and during application. Do not thin or dilute the curing compound.

Apply additional compound at the same rate of coverage to correct damage where the coating shows discontinuities or other defects or if rain falls on the newly coated surface before the film has dried enough to resist damage. Ensure that the curing compound coats the sides of the tining grooves.

- 4.9.2. **Asphalt Curing.** Apply a uniform coating of asphalt curing at a rate of 90 to 180 sq. ft. per gallon when an asphaltic concrete overlay is required. Apply curing immediately after texturing and once the free moisture (sheen) has disappeared. Obtain approval to add water to the emulsion to improve spray distribution. Maintain the asphalt application rate when using diluted emulsions. Maintain the emulsion in a mixed condition during application.

- 4.9.3. **Curing Class HES Concrete.** Provide membrane curing in accordance with Section 360.4.9.1., "Membrane Curing," for all Class HES concrete pavement. Promptly follow by wet mat curing in accordance with Section 422.4.8., "Final Curing," until opening strength is achieved but not less than 24 hr.

- 4.9.4. **Curing Fast-Track Concrete Pavement.** Provide wet mat curing unless otherwise shown on the plans or as directed. Cure in accordance with Section 422.4.8., "Final Curing." Apply a Type 1-D or Type 2 membrane cure instead of wet mat curing if the air temperature is below 65°F and insulating blankets are used.

- 4.10. **Sawing Joints.** Saw joints to the depth shown on the plans as soon as sawing can be accomplished without damage to the pavement regardless of time of day or weather conditions. Some minor raveling of the saw-cut is acceptable. Use a chalk line, string line, sawing template, or other approved method to provide a true joint alignment. Provide enough saws to match the paving production rate to ensure sawing completion at the earliest possible time to avoid uncontrolled cracking. Reduce paving production if necessary to ensure timely sawing of joints. Promptly restore membrane cure damaged within the first 72 hr. of curing.

- 4.11. **Protection of Pavement and Opening to Traffic.** Testing for early opening is the responsibility of the Contractor regardless of job-control testing responsibilities unless otherwise shown on the plans or as directed. Testing result interpretation for opening to traffic is subject to approval.

- 4.11.1. **Protection of Pavement.** Erect and maintain barricades and other standard and approved devices that will exclude all vehicles and equipment from the newly placed pavement for the periods specified. Protect the pavement from damage due to crossings using approved methods before opening to traffic. Where a detour is not readily available or economically feasible, an occasional crossing of the roadway with overweight equipment may be permitted for relocating equipment only but not for hauling material. When an occasional crossing of overweight equipment is permitted, temporary matting or other approved methods may be required.

Maintain an adequate supply of sheeting or other material to cover and protect fresh concrete surface from weather damage. Apply as needed to protect the pavement surface from weather.

- 4.11.2. **Opening Pavement to All Traffic.** Pavement that is 7 days old may be opened to all traffic. Clean pavement, place stable material against the pavement edges, seal joints, and perform all other traffic safety related work before opening to traffic.
- 4.11.3. **Opening Pavement to Construction Equipment.** Unless otherwise shown on the plans, concrete pavement may be opened early to concrete paving equipment and related delivery equipment after the concrete is at least 48 hr. old and opening strength has been demonstrated in accordance with Section 360.4.11.4., “Early Opening to All Traffic,” before curing is complete. Keep delivery equipment at least 2 ft. from the edge of the concrete pavement. Keep tracks of the paving equipment at least 1 ft. from the pavement edge. Protect textured surfaces from the paving equipment. Restore damaged membrane curing as soon as possible. Repair pavement damaged by paving or delivery equipment before opening to all traffic.
- 4.11.4. **Early Opening to All Traffic.** Concrete pavement may be opened after curing is complete and the concrete has attained a flexural strength of 450 psi or a compressive strength of 3,200 psi, except that pavement using Class HES concrete may be opened after 24 hr. if the specified strength is achieved.
- 4.11.4.1. **Strength Testing.** Test concrete specimens cured under the same conditions as the portion of the pavement involved.
- 4.11.4.2. **Maturity Method.** Use the maturity method, [Tex-426-A](#), to estimate concrete strength for early opening pavement to traffic unless otherwise shown on the plans. Install at least 2 maturity sensors for each day’s placement in areas where the maturity method will be used for early opening. Maturity sensors, when used, will be installed near the day’s final placement for areas being evaluated for early opening. Use test specimens to verify the strength–maturity relationship in accordance with [Tex-426-A](#), starting with the first day’s placement corresponding to the early opening pavement section.
- Verify the strength–maturity relationship at least every 10 days of production after the first day. Establish a new strength–maturity relationship when the strength specimens deviate more than 10% from the maturity-estimated strengths. Suspend use of the maturity method for opening pavements to traffic when the strength–maturity relationship deviates by more than 10% until a new strength–maturity relationship is established.
- The Engineer will determine the frequency of verification when the maturity method is used intermittently or for only specific areas.
- 4.11.5. **Fast Track Concrete Pavement.** Open the pavement after the concrete has been cured for at least 8 hr. and attained a minimum compressive strength of 1,800 psi or a minimum flexural strength of 255 psi when tested in accordance with Section 360.4.11.4.1., “Strength Testing,” or Section 360.4.11.4.2., “Maturity Method,” unless otherwise directed. Cover the pavement with insulating blankets when the air temperature is below 65°F until the pavement is opened to traffic.
- 4.11.6. **Emergency Opening to Traffic.** Open the pavement to traffic under emergency conditions, when the pavement is at least 72 hr. old when directed in writing. Remove all obstructing materials, place stable material against the pavement edges, and perform other work involved in providing for the safety of traffic as required for emergency opening.
- 4.12. **Pavement Thickness.** The Engineer will check the thickness in accordance with [Tex-423-A](#) unless other methods are shown on the plans. The Engineer will perform 1 thickness test consisting of 1 reading at approximately the center of the paving equipment every 500 ft. or fraction thereof. Core where directed, in accordance with [Tex-424-A](#), to verify deficiencies of more than 0.2 in. from plan thickness and to determine the limits of deficiencies of more than 0.75 in. from plan thickness. Fill core holes using an approved concrete mixture and method.
- 4.12.1. **Thickness Deficiencies Greater than 0.2 in.** Take one 4-in. diameter core at that location to verify the measurement when any depth test measured in accordance with [Tex-423-A](#) is deficient by more than 0.2 in. from the plan thickness.

Take 2 additional cores from the unit (as defined in Section 360.4.12.3., "Pavement Units for Payment Adjustment" at intervals of at least 150 ft. and at selected locations if the core is deficient by more than 0.2 in., but not by more than 0.75 in. from the plan thickness, and determine the thickness of the unit for payment purposes by averaging the length of the 3 cores. In calculations of the average thickness of this unit of pavement, measurements in excess of the specified thickness by more than 0.2 in. will be considered as the specified thickness plus 0.2 in.

- 4.12.2. **Thickness Deficiencies Greater than 0.75 in.** Take additional cores at 10-ft. intervals in each direction parallel to the centerline to determine the boundary of the deficient area if a core is deficient by more than 0.75 in. The Engineer will evaluate any area of pavement found deficient in thickness by more than 0.75 in., but not more than 1 in. Remove and replace the deficient areas without additional compensation or retain deficient areas without compensation, as directed. Remove and replace any area of pavement found deficient in thickness by more than 1 in. without additional compensation.

- 4.12.3. **Pavement Units for Payment Adjustment.** Limits for applying a payment adjustment for deficient pavement thickness from 0.20 in. to not more than 0.75 in. are 500 ft. of pavement in each lane. Lane width will be as shown on typical sections and pavement design standards.

For greater than 0.75 in. deficient thickness, the limits for applying zero payment or requiring removal will be defined by coring or equivalent nondestructive means as determined by the Engineer. The remaining portion of the unit determined to be less than 0.75 in. deficient will be subject to the payment adjustment based on the average core thickness at each end of the 10-ft. interval investigation as determined by the Engineer.

Shoulders will be measured for thickness unless otherwise shown on the plans. Shoulders 6 ft. wide or wider will be considered as lanes. Shoulders less than 6 ft. wide will be considered part of the adjacent lane.

Limits for applying payment adjustment for deficient pavement thickness for ramps, widenings, acceleration and deceleration lanes, and other miscellaneous areas are 500 ft. in length. Areas less than 500 ft. in length will be individually evaluated for payment adjustment based on the plan area.

- 4.13. **Ride Quality.** Measure ride quality in accordance with Item 585, "Ride Quality for Pavement Surfaces," unless otherwise shown on the plans.

5. MEASUREMENT

This Item will be measured as follows:

- 5.1. **Concrete Pavement.** Concrete pavement will be measured by the square yard of surface area in place. The surface area includes the portion of the pavement slab extending beneath the curb.
- 5.2. **Curb.** Curb on concrete pavement will be measured by the foot in place.

6. PAYMENT

These prices are full compensation for materials, equipment, labor, tools, and incidentals.

- 6.1. **Concrete Pavement.** The work performed and materials furnished in accordance with this Item and measured as provided under "Measurement" will be paid for at the adjusted unit price bid for "Concrete Pavement" of the type and depth specified as adjusted in accordance with Section 360.6.2., "Deficient Thickness Adjustment."
- 6.2. **Deficient Thickness Adjustment.** Where the average thickness of pavement is deficient in thickness by more than 0.2 in. but not more than 0.75 in., payment will be made using the adjustment factor as specified in Table 2 applied to the bid price for the deficient area for each unit as defined under Section 360.4.12.3., "Pavement Units for Payment Adjustment."

Table 2
Deficient Thickness Price Adjustment Factor

Deficiency in Thickness Determined by Cores (in.)	Proportional Part of Contract Price Allowed (Adjustment Factor)
Not deficient	1.00
Over 0.00 through 0.20	1.00
Over 0.20 through 0.30	0.80
Over 0.30 through 0.40	0.72
Over 0.40 through 0.50	0.68
Over 0.50 through 0.75	0.57

- 6.3. **Curb.** Work performed and furnished in accordance with this Item and measured as provided under "Measurement" will be paid for at the unit

Item 427

Surface Finishes for Concrete



1. DESCRIPTION

Finish concrete surface as specified.

2. MATERIALS

Furnish materials in accordance with this Article for the type of surface finish specified.

2.1. Coatings.

2.1.1. **Adhesive Grout and Concrete Paint.** Provide coatings in accordance with [DMS-8110](#), "Coatings for Concrete." Match color of coating with Federal Standard 595C color 35630, concrete gray, unless otherwise shown on the plans.

2.1.2. **Opaque Sealer.** Provide penetrating-type sealer in accordance with [DMS-8110](#), "Coatings for Concrete." Match color of coating with Federal Standard 595C color 35630, concrete gray, unless otherwise shown on the plans.

2.1.3. **Silicone-Based Paint.** Provide silicone resin emulsion paint (SREP) meeting the requirements of [DMS-8141](#), "Paint, Silicon Resin for Concrete." Match color of coating with Federal Standard 595C color 35630, concrete gray, unless otherwise shown on the plans.

2.2. **Exposed Aggregate Finish.** Provide approved aggregates meeting the grading requirements shown on the plans. Provide gravel consisting of predominantly rounded particles unless otherwise shown on the plans. Use crushed stone when a bush-hammered finish is desired. Provide a concrete surface retardant. Provide clear Type II permanent anti-graffiti coating in accordance with [DMS-8111](#), "Anti-Graffiti Coatings."

3. EQUIPMENT

The Engineer may require demonstration of the equipment's capabilities.

3.1. **Low-Pressure Water Blasting.** Use equipment capable of supplying a minimum pressure at the nozzle end of 3,000 psi at a minimum flow rate of 3 gpm. Use a 0° rotary, vibratory, or wobble-type nozzle. Use equipment capable of including abrasives in the water stream when specified on the plans.

3.2. **Abrasive Blasting.** Use equipment with filters to produce oil-free air and also water-free air when dry air is required.

3.3. **Slurry Blasting.** Use equipment capable of combining air and abrasives with water to form a wet blast media capable of cleaning and preparing surface without creating dust.

3.4. **Spraying.** Use equipment with fluid and air pressure regulators and gauges to allow for adjustment to produce a uniform spray pattern for spray applications.

3.5. **Off-the-Form Finish Forms.** Use nonstaining, nonporous, high-quality forming materials (e.g., steel or medium-density and high-density overlaid plywood forms). Use steel or high-density overlaid plywood forms when the same form will be used more than twice.

- 3.6. **Form Liners.** Provide form liners capable of producing a patterned finish as shown on the plans. Use form liners that provide a clean release from the concrete surface without pulling or breaking the textured concrete.

4. CONSTRUCTION

Provide the finish specified on the plans for the specific surface areas.

- 4.1. **Surface Areas of Finish.** "Surface area of finish" designates the areas where the specified surface is to be applied.

4.1.1. **Surface Area I.**

- surfaces of railing;
- exterior vertical faces of fascia beams, slabs, slab spans, arches, and box girders;
- the outside bottom surface of fascia beams and girders;
- the underside of overhanging slabs to the point of juncture of the supporting beam;
- the entire underside of slab spans when shown on the plans;
- vertical and underside surfaces of bents and piers;
- all surfaces of tie beams, abutments, bridge wingwalls, culvert headwalls and wingwalls, and retaining walls exposed to view after all backfill and embankment is placed; and
- all other exposed surfaces shown on the plans to require surface treatment.

- 4.1.2. **Surface Area II.** Surfaces of railing, all wingwalls, and the exterior vertical faces of slabs.

- 4.1.3. **Surface Area III.** Only the top and roadway faces of all concrete railing and bridge wingwalls.

- 4.1.4. **Surface Area IV.** Areas designated on the plans.

- 4.2. **Coatings.** Apply the coating specified on the plans.

- 4.2.1. **Preparation.** Clean the surface thoroughly before applying a coating by chemical cleaning, if required, and by blast cleaning.

Submit a containment plan that details the procedures proposed to keep public property, private property, and the environment from being adversely affected by the cleaning and painting operations. Do not discharge washwater into body of water or conveyance without TCEQ approval. Collect and properly dispose of any paint or debris dislodged as a result of cleaning operations.

- 4.2.1.1. **Chemical Cleaning.** Clean surfaces contaminated with oil, grease, or other contaminants by scrubbing the area with an approved detergent or other concrete cleaning material before blast cleaning. Do not use a solvent that will stain the surface or inhibit coating adhesion. Perform the following test to check for surface contamination of oil type materials:

- Spray the surface with a fine mist of potable water.
- Examine the area to see if water beads up.
- Clean the surface if beading is found.

- 4.2.1.2. **Blast Cleaning.** Blast clean the designated surface to remove weak surface material, curing compound, and other contaminants before applying a specified coating, leaving a lightly etched uniformly textured surface. Use an approved abrasive propelled by oil-free air with or without the addition of potable water, or blast with potable water with or without the addition of an approved abrasive at sufficient pressure to effectively clean and prepare the surface. Maintain the stand-off-distance of the nozzle to a maximum of 12 in. from the surface being cleaned when water blasting.

Do not damage concrete surface by gouging, spalling, or exposing coarse aggregate by the blasting operation.

Blow clean oil- and moisture-free air on all surfaces with sufficient pressure to remove loose particles immediately before application of any coating. Perform the following test to check for surface cleanliness as directed:

- Press a 10 in. long strip of 2 in. wide clear packing tape on the surface by rubbing with moderate pressure.
- Grasp the free end of the tape, and remove the tape from the surface with a sharp jerk.
- Examine the surface of the tape for clinging particles.

Continue cleaning the concrete surface until there are no particles clinging to the tape surface for subsequent tests. An additional test that can be used to check the surface for dust is to wipe the surface with a dark cloth and then examine the cloth for discoloration.

- 4.2.2. **Application.** Mix coating materials thoroughly with a mechanical mixer at a speed that causes the mixture to rotate entirely in the container. Ensure complete mixing by probing the container with a stirring device searching for non-dispersed or settled material.

Apply coatings once the new concrete has aged a minimum of 28 days except for the adhesive grout coating. Do not apply coatings when weather conditions will be detrimental to the final surface finish as determined by the Engineer. Do not apply coatings when surface temperature of the concrete exceeds 110°F.

Apply coatings to obtain a consistent color and texture.

- 4.2.2.1. **Adhesive Grout.** Apply coating on a moistened surface to a uniform minimum thickness of 1/16 in. Apply when ambient temperature is at least 50°F.
- 4.2.2.2. **Concrete Paint.** Apply the coating on a dry surface in 2 coats for a total maximum application rate of 150 sq. ft. per gallon. Match the color of the applied coating with the color standard shown on the plans. Do not thin material unless approved. Apply when ambient temperature is between 50°F and 100°F.
- 4.2.2.3. **Opaque Sealer.** Apply the coating to a dry surface in 2 coats for a total maximum application rate of 200 sq. ft. per gallon. Match the color of the applied coating with the approved color standard shown on the plans. Do not thin the material unless approved. Apply when ambient temperature is between 40°F and 100°F.
- 4.2.2.4. **Silicone Resin Paint.** Apply the coating on a dry surface in 2 coats at a rate not exceeding 300 sq. ft. per gallon per coat. Do not thin the material unless approved. Wait a minimum of 12 hr. between coats. Apply when ambient temperature is between 50°F and 100°F.

Repair surface finish where coating has been applied that exhibits peeling, flaking, or discoloration or has been damaged during construction. Remove defective or damaged coating. Clean and recoat repair area in accordance with the requirements of this Item.

- 4.3. **Special Surface Finishes.** Submit a work plan to the Engineer for any special finish shown on the plans. Include in the work plan the type of aggregates, materials, variation of panel or pattern arrangement, dimensions, construction methods, and other features affecting the work as is necessary for the "Special Surface Finish" specified.

- 4.3.1. **Blast Finish.** Provide surface profile as shown on the plans, or meet the minimum requirements of Section 427.4.2.1., "Preparation." Construct a 4 × 4 ft. sample panel using the same concrete used in construction of the member to receive the blast finish. Prepare the surface of the sample panel to meet the specified finish, and obtain approval of the sample finish. Use the approved sample panel finish as the standard for surfaces requiring a blast finish.

- 4.3.2. **Slurry Coat Finish.** Provide cementitious slurry coat finish to concrete surfaces within 14 days of placing concrete or later as approved. Water blast surface to moisten surface before application when application of slurry coat occurs more than 14 days after placing concrete. Do not apply slurry coat finish to surfaces receiving another type coating finish.

Submit for approval proposed slurry recipe including cement, latex concrete additive, with or without sand, and other additives before application. The Engineer will direct the level of surface texture the slurry coat will have, whether to include sand, and what fineness of sand is to be used. Tint mixture of slurry as specified on the plans and as directed. Maintain consistent slurry throughout project only modifying recipe to account for color variations being noticed as work progresses.

Rub in slurry with carborundum stone, stiff bristle brush, or other approved device. Limit thickness of applied slurry to a maximum of 1/16 in. thick. Demonstrate application methods for slurry coat and obtain approval of proposed surface. Apply slurry coat to obtain a tightly adhering cementitious finish to concrete surface. Remove material and reapply if slurry coat is not tightly adhering or is cracked.

- 4.3.3. **Rub Finish.** Provide a finish to the surface by rubbing the surface with a carborundum stone or other approved material. Begin rubbing the surface immediately after forms have been removed. Provide blast finish or other finish as directed at no additional cost to the Department if rubbing surface is delayed to the point where the surface is dry and unable to be rubbed to produce an acceptable finish. Perform the requirements to obtain the ordinary surface finish specified in Section 420.4.13., "Ordinary Surface Finish," concurrently with rubbing the surface. Rub concrete-patching areas after the patch material has thoroughly set and blend the patch in with the surrounding area to produce a surface with uniform color and texture where concrete patching is performed.

Keep the surface continuously wet after form removal until the rubbing is complete. Rub the surface sufficiently to bring the wetted concrete surface to a paste producing a smooth dense surface without pits, form marks, or other irregularities. Do not use cement grout to form the paste on the surface. Stripe the surface with a brush to conceal the rubbing pattern and allow the paste to reset. Wash the concrete with potable water after the paste has sufficiently set to leave it with a neat and uniform appearance and texture. Apply membrane curing, if required, in accordance with Item 420, "Concrete Substructures," after rubbing is complete.

- 4.3.4. **Off-the-Form Finish.** Provide a finish with minimal surface defects and uniform color and texture by using non-staining, non-porous, high-quality forming materials. Use the same type of forming materials for like elements for the entire structure.

Use mortar-tight forms to prevent leakage and discoloration. Seal joints with compressible gasket material, caulk, tape, or by other suitable means that are not detrimental to the concrete finish if necessary. Use one brand and type of form-release agents for all surfaces unless another product produces a similar concrete surface appearance. Do not use barrier-type (wax, fuel oil, carrier oil, etc.) release agents. Use form-release agents containing a rust inhibitor on steel forms. Clean rust off steel forms before use. Use plywood that will not cause discoloration of the concrete surface.

Direct special attention to consolidation and vibration of the concrete around the form surfaces to minimize bug holes. Modify concrete placement and vibration techniques if surface contains an excessive amount of bug holes. Remove all forms without interruption once form removal begins to prevent discoloration due to differing form curing times.

Do not use membrane curing on surfaces with off-the-form finish.

Repair honeycombed and spall areas with least dimension larger than 2 in. in accordance with the concrete surface repair procedures outlined in Item 420, "Concrete Substructures," to obtain an ordinary surface finish as defined in Section 420.4.13., "Ordinary Surface Finish." Patch honeycombed and spall areas with least dimension greater than 3/4 in. but smaller than 2 in. by filling defect with repair material omitting the chipping operation. Do not patch honeycombed and spall areas with least dimension smaller than 3/4 in. Perform required repairs as soon as forms are removed. Match repair material color and texture with surrounding

concrete surfaces. Minimize the area of repair by not smearing the repair material over acceptable concrete surfaces in an attempt to blend the repair with the surrounding concrete. Cut out form ties at least 1/2 in. below the surface, and patch accordingly. Perform repair work as soon as possible after removing forms so that concrete and repair material have similar ages. Replace or refurbish the forms when the Engineer determines defective formwork is causing an excessive amount of repair work.

- 4.3.5. **Form Liner Finish.** Provide patterned finish as shown on the plans. Do not splice form liner panels in a way that causes a noticeable transition or line between pieces. Wash and clean form liners after each use when the forms can be reused. Replace form liners that have become damaged or worn.

Construct a sample panel for each form liner finish. Approval is required to verify the sample panel meets the requirements of the plans and specifications before beginning work. Upon approval, the sample panel becomes the model panel that all other work will be compared against. Deviation in color, grade, or depth from the model panel is grounds for rejection of the form liner finish. Removal of defective work may be necessary as determined by the Engineer and in accordance with the surface finish requirements outlined in Item 420, "Concrete Substructures," to obtain an ordinary surface finish as defined in Section 420.4.13., "Ordinary Surface Finish."

Seal all form liner joints in a manner acceptable to the Engineer to prevent leakage at the surface.

- 4.3.6. **Exposed Aggregate Finish.** Provide exposed aggregate finish as indicated on the plans. Provide a depth of finish between 3/8 in. and 1/2 in. unless directed otherwise.

Apply a concrete surface retarder that penetrates approximately 1/4 in. into the forms or concrete surface to help achieve the desired finish. Apply 2 or 3 coats to wood forms to account for absorption if necessary. Tape or caulk form joints to prevent escape of the retarder during the placing operations. Protect the form surfaces from sun and rain while exposed to the atmosphere. Re-treat form surfaces with retarder if disturbed. Protect adjacent areas of concrete not requiring exposed aggregate finish from the retarder.

Remove forms 12 to 15 hr. after concrete placement but not before concrete has gained sufficient strength to support the self-weight of the member unless directed otherwise. Expose the aggregate for the finish immediately after form removal. Remove the grout paste covering the aggregate to be exposed by an approved method. Do not loosen the aggregate by the grout removal operation. Maintain required curing on all surfaces except for the time while the aggregate is being exposed. Cure using wet mats or membrane after the aggregate is exposed.

Repair defective areas as determined by the Engineer.

Re-clean exposed aggregate surfaces by an approved method. Apply a coat of clear Type II permanent anti-graffiti coating to cleaned exposed aggregate surface. Apply anti-graffiti coatings by spray, roller, or brush at the application rates recommended by the manufacturer and in accordance with Item 740, "Graffiti Removal and Anti-Graffiti Coating."

5. MEASUREMENT

When surface finishes for concrete is shown on the plans to be a pay item, measurement will be by the square foot of the type of surface finish specified.

This is a plans quantity measurement item. The quantity to be paid is the quantity shown in the proposal, unless modified by Article 9.2., "Plans Quantity Measurement." Additional measurement or calculations will be made if adjustments of quantities are required.

6. PAYMENT

Unless otherwise specified on the plans, the work performed, materials furnished, equipment, labor, tools, and incidentals will not be paid for directly but will be considered subsidiary to pertinent items.

When a surface finish for concrete is specified as a pay item, the work performed and materials furnished in accordance with this Item and measured as provided under "Measurement" will be paid for at the unit price bid for "Adhesive Grout Finish," "Concrete Paint Finish," "Opaque Sealer Finish," "Silicone Resin Paint Finish," or "Blast Finish." This price is full compensation for materials; cleaning and preparing surfaces; application of materials; and equipment, labor, tools, and incidentals.

Slurry coat, rub, off-the-form, form liner, or exposed aggregate finishes (including anti-graffiti coating) will not be paid for under this Item but are

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Item 442

Metal for Structures



1. DESCRIPTION

Provide structural steel, high-strength bolts, forgings, steel castings, iron castings, wrought iron, steel pipe and tubing, aluminum castings and tubing, or other metals used in structures, except reinforcing steel and metal culvert pipe.

2. MATERIALS

Furnish mill test reports (MTRs), supplemental test documentation, and certifications required by this and other pertinent Items.

2.1. **Structural Steel.** The Engineer may sample and test steel in accordance with ASTM A370.

2.1.1. **Bridge Structures.** Provide the grade of ASTM A709 steel shown on the plans. Grade 50W, 50S, or HPS 50W may be substituted for Grade 50 at no additional cost to the Department. Use Zone 1 if no AASHTO temperature zone is shown on the plans.

2.1.2. **Non-Bridge Structures.**

2.1.2.1. **Steel Classifications.** Provide the types and grades of steel listed in this Section unless otherwise shown on the plans.

2.1.2.1.1. **Carbon Steel.** Meet ASTM A36.

2.1.2.1.2. **Low-Alloy Steel.** Meet the requirements of one of the following standards:

- ASTM A529 Grade 50;
- ASTM A572 Grade 50 or 55;
- ASTM A588;
- ASTM A709 Grade 50, 50S, 50W, or HPS 50W; or
- ASTM A992.

Specify ASTM A6 supplemental requirement S18, "Maximum Tensile Strength," for material used for sign, signal, and luminaire supports.

2.1.2.2. **Impact Testing.** Tension members and components of the following structure types, if more than 1/2 in. thick. Other members designated on the plans must meet the Charpy V-notch (CVN) requirements of Table 1:

- base plates for roadway illumination assemblies, traffic signal pole assemblies, high mast illumination poles, camera poles, and overhead sign supports;
- pole mounting plates, arm mounting plates, and clamp-on plates for traffic signal pole assemblies;
- arm stiffeners, pole gussets, and stiffeners for traffic signal pole long mast arm assemblies (50 ft. to 65 ft.);
- pole shafts, ground sleeves, and handhole frames for high mast illumination poles;
- W-columns, tower pipes, multiple-sided shafts, tower pipe and multiple-sided shaft connection plates, chord angles, chord splice plates or angles, and truss bearing angles for truss type overhead sign supports; and

- pipe posts, pipe arms, post and arm flange plates, and handhole frames for monotube overhead sign supports.

Table 1
CVN Requirements for Non-Bridge Steel

Material	Thickness	Minimum CVN Toughness
ASTM A36, A53, A242, A500, A501, A709 Gr. 36, any other steel with minimum specified yield point below 40 ksi	up to 4"	15 ft.-lb. at 70°F
ASTM A572, ¹ A588, ¹ A633, ¹ any other steel with minimum specified yield point between 40 and 65 ksi, inclusive	up to 2"	15 ft.-lb. at 70°F
	over 2" to 4", mechanically fastened	15 ft.-lb. at 70°F
	over 2" to 4", welded	20 ft.-lb. at 70°F
Any steel with minimum specified yield point over 65 ksi and under 90 ksi ²	up to 2-1/2"	20 ft.-lb. at 50°F
	over 2-1/2" to 4", mechanically fastened	20 ft.-lb. at 50°F
	over 2-1/2" to 4", welded	25 ft.-lb. at 50°F

1. Reduce the testing temperature by 15°F for each 10-ksi increment or fraction thereof above 65 ksi if the yield point of the material given on the MTR exceeds 65 ksi.
2. Reduce the testing temperature by 15°F for each 10-ksi increment or fraction thereof above 85 ksi if the yield point of the material given on the MTR exceeds 85 ksi.

Use the (H) frequency of testing for material with minimum specified yield point up to 50 ksi. Use the (P) frequency of testing for material with minimum specified yield point over 50 ksi. Ensure steel is sampled and tested in accordance with ASTM A673.

2.1.3. Other Components.

2.1.3.1. **Miscellaneous Bridge Components.** Provide steel that meets ASTM A36, A709 Grade 36, or A500 Grade B for members such as steel bearing components not bid under other Items, steel diaphragms for use with concrete bridges, and armor and finger joints, unless otherwise shown on the plans.

2.1.3.2. **Shear Connectors and Anchors.** Provide cold-drawn bars for stud shear connectors, slab anchors, and anchors on armor and finger joints that meet the requirements of ASTM A108, Grade 1010, 1015, 1018, or 1020, either semi-killed or killed, and have the tensile properties given in Table 2 after drawing or finishing. Determine tensile properties in accordance with ASTM A370.

Table 2
Minimum Tensile Properties for Bar Stock

Tensile strength	60 ksi
Yield strength	50 ksi
Elongation	20% (2")
Reduction of area	50%

Provide certification from the manufacturer that the studs or anchors as delivered have the required material properties.

2.1.3.3. **Fasteners.** Provide high-strength bolts that meet ASTM A325 or A490 as shown on the plans. The Department may sample high-strength bolts, nuts, and washers for structural connections in accordance with [Tex-719-I](#).

Follow the requirements of Item 447, "Structural Bolting," for tests, test reports, and supplemental requirements for high-strength bolts, nuts, and washers.

Use bolts that meet ASTM A307 and nuts that meet ASTM A563 when ASTM A325 or A490 bolts are not shown on the plans.

2.1.3.4. **Slip-Resistant Deck Plates.** Furnish steel for deck plates that meets ASTM A786 and one of A242, A588, or A709 Gr. 50W. State the type and trade name of material to be used on the shop drawings.

- 2.1.3.5. **Rail Posts.** Provide material for rail posts that meets ASTM A36 or ASTM A709 Grade 36 unless otherwise shown on the plans.
- 2.2. **Steel Forgings.** Provide steel forgings for pins, rollers, trunnions, or other forged parts that meet ASTM A668, Class C, D, F, or G, as shown on the plans. For pins 4 in. or smaller in diameter for non-railroad structures, material that meets ASTM A108, Grades 1016 to 1030, with a minimum yield strength of 36 ksi, may be used instead.
- 2.3. **Steel Castings.** Provide steel castings that meet ASTM A27, Grade 70-36.
- 2.4. **Iron Castings.** Provide iron castings that are true to pattern in form and dimensions; free from pouring faults, sponginess, cracks, blow holes, and other defects in positions affecting their strength and value for the service intended; and meet the standards shown in Table 3.

Table 3
Standards for Iron Castings

Casting Material	ASTM Standard	Grade or Class
Gray iron	A48	35B
Malleable iron	A47	32510
Ductile iron	A536	70-50-05

- 2.5. **Steel Tubing.** Provide steel tubing that meets ASTM A500, Grade B unless otherwise shown on the plans. Tubing that meets API Standard 5L, Grade X52 may be used if produced by a mill listed in the standard API specifications as authorized to produce pipe with the API monogram. Hydrostatic tests are not required for API 5L steel, and instead of an MTR, the manufacturer may furnish a certificate for each lot or shipment certifying the tubing meets the requirements of this Section.

- 2.6. **Pipe Rail.** "Pipe" includes special extruded and bent shapes. Provide pipe that is rolled, extruded, or cold-pressed from a round pipe or flat plate, and of the section shown on the plans.

Ensure the design of the cold press and dies results in a pipe of uniform section-free from die marks. Cut the pipe to the lengths required once it has been formed to the required section. Make the end cuts and notches at the angles to the axis of the pipe required to produce vertical end faces and plumb posts when required by the plans. Provide a neat and workmanlike finish when cutting and notching pipe.

- 2.7. **Aluminum.** Provide aluminum materials that meet the standards shown in Table 4 unless otherwise shown on the plans.

Table 4
Aluminum Standards

Material	ASTM Standard	Alloy-Temper
Castings	B108	A444.0-T4
Extrusions	B221	6061-T6
Sheet or plate	B209	6061-T6

When testing is required, cut test specimens from castings from the lower 14 in. of the tension flange, but not at the junction of the rib or base. Flatten the curved surfaces before machining. Provide standard test specimens in conformance with ASTM E8.

3. CONSTRUCTION

- 3.1. **Fabrication, Erection, and Painting.** Fabricate, weld, and erect structural metal in accordance with Item 441, "Steel Structures," Item 447, "Structural Bolting," Item 448, "Structural Field Welding," and the applicable AWS welding code. Paint in accordance with Item 446, "Field Cleaning and Painting Steel." Aluminum or galvanized steel members do not require painting unless otherwise shown on the plans.
- 3.2. **Galvanizing.** Galvanize fabricated steel items, steel castings, bolts, nuts, screws, washers, and other miscellaneous hardware in accordance with Item 445, "Galvanizing." Galvanizing is not required unless specified.

4. MEASUREMENT

This Item will be measured by the pound of structural metal furnished and placed in a complete structure not including the weight of erection bolts, paint, or weld metal.

This is a plans quantity measurement Item. The quantity to be paid is the quantity shown in the proposal unless modified by Article 9.2., "Plans Quantity Measurement." Additional measurements or calculations will be made if adjustments of quantities are required.

The maximum percent variance from the plans quantity will be as given in Table 5.

Table 5
Percent Variance

Quantity	Variance
Over 1,000,000 lb.	1/2%
100,000 through 1,000,000 lb.	1%
Under 100,000 lb.	1-1/2%

If the requests for increases in sizes or weights of members are approved, measurement will be made on the sizes or weights shown on the plans.

Castings, bearing plates, anchor bolts, drains, deck plates, armor and finger joints, and other metal for which no separate measurement is specified will be included in the total quantity of structural steel.

The weights of rolled materials (such as structural shapes and plate) will be computed on the basis of nominal weights and dimensions using measurements shown on the plans. Deductions will not be made for material that is removed for copes, clips, planing, or weld preparation. The weight of castings will be computed from the dimensions shown on the approved shop drawings. Shoes will be measured by the weights shown on the plans.

Weight of high-strength fasteners will be based on Table 6. Weight of other metal will be based on Table 7.

Splices will be measured as follows:

- No additional weight will be allowed for weld metal in a welded splice.
- Where a bolted splice is permitted as an alternate for a welded splice, measurement will be made on the basis of a welded splice.
- Where a bolted splice is required, the weight of the splice material, bolt heads, washers, and nuts will be measured with no deduction for holes.

Table 6
Pay Weight for High-Strength Fasteners, Pounds per Hundred Units

Diameter	Item		
	Bolt heads	Nuts	Washers
3/4"	15	19	4.8
7/8"	23	30	7.0
1"	32	43	9.4
1-1/8"	45	59	11
1-1/4"	64	79	14

Table 7
Pay Weight for Metals

Material	Weight (lb./cu. in.)
Steel	0.2836
Cast iron	0.2604
Wrought iron	0.2777

5.**PAYMENT**

The work performed and materials furnished in accordance with this Item and measured as provided under "Measurement" will be paid for at the unit price bid for "Structural Steel" of the type (Rolled Beam, Plate Girder, Tub Girder, Box Girder, Railroad Through-Girder, Railroad Deck-Girder, Miscellaneous Bridge, Miscellaneous Non-Bridge) specified. This price is full compensation for materials, fabrication, transportation, erection, paint, painting, galvanizing, equipment,

Item 459

Gabions and Gabion Mattresses



1. DESCRIPTION

Furnish and install gabions and gabion mattresses.

2. MATERIALS

This Item uses the following Items:

- **Gabion.** A wire fabric or mesh container, filled with stone, with a height of 1 ft. or greater.
- **Gabion Mattress.** A wire fabric or mesh container filled with stone and with a height of 6, 9, or 12 in. Referred to as "revet mattress" in ASTM A975.

Furnish welded wire gabions and gabion mattresses in accordance with ASTM A974. Furnish Style 1 or 2 when galvanized wire coating is specified or Style 5 when PVC wire coating is specified.

Furnish twisted wire gabions and gabion mattresses in accordance with ASTM A975. Furnish Style 1 when galvanized wire coating is specified or Style 3 when PVC wire coating is specified.

Furnish producer or supplier certification that wire baskets, stiffeners, lacing wire, and spiral connectors conform to the applicable ASTM specification.

Furnish producer or supplier certification that any alternative wire fasteners that are proposed conform to the strength requirements in Table 1 when tested in accordance with the applicable ASTM specification. Submit certification for approval before beginning work.

Table 1
Minimum Panel-to-Panel Connection Strength

Application	Strength (lb./ft.)
Gabions, galvanized	1,400
Gabions, PVC-coated	1,200
Gabion mattress, galvanized and PVC-coated	700

Provide filler stone consisting of clean, hard, durable stone that does not contain shale, caliche, or other soft particles. Stone appearing to contain such particles will be tested for soundness. Stone with 5-cycle magnesium sulfate soundness of more than 18% when tested in accordance with [Tex-411-A](#) will be rejected. Use stones that are between 4 and 8 in. in their least dimension for gabions and between 3 and 6 in. for gabion mattresses. Prevent contamination when storing and handling stone. Use stone with a minimum bulk specific gravity of 2.50 as determined by [Tex-403-A](#).

Provide Type 2 filter fabric when required in accordance with [DMS-6200](#), "Filter Fabric."

Provide filter material when required consisting of hard, durable, clean sand or gravel with a maximum particle size of 3/8 in.

3. CONSTRUCTION

At the start of construction, the gabion and gabion mattress manufacturer must have a qualified representative available for consultation as needed throughout the gabion and gabion mattress construction.

- 3.1. **Foundation Preparation.** Excavate the foundation to the extent shown on the plans or as directed. Remove all loose or otherwise unsuitable materials. Carefully backfill all depressions to grade with suitable materials from adjacent required excavation or another approved source, and compact the backfill to a density at least equal to the adjacent foundation. Remove any buried debris protruding from the foundation that will impede the proper installation and final appearance of the gabion or gabion mattress, and carefully backfill and compact voids as specified above. Have the Engineer inspect the prepared foundation surface immediately before gabion placement.
- 3.2. **Filter Placement.** Spread filter material, when required, uniformly on the prepared foundation surface to the slopes, lines, and grades indicated on the plans. Do not place filter material by methods that tend to segregate particle sizes. Repair all damage to the foundation surface that occurs during filter placement before proceeding with the work. Compaction of the filter material is not required; but, finish the material to present a reasonably even surface without mounds or windrows.
- 3.3. **Filter Fabric Placement.** Place filter fabric as shown on the plans when required. Any defects, rips, holes, flaws, or damage to the material may be cause for rejection. Place the material with the long axis parallel to the centerline of the structure, highway, or dam. Place securing pins in the lapped longitudinal joints, spaced on approximately 10-ft. centers. Keep the fabric material free of tension, stress, folds, wrinkles, or creases. Lap the material at least 3 ft. along the longitudinal joint of material, or lap the joints 1 ft. and sew them. Lap the ends of rolls at joints by at least 3 ft. Repair torn or punctured fabric by placing a layer of fabric over the damaged area, overlapping at least 3 ft. beyond the damaged area in all directions.
- Place securing pins through both strips of material at lapped joints at approximately the midpoint of the overlap. Place additional securing pins as necessary to hold filter fabric in position. Store filter fabric out of direct sunlight. Cover filter fabric as soon as possible after placing, but within 3 days.
- 3.4. **Assembly and Installation.** Place PVC-coated materials, if wire coating is specified, when the ambient temperature and the temperature of the coated wire are more than 15°F above the brittleness temperature of the PVC.

Assemble empty gabion or gabion mattress units individually, and place them on the approved surface to the lines and grades shown on the plans with the sides, ends, and diaphragms erected to ensure all creases are in the correct position, the tops of all sides are level, and all sides that are to remain exposed are straight and plumb. Fill the basket units after transporting them to their final position in the work.

Place the front row of gabion or gabion mattress units first and successively construct units toward the top of the slope or the back of the structure. Place the initial line of basket units on the prepared surface, and partially fill them to provide anchorage against deformation and displacement during subsequent filling operations. Stretch and hold empty basket units as necessary to remove kinks and provide a uniform alignment. Connect all adjoining empty gabion or gabion mattress units with lacing, wire spiral binders, or approved fasteners along the perimeter of their contact surface to obtain a monolithic structure before filling. Provide continuous stitching with alternating single and double loops at intervals of no more than 5 in. if lacing wire is used. Securely fasten all lacing wire terminals.

Provide connections meeting the joint strength requirements of Article 459.2., "Materials." These requirements apply to all connections including attachment of end panels, diaphragms, and lids.

Join twisted wire baskets through selvage-to-selvage or selvage-to-edge wire connection; do not use mesh-to-mesh or selvage-to-mesh wire connection except where baskets are offset or stacked, in which case join each mesh opening where mesh wire meets selvage or edge wire.

Carefully fill the basket units with stone, using hand placement to avoid damaging wire coating, to ensure as few voids as possible between the stones and to maintain alignment. Machine placement of stone will be allowed if approved. Correct excessive deformation and bulging of the mesh before further filling. Fill the basket units in a row in stages consisting of maximum 12 in. courses to avoid localized deformation. Do not at any time fill a cell to a depth exceeding 1 ft. more than its adjoining cell. Do not drop stones into the basket units from a height greater than 36 in.

Place 2 uniformly spaced internal connecting wires between each stone layer in all front and side gabion units, connecting the back and the front faces of the compartments for gabion units more than 2 ft. high. Loop connecting wires or preformed stiffeners around 2 twisted wire-mesh openings or a welded wire joint at each basket face, and securely twist the wire terminals to prevent loosening.

Place the outer layer of stone carefully along all exposed faces and arrange it by hand to ensure a neat and compact appearance. Overfill the last layer of stone uniformly by 1 to 2 in. for gabions and 1 in. for gabion mattresses to compensate for future settlement in rock while still allowing for the proper closing of the lid and providing an even surface with a uniform appearance. Make final adjustments for compaction and surface tolerance by hand. Stretch lids tight over the stone fill, using an approved lid-closing tool, until the lid meets the perimeter edges of the front and end panels. Do not use crowbars or other single-point leverage bars for lid closing. Close the lid tightly along all edges, ends, and internal-cell diaphragms with spiral binders or lacing wire or with other wire fasteners if approved. Ensure all projections or wire ends are turned into the baskets. Cut, fold, and wire the basket unit together to suit site conditions where a complete gabion or gabion mattress unit cannot be installed because of space limitations, as shown on the plans, or as directed. Fold the mesh back and neatly wire it to an adjacent basket face. Complete the assembling, installation, filling, lid closing, and lacing of the reshaped gabion or gabion mattress units in accordance with this Section.

4. MEASUREMENT

Gabions will be measured in place by the cubic yard of stone-filled gabions. Gabion mattresses will be measured in place by the square yard of surface area or by the cubic yard.

5. PAYMENT

The work performed and materials furnished in accordance with this Item and measured as provided under "Measurement" will be paid for at the unit price bid for "Gabions" of the basket-wire coating specified, and per square yard of "Gabion Mattresses" of the thickness and basket-wire coating specified or per cubic yard of "Gabion Mattresses" of the basket-wire coating specified.

The price bid is full compensation for wire baskets, stone fill, lacing and fasteners, filter fabric, filter material, excavation, grading and backfill, materials, tools, equipment, labor, and incidentals. Filter fabric and filter material, if used, will not be paid for

Item 496

Removing Structures



1. DESCRIPTION

Remove and either dispose of or salvage structures.

2. CONSTRUCTION

- 2.1. **Demolition Plans.** Follow the demolition sequence shown on the plans for bridge structures to be removed, or submit a demolition plan if indicated on the plans. Include in the required demolition plan the type and location of equipment to be used, the method and sequence of removal of the structural elements, and a narrative indicating the stability of the partially demolished structure is maintained throughout the demolition process. Have these plans signed and sealed by a licensed professional engineer when demolished structure intersects active roadways and as otherwise shown on the plans. Submit required demolition plans at least 14 days before starting work unless otherwise directed. Department approval of these plans is not required, but the Department reserves the right to request modifications to the plans when work could affect the safety of the traveling public and when around other transportation facilities to remain in place. Notify the Department 30 days before starting any bridge demolition work to allow for required notifications to other agencies.
- 2.2. **Removal.**
- 2.2.1. **Pipes.** Avoid damaging appurtenances determined by the Engineer to be salvageable.
- 2.2.2. **Concrete, Brick, or Stone Structures.** Portions of structures that will not interfere with the proposed construction may remain in place 2 ft. or more below the permanent ground line. Square off remaining structures and cut reinforcement flush with the surface of the concrete.
- 2.2.3. **Steel Structures.** Dismantle steel to be retained by the Department or re-erected by cold-cutting fastener heads and punching or drilling the remaining portion of the fastener, air-arc gouging welded connections, and flame-cutting beams along a straight line. The Engineer may approve other methods of cutting. Cut beams at the locations shown on the plans. Match-mark steel to be re-erected with paint in accordance with the erection drawings. Remove steel piles or cut off 2 ft. or more below the permanent ground line.
- 2.2.4. **Timber Structures.** Remove all fasteners from timber determined by the engineer to be salvageable. Remove timber piles or cut off 2 ft. or more below the permanent ground line.
- 2.3. **Salvage.** Avoid damage to materials shown on the plans to be salvaged. Deliver materials to be retained by the Department to the location shown on the plans. Block up salvaged steel materials off the ground.
- 2.4. **Disposal.** Material removed that is not deemed to be salvageable is the property of the Contractor. Dispose of removed material off the right of way in accordance with federal, state, and local regulations.
- 2.5. **Backfill.** Backfill excavation and voids to the original ground line if resulting from the removal of structures. Place backfill that will support any portion of the roadbed or embankment to the same requirements for placing embankment. Backfill other areas in 10 in. layers, loose measurement, and compact to the density of adjacent undisturbed material.

3. MEASUREMENT

This Item will be measured by each structure or by the foot.

4.**PAYMENT**

The work performed in accordance with this Item and measured as provided under "Measurement" will be paid for at the unit price bid for "Removing Structures" of the type of structure specified. This price is full compensation for demolition plan preparation, loading, hauling, disposal, stockpiling, removal of appurtenances, excavation

Item 500

Mobilization



1. DESCRIPTION

Establish and remove offices, plants, and facilities. Move personnel, equipment, and supplies to and from the project or the vicinity of the project site to begin work or complete work on Contract Items. Bonds and insurance are required for performing mobilization.

For Contracts with emergency mobilization, provide a person and method of contact available 24 hrs. a day, 7 days a week unless otherwise shown on the plans. The time of notice will be the transmission time of the written notice or notice provided orally by the Department's representative.

2. MEASUREMENT

This Item will be measured by the lump sum or each as the work progresses. Mobilization is calculated on the base bid only and will not be paid for separately on any additive alternate items added to the Contract.

3. PAYMENT

For this Item, the adjusted Contract amount will be calculated as the total Contract amount less the lump sum for mobilization. Except for Contracts with callout or emergency work, mobilization will be paid in partial payments as follows:

- Payment will be made upon presentation of a paid invoice for the payment or performance bonds and required insurance,
- Payment will be made upon verification of documented expenditures for plant and facility setup. The combined amount for all these facilities will be no more than 10% of the mobilization lump sum or 1% of the total Contract amount, whichever is less,
- When 1% of the adjusted Contract amount for construction Items is earned, 50% of the mobilization lump sum bid or 5% of the total Contract amount, whichever is less, will be paid. Previous payments under this Item will be deducted from this amount,
- When 5% of the adjusted Contract amount for construction Items is earned, 75% of the mobilization lump sum bid or 10% of the total Contract amount, whichever is less, will be paid. Previous payments under the Item will be deducted from this amount,
- When 10% of the adjusted Contract amount for construction Items is earned, 90% of the mobilization lump sum bid or 10% of the total Contract amount, whichever is less, will be paid. Previous payments under this Item will be deducted from this amount,
- Upon final acceptance, 97% of the mobilization lump sum bid will be paid. Previous payments under this Item will be deducted from this amount, and
- Payment for the remainder of the lump sum bid for "Mobilization" will be made after all submittals are received, final quantities have been determined and when any separate vegetative establishment and maintenance, test, and performance periods provided for in the Contract have been successfully completed.

For projects with extended maintenance or performance periods, payment for the remainder of the lump sum bid for "Mobilization" will be made 6 months after final acceptance.

For Contracts with callout or emergency work, "Mobilization," will be paid as follows:

- Payment will be made upon presentation of a paid invoice for the payment of performance bonds and required insurance,
- Mobilization for callout work will be paid for each callout work request, and
- Mobilization for emergency work will be paid for each emergency work request.

Item 502

Barricades, Signs, and Traffic Handling



1. DESCRIPTION

Provide, install, move, replace, maintain, clean, and remove all traffic control devices shown on the plans and as directed.

2. CONSTRUCTION

Comply with the requirements of Article 7.2., "Safety."

Implement the traffic control plan (TCP) shown on the plans.

Install traffic control devices straight and plumb. Make changes to the TCP only as approved. Minor adjustments to meet field conditions are allowed.

Submit Contractor-proposed TCP changes, signed and sealed by a licensed professional engineer, for approval. The Engineer may develop, sign, and seal Contractor-proposed changes. Changes must conform to guidelines established in the TMUTCD using approved products from the Department's Compliant Work Zone Traffic Control Device List.

Maintain traffic control devices by taking corrective action when notified. Corrective actions include, but are not limited to, cleaning, replacing, straightening, covering, and removing devices. Maintain the devices such that they are properly positioned and spaced, legible, and have retroreflective characteristics that meet requirements day or night and in all weather conditions.

The Engineer may authorize or direct in writing the removal or relocation of project limit advance warning signs. When project limit advance warning signs are removed before final acceptance, provide traffic control in accordance with the TMUTCD for minor operations as approved.

Remove all traffic control devices upon completion of the work as shown on the plans or as directed.

3. MEASUREMENT

Barricades, Signs, and Traffic Handling will be measured by the month. Law enforcement personnel with patrol vehicles will be measured by the hour for each person.

4. PAYMENT

- 4.1. **Barricades, Signs, and Traffic Handling.** Except for Contracts with callout work and work orders, the work performed and materials furnished in accordance with this Item and measured as provided under "Measurement" will be paid for at the unit price bid for "Barricades, Signs, and Traffic Handling." This price is full compensation for installation, maintenance, adjustments, replacements, removal, materials, equipment, labor, tools, and incidentals.

The work performed and materials furnished in accordance with this Item and measured as provided under "Measurement" will be paid for at the unit price bid for "Barricades, Signs, and Traffic Handling." This price is full compensation for installation, maintenance, adjustments, replacements, removal, materials, equipment, labor, tools, and incidentals.

When the plans establish pay items for particular work in the TCP, that work will be measured and paid under pertinent Items.

- 4.1.1. **Initiation of Payment.** Payment for this Item will begin on the first estimate after barricades, signs, and traffic handling devices have been installed in accordance with the TCP and construction has begun.
- 4.1.2. **Paid Months.** Monthly payment will be made each succeeding month for this Item provided the barricades, signs, and traffic handling devices have been installed and maintained in accordance with the TCP until the Contract amount has been paid.

If, within the time frame established by the Engineer, the Contractor fails to provide or properly maintain signs and barricades in compliance with the Contract requirements, as determined by the Engineer, the Contractor will be considered in noncompliance with this Item. No payment will be made for the months in question, and the total final payment quantity will be reduced by the number of months the Contractor was in noncompliance.
- 4.1.3. **Maximum Total Payment Before Acceptance.** The total payment for this Item will not exceed 10% of the total Contract amount before final acceptance in accordance with Article 5.12., "Final Acceptance." The remaining balance will be paid in accordance with Section 502.4.1.5., "Balance Due."
- 4.1.4. **Total Payment Quantity.** The quantity paid under this Item will not exceed the total quantity shown on the plans except as modified by change order and as adjusted by Section 502.4.1.2., "Paid Months." An overrun of the plans quantity for this Item will not be allowed for approving designs; testing; material shortages; closed construction seasons; curing periods; establishment, performance, test, and maintenance periods; failure to complete the work in the number of months allotted; nor delays caused directly or indirectly by requirements of the Contract.
- 4.1.5. **Balance Due.** The remaining unpaid months of barricades less non-compliance months will be paid on final acceptance of the project, if all work is complete and accepted in accordance with Article 5.12., "Final Acceptance."
- 4.1.6. **Contracts with Callout Work and Work Orders.** The work performed and the materials furnished with this Item and measured as provided under "Measurement," will be considered subsidiary to pertinent Items, except for federally funded Contracts.
- 4.2. **Law Enforcement Personnel.** The work performed and materials furnished in accordance with this Item and measured as provided under "Measurement," will be paid by Contractor force account for "Law Enforcement Personnel." This price is full compensation for furnishing all labor, materials, supplies, equipment, patrol vehicle, fees, and incidentals.

Item 506

Temporary Erosion, Sedimentation, and Environmental Controls



1. DESCRIPTION

Install, maintain, and remove erosion, sedimentation, and environmental control measures to prevent or reduce the discharge of pollutants in accordance with the Storm Water Pollution Prevention Plan (SWP3) on the plans and the Texas Pollutant Discharge Elimination System (TPDES) General Permit TXR150000. Control measures are defined as Best Management Practices used to prevent or reduce the discharge of pollutants. Control measures include, but are not limited to, rock filter dams, temporary pipe slope drains, temporary paved flumes, construction exits, earthwork for erosion control, pipe, construction perimeter fence, sandbags, temporary sediment control fence, biodegradable erosion control logs, vertical tracking, temporary or permanent seeding, and other measures. Erosion and sediment control devices must be selected from the *Erosion Control Approved Products* or *Sediment Control Approved Products* lists. Perform work in a manner to prevent degradation of receiving waters, facilitate project construction, and comply with applicable federal, state, and local regulations. Ensure the installation and maintenance of control measures is performed in accordance with the manufacturer's or designer's specifications.

Provide the Contractor Certification of Compliance before performing SWP3 or soil disturbing activities. By signing the Contractor Certification of Compliance, the Contractor certifies they have read and understand the requirements applicable to this project pertaining to the SWP3, the plans, and the TPDES General Permit TXR150000. The Contractor is responsible for any penalties associated with non-performance of installation or maintenance activities required for compliance. Ensure the most current version of the certificate is executed for this project.

2. MATERIALS

Furnish materials in accordance with the following:

- Item 161, "Compost,"
- Item 432, "Riprap," and
- Item 556, "Pipe Underdrains."

2.1. Rock Filter Dams.

2.1.1. **Aggregate.** Furnish aggregate with approved hardness, durability, cleanliness, and resistance to crumbling, flaking, and eroding. Provide the following:

- Types 1, 2, and 4 Rock Filter Dams. Use 3 to 6 in. aggregate.
- Type 3 Rock Filter Dams. Use 4 to 8 in. aggregate.

2.1.2. **Wire.** Provide minimum 20 gauge galvanized wire for the steel wire mesh and tie wires for Types 2 and 3 rock filter dams. Type 4 dams require:

- a double-twisted, hexagonal weave with a nominal mesh opening of 2-1/2 × 3-1/4 in.;
- minimum 0.0866 in. steel wire for netting;
- minimum 0.1063 in. steel wire for selvages and corners; and
- minimum 0.0866 in. for binding or tie wire.

2.1.3. **Sandbag Material.** Furnish sandbags meeting Section 506.2.8., "Sandbags," except that any gradation of aggregate may be used to fill the sandbags.

- 2.2. **Temporary Pipe Slope Drains.** Provide corrugated metal pipe, polyvinyl chloride (PVC) pipe, flexible tubing, watertight connection bands, grommet materials, prefabricated fittings, and flared entrance sections that conform to the plans. Recycled and other materials meeting these requirements are allowed if approved.
- Furnish concrete in accordance with Item 432, "Riprap."
- 2.3. **Temporary Paved Flumes.** Furnish asphalt concrete, hydraulic cement concrete, or other comparable non-erodible material that conforms to the plans. Provide rock or rubble with a minimum diameter of 6 in. and a maximum volume of 1/2 cu. ft. for the construction of energy dissipaters.
- 2.4. **Construction Exits.** Provide materials that meet the details shown on the plans and this Section.
- 2.4.1. **Rock Construction Exit.** Provide crushed aggregate for long- and short-term construction exits. Furnish aggregates that are clean, hard, durable, and free from adherent coatings such as salt, alkali, dirt, clay, loam, shale, soft or flaky materials, and organic and injurious matter. Use 4- to 8-in. aggregate for Type 1. Use 2- to 4-in. aggregate for Type 3.
- 2.4.2. **Timber Construction Exit.** Furnish No. 2 quality or better railroad ties and timbers for long-term construction exits, free of large and loose knots and treated to control rot. Fasten timbers with nuts and bolts or lag bolts, of at least 1/2 in. diameter, unless otherwise shown on the plans or allowed. Provide plywood or pressed wafer board at least 1/2 in. thick for short-term exits.
- 2.4.3. **Foundation Course.** Provide a foundation course consisting of flexible base, bituminous concrete, hydraulic cement concrete, or other materials as shown on the plans or directed.
- 2.5. **Embankment for Erosion Control.** Provide rock, loam, clay, topsoil, or other earth materials that will form a stable embankment to meet the intended use.
- 2.6. **Pipe.** Provide pipe outlet material in accordance with Item 556, "Pipe Underdrains," and details shown on the plans.
- 2.7. **Construction Perimeter Fence.**
- 2.7.1. **Posts.** Provide essentially straight wood or steel posts that are at least 60 in. long. Furnish soft wood posts with a minimum diameter of 3 in., or use nominal 2 × 4 in. boards. Furnish hardwood posts with a minimum cross-section of 1-1/2 × 1-1/5 in. Furnish T- or L-shaped steel posts with a minimum weight of 1.25 lb. per foot.
- 2.7.2. **Fence.** Provide orange construction fencing as approved.
- 2.7.3. **Fence Wire.** Provide 14 gauge or larger galvanized smooth or twisted wire. Provide 16 gauge or larger tie wire.
- 2.7.4. **Flagging.** Provide brightly-colored flagging that is fade-resistant and at least 3/4 in. wide to provide maximum visibility both day and night.
- 2.7.5. **Staples.** Provide staples with a crown at least 1/2 in. wide and legs at least 1/2 in. long.
- 2.7.6. **Used Materials.** Previously used materials meeting the applicable requirements may be used if approved.
- 2.8. **Sandbags.** Provide sandbag material of polypropylene, polyethylene, or polyamide woven fabric with a minimum unit weight of 4 oz. per square yard, a Mullen burst-strength exceeding 300 psi, and an ultraviolet stability exceeding 70%.
- Use natural coarse sand or manufactured sand meeting the gradation given in Table 1 to fill sandbags. Filled sandbags must be 24 to 30 in. long, 16 to 18 in. wide, and 6 to 8 in. thick.

Table 1
Sand Gradation

Sieve Size	Retained (% by Weight)
#4	Maximum 3%
#100	Minimum 80%
#200	Minimum 95%

Aggregate may be used instead of sand for situations where sandbags are not adjacent to traffic. The aggregate size must not exceed 3/8 in.

- 2.9. **Temporary Sediment Control Fence.** Provide a net-reinforced fence using woven geo-textile fabric. Logos visible to the traveling public will not be allowed.
- 2.9.1. **Fabric.** Provide fabric materials in accordance with [DMS-6230](#), "Temporary Sediment Control Fence Fabric."
- 2.9.2. **Posts.** Provide essentially straight wood or steel posts with a minimum length of 48 in., unless otherwise shown on the plans. Furnish soft wood posts at least 3 in. in diameter, or use nominal 2 × 4 in. boards. Furnish hardwood posts with a minimum cross-section of 1-1/2 × 1-1/2 in. Furnish T- or L-shaped steel posts with a minimum weight of 1.25 lb. per foot.
- 2.9.3. **Net Reinforcement.** Provide net reinforcement of at least 12.5 gauge (SWG) galvanized welded wire mesh, with a maximum opening size of 2 × 4 in., at least 24 in. wide, unless otherwise shown on the plans.
- 2.9.4. **Staples.** Provide staples with a crown at least 3/4 in. wide and legs 1/2 in. long.
- 2.9.5. **Used Materials.** Use recycled material meeting the applicable requirements if approved.
- 2.10. **Biodegradable Erosion Control Logs.**
- 2.10.1. **Core Material.** Furnish core material that is biodegradable or recyclable. Use compost, mulch, aspen excelsior wood fibers, chipped site vegetation, agricultural rice or wheat straw, coconut fiber, 100% recyclable fibers, or any other acceptable material unless specifically called out on the plans. Permit no more than 5% of the material to escape from the containment mesh. Furnish compost meeting the requirements of Item 161, "Compost."
- 2.10.2. **Containment Mesh.** Furnish containment mesh that is 100% biodegradable, photodegradable, or recyclable such as burlap, twine, UV photodegradable plastic, polyester, or any other acceptable material.
- Furnish biodegradable or photodegradable containment mesh when log will remain in place as part of a vegetative system.
- Furnish recyclable containment mesh for temporary installations.
- 2.10.3. **Size.** Furnish biodegradable erosion control logs with diameters shown on the plans or as directed. Stuff containment mesh densely so logs do not deform.

3. QUALIFICATIONS, TRAINING, AND EMPLOYEE REQUIREMENTS

- 3.1. **Contractor Responsible Person Environmental (CRPE) Qualifications and Responsibilities.** Provide and designate in writing at the preconstruction conference a CRPE and alternate CRPE who have overall responsibility for the storm water management program. The CRPE will implement storm water and erosion control practices; will oversee and observe storm water control measure monitoring and management; will monitor the project site daily and produce daily monitoring reports as long as there are BMPs in place or soil disturbing activities are evident to ensure compliance with the SWP3 and TPDES General Permit TXR150000. During time suspensions when work is not occurring or on contract non-work days, daily inspections are not required unless a rain event has occurred. The CRPE will provide recommendations on

how to improve the effectiveness of control measures. Attend the Department's preconstruction conference for the project. Ensure training is completed as identified in Section 506.3.3., "Training," by all applicable personnel before employees work on the project. Document and submit a list, signed by the CRPE, of all applicable Contractor and subcontractor employees who have completed the training. Include the employee's name, the training course name, and date the employee completed the training. Provide the most current list at the preconstruction conference or before SWP3 or soil disturbing activities. Update the list as needed and provide the updated list when updated.

- 3.2. **Contractor Superintendent Qualifications and Responsibilities.** Provide a superintendent that is competent, has experience with and knowledge of storm water management, and is knowledgeable of the requirements and the conditions of the TPDES General Permit TXR150000. The superintendent will manage and oversee the day to day operations and activities at the project site; work with the CRPE to provide effective storm water management at the project site; represent and act on behalf of the Contractor; and attend the Department's preconstruction conference for the project.
- 3.3. **Training.** All Contractor and subcontractor employees involved in soil disturbing activities, small or large structures, storm water control measures, and seeding activities must complete training as prescribed by the Department.

4. CONSTRUCTION

- 4.1. **Contractor Responsibilities.** Implement the SWP3 for the project site in accordance with the plans and specifications, TPDES General Permit TXR150000, and as directed. Coordinate storm water management with all other work on the project. Develop and implement an SWP3 for project-specific material supply plants within and outside of the Department's right of way in accordance with the specific or general storm water permit requirements. Prevent water pollution from storm water associated with construction activity from entering any surface water or private property on or adjacent to the project site.
- 4.2. **Implementation.** The CRPE, or alternate CRPE, must be accessible by phone and able to respond to project-related storm water management or other environmental emergencies 24 hr. per day.
- 4.2.1. **Commencement.** Implement the SWP3 as shown and as directed. Contractor-proposed recommendations for changes will be allowed as approved. Conform to the established guidelines in the TPDES General Permit TXR150000 to make changes. Do not implement changes until approval has been received and changes have been incorporated into the plans. Minor adjustments to meet field conditions are allowed and will be recorded in the SWP3.
- 4.2.2. **Phasing.** Implement control measures before the commencement of activities that result in soil disturbance. Phase and minimize the soil disturbance to the areas shown on the plans. Coordinate temporary control measures with permanent control measures and all other work activities on the project to assure economical, effective, safe, and continuous water pollution prevention. Provide control measures that are appropriate to the construction means, methods, and sequencing allowed by the Contract. Exercise precaution throughout the life of the project to prevent pollution of ground waters and surface waters. Schedule and perform clearing and grubbing operations so that stabilization measures will follow immediately thereafter if project conditions permit. Bring all grading sections to final grade as soon as possible and implement temporary and permanent control measures at the earliest time possible. Implement temporary control measures when required by the TPDES General Permit TXR150000 or otherwise necessitated by project conditions.

Do not prolong final grading and shaping. Preserve vegetation where possible throughout the project, and minimize clearing, grubbing, and excavation within stream banks, bed, and approach sections.
- 4.3. **General.**
- 4.3.1. **Temporary Alterations or Control Measure Removal.** Altering or removal of control measures is allowed when control measures are restored within the same working day.

- 4.3.2. **Stabilization.** Initiate stabilization for disturbed areas no more than 14 days after the construction activities in that portion of the site have temporarily or permanently ceased. Establish a uniform vegetative cover or use another stabilization practice in accordance with the TPDES General Permit TXR150000.
- 4.3.3. **Finished Work.** Remove and dispose of all temporary control measures upon acceptance of vegetative cover or other stabilization practice unless otherwise directed. Complete soil disturbing activities and establish a uniform perennial vegetative cover. A project will not be considered for acceptance until a vegetative cover of 70% density of existing adjacent undisturbed areas is obtained or equivalent permanent stabilization is obtained in accordance with the TPDES General Permit TXR150000. An exception will be allowed in arid areas as defined in the TPDES General Permit TXR150000.
- 4.3.4. **Restricted Activities and Required Precautions.** Do not discharge onto the ground or surface waters any pollutants such as chemicals, raw sewage, fuels, lubricants, coolants, hydraulic fluids, bitumens, or any other petroleum product. Operate and maintain equipment on-site to prevent actual or potential water pollution. Manage, control, and dispose of litter on-site such that no adverse impacts to water quality occur. Prevent dust from creating a potential or actual unsafe condition, public nuisance, or condition endangering the value, utility, or appearance of any property. Wash out concrete trucks only as described in the TPDES General Permit TXR150000. Use appropriate controls to minimize the offsite transport of suspended sediments and other pollutants if it is necessary to pump or channel standing water (i.e., dewatering). Prevent discharges that would contribute to a violation of Edwards Aquifer Rules, water quality standards, the impairment of a listed water body, or other state or federal law.
- 4.4. **Installation, Maintenance, and Removal Work.** Perform work in accordance with the SWP3, according to manufacturers' guidelines, and in accordance with the TPDES General Permit TXR150000. Install and maintain the integrity of temporary erosion and sedimentation control devices to accumulate silt and debris until soil disturbing activities are completed and permanent erosion control features are in place or the disturbed area has been adequately stabilized as approved.

The Department will inspect and document the condition of the control measures at the frequency shown on the plans and will provide the Construction SWP3 Field Inspection and Maintenance Reports to the Contractor. Make corrections as soon as possible before the next anticipated rain event or within 7 calendar days after being able to enter the worksite for each control measure. The only acceptable reason for not accomplishing the corrections with the time frame specified is when site conditions are "Too Wet to Work." Take immediate action if a correction is deemed critical as directed. When corrections are not made within the established time frame, all work will cease on the project and time charges will continue while the control measures are brought into compliance. Commence work once the Engineer reviews and documents the project is in compliance. Commencing work does not release the Contractor of the liability for noncompliance of the SWP3, plans, or TPDES General Permit TXR150000.

The Engineer may limit the disturbed area if the Contractor cannot control soil erosion and sedimentation resulting from the Contractor's operations. Implement additional controls as directed.

Remove devices upon approval or as directed. Finish-grade and dress the area upon removal. Stabilize disturbed areas in accordance with the permit, and as shown on the plans or directed. Materials removed are considered consumed by the project. Retain ownership of stockpiled material and remove it from the project when new installations or replacements are no longer required.

- 4.4.1. **Rock Filter Dams for Erosion Control.** Remove trees, brush, stumps, and other objectionable material that may interfere with the construction of rock filter dams. Place sandbags as a foundation when required or at the Contractor's option.

Place the aggregate to the lines, height, and slopes specified, without undue voids for Types 1, 2, 3, and 5. Place the aggregate on the mesh and then fold the mesh at the upstream side over the aggregate and secure it to itself on the downstream side with wire ties, or hog rings for Types 2 and 3, or as directed. Place rock filter dams perpendicular to the flow of the stream or channel unless otherwise directed. Construct filter dams according to the following criteria unless otherwise shown on the plans:

- 4.4.1.1. **Type 1 (Non-Reinforced).**
- **Height.** At least 18 in. measured vertically from existing ground to top of filter dam.
 - **Top Width.** At least 2 ft.
 - **Slopes.** No steeper than 2:1.
- 4.4.1.2. **Type 2 (Reinforced).**
- **Height.** At least 18 in. measured vertically from existing ground to top of filter dam.
 - **Top Width.** At least 2 ft.
 - **Slopes.** No steeper than 2:1.
- 4.4.1.3. **Type 3 (Reinforced).**
- **Height.** At least 36 in. measured vertically from existing ground to top of filter dam.
 - **Top Width.** At least 2 ft.
 - **Slopes.** No steeper than 2:1.
- 4.4.1.4. **Type 4 (Sack Gabions).** Unfold sack gabions and smooth out kinks and bends. Connect the sides by lacing in a single loop–double loop pattern on 4- to 5-in. spacing for vertical filling. Pull the end lacing rod at one end until tight, wrap around the end, and twist 4 times. Fill with stone at the filling end, pull the rod tight, cut the wire with approximately 6 in. remaining, and twist wires 4 times.
- Place the sack flat in a filling trough, fill with stone, connect sides, and secure ends as described above for horizontal filling.
- Lift and place without damaging the gabion. Shape sack gabions to existing contours.
- 4.4.1.5. **Type 5.** Provide rock filter dams as shown on the plans.
- 4.4.2. **Temporary Pipe Slope Drains.** Install pipe with a slope as shown on the plans or as directed. Construct embankment for the drainage system in 8-in. lifts to the required elevations. Hand-tamp the soil around and under the entrance section to the top of the embankment as shown on the plans or as directed. Form the top of the embankment or earth dike over the pipe slope drain at least 1 ft. higher than the top of the inlet pipe at all points. Secure the pipe with hold-downs or hold-down grommets spaced a maximum of 10 ft. on center. Construct the energy dissipaters or sediment traps as shown on the plans or as directed. Construct the sediment trap using concrete or rubble riprap in accordance with Item 432, "Riprap," when designated on the plans.
- 4.4.3. **Temporary Paved Flumes.** Construct paved flumes as shown on the plans or as directed. Provide excavation and embankment (including compaction of the subgrade) of material to the dimensions shown on the plans unless otherwise indicated. Install a rock or rubble riprap energy dissipater, constructed from the materials specified above, to a minimum depth of 9 in. at the flume outlet to the limits shown on the plans or as directed.
- 4.4.4. **Construction Exits.** Prevent traffic from crossing or exiting the construction site or moving directly onto a public roadway, alley, sidewalk, parking area, or other right of way areas other than at the location of construction exits when tracking conditions exist. Construct exits for either long- or short-term use.
- 4.4.4.1. **Long-Term.** Place the exit over a foundation course as required. Grade the foundation course or compacted subgrade to direct runoff from the construction exits to a sediment trap as shown on the plans or as directed. Construct exits with a width of at least 14 ft. for one-way and 20 ft. for two-way traffic for the full width of the exit, or as directed.
- 4.4.4.1.1. **Type 1.** Construct to a depth of at least 8 in. using crushed aggregate as shown on the plans or as directed.
- 4.4.4.1.2. **Type 2.** Construct using railroad ties and timbers as shown on the plans or as directed.

- 4.4.4.2. **Short-Term.**
- 4.4.4.2.1. **Type 3.** Construct using crushed aggregate, plywood, or wafer board. This type of exit may be used for daily operations where long-term exits are not practical.
- 4.4.4.2.2. **Type 4.** Construct as shown on the plans or as directed.
- 4.4.5. **Earthwork for Erosion Control.** Perform excavation and embankment operations to minimize erosion and to remove collected sediments from other erosion control devices.
- 4.4.5.1. **Excavation and Embankment for Erosion Control Features.** Place earth dikes, swales, or combinations of both along the low crown of daily lift placement, or as directed, to prevent runoff spillover. Place swales and dikes at other locations as shown on the plans or as directed to prevent runoff spillover or to divert runoff. Construct cuts with the low end blocked with undisturbed earth to prevent erosion of hillsides. Construct sediment traps at drainage structures in conjunction with other erosion control measures as shown on the plans or as directed.
- Create a sediment basin, where required, providing 3,600 cu. ft. of storage per acre drained, or equivalent control measures for drainage locations that serve an area with 10 or more disturbed acres at one time, not including offsite areas.
- 4.4.5.2. **Excavation of Sediment and Debris.** Remove sediment and debris when accumulation affects the performance of the devices, after a rain, and when directed.
- 4.4.6. **Construction Perimeter Fence.** Construct, align, and locate fencing as shown on the plans or as directed.
- 4.4.6.1. **Installation of Posts.** Embed posts 18 in. deep or adequately anchor in rock, with a spacing of 8 to 10 ft.
- 4.4.6.2. **Wire Attachment.** Attach the top wire to the posts at least 3 ft. from the ground. Attach the lower wire midway between the ground and the top wire.
- 4.4.6.3. **Flag Attachment.** Attach flagging to both wire strands midway between each post. Use flagging at least 18 in. long. Tie flagging to the wire using a square knot.
- 4.4.7. **Sandbags for Erosion Control.** Construct a berm or dam of sandbags that will intercept sediment-laden storm water runoff from disturbed areas, create a retention pond, detain sediment, and release water in sheet flow. Fill each bag with sand so that at least the top 6 in. of the bag is unfilled to allow for proper tying of the open end. Place the sandbags with their tied ends in the same direction. Offset subsequent rows of sandbags 1/2 the length of the preceding row. Place a single layer of sandbags downstream as a secondary debris trap. Place additional sandbags as necessary or as directed for supplementary support to berms or dams of sandbags or earth.
- 4.4.8. **Temporary Sediment-Control Fence.** Provide temporary sediment-control fence near the downstream perimeter of a disturbed area to intercept sediment from sheet flow. Incorporate the fence into erosion-control measures used to control sediment in areas of higher flow. Install the fence as shown on the plans, as specified in this Section, or as directed.
- 4.4.8.1. **Installation of Posts.** Embed posts at least 18 in. deep, or adequately anchor, if in rock, with a spacing of 6 to 8 ft. and install on a slight angle toward the runoff source.
- 4.4.8.2. **Fabric Anchoring.** Dig trenches along the uphill side of the fence to anchor 6 to 8 in. of fabric. Provide a minimum trench cross-section of 6 × 6 in. Place the fabric against the side of the trench and align approximately 2 in. of fabric along the bottom in the upstream direction. Backfill the trench, then hand-tamp.
- 4.4.8.3. **Fabric and Net Reinforcement Attachment.** Attach the reinforcement to wooden posts with staples, or to steel posts with T-clips, in at least 4 places equally spaced unless otherwise shown on the plans. Sewn

vertical pockets may be used to attach reinforcement to end posts. Fasten the fabric to the top strand of reinforcement by hog rings or cord every 15 in. or less.

- 4.4.8.4. **Fabric and Net Splices.** Locate splices at a fence post with a minimum lap of 6 in. attached in at least 6 places equally spaced unless otherwise shown on the plans. Do not locate splices in concentrated flow areas.

Requirements for installation of used temporary sediment-control fence include the following:

- fabric with minimal or no visible signs of biodegradation (weak fibers),
- fabric without excessive patching (more than 1 patch every 15 to 20 ft.),
- posts without bends, and
- backing without holes.

- 4.4.9. **Biodegradable Erosion Control Logs.** Install biodegradable erosion control logs near the downstream perimeter of a disturbed area to intercept sediment from sheet flow. Incorporate the biodegradable erosion control logs into the erosion measures used to control sediment in areas of higher flow. Install, align, and locate the biodegradable erosion control logs as specified below, as shown on the plans, or as directed.

Secure biodegradable erosion control logs in a method adequate to prevent displacement as a result of normal rain events, prevent damage to the logs, and as approved, such that flow is not allowed under the logs. Temporarily removing and replacing biodegradable erosion logs as to facilitate daily work is allowed at the Contractor's expense.

- 4.4.10. **Vertical Tracking.** Perform vertical tracking on slopes to temporarily stabilize soil. Provide equipment with a track undercarriage capable of producing a linear soil impression measuring a minimum of 12 in. long × 2 to 4 in. wide × 1/2 to 2 in. deep. Do not exceed 12 in. between track impressions. Install continuous linear track impressions where the 12 in. length impressions are perpendicular to the slope. Vertical tracking is required on projects where soil disturbing activities have occurred unless otherwise approved.

- 4.5. **Monitoring and Documentation.** Monitor the control measures on a daily basis as long as there are BMPs in place and/or soil disturbing activities are evident to ensure compliance with the SWP3 and TPDES General Permit TXR150000. During time suspensions when work is not occurring or contract non-work days, daily inspections are not required unless a rain event has occurred. Monitoring will consist of, but is not limited to, observing, inspecting, and documenting site locations with control measures and discharge points to provide maintenance and inspection of controls as described in the SWP3. Keep written records of daily monitoring. Document in the daily monitoring report the control measure condition, the date of inspection, required corrective actions, responsible person for making the corrections, and the date corrective actions were completed. Maintain records of all monitoring reports at the project site or at an approved place. Provide copies within 7 days. Together, the CRPE and an Engineer's representative will complete the Construction Stage Gate Checklist on a periodic basis as directed.

5. MEASUREMENT

- 5.1. **Rock Filter Dams.** Installation or removal of rock filter dams will be measured by the foot or by the cubic yard. The measured volume will include sandbags, when used.
- 5.1.1. **Linear Measurement.** When rock filter dams are measured by the foot, measurement will be along the centerline of the top of the dam.
- 5.1.2. **Volume Measurement.** When rock filter dams are measured by the cubic yard, measurement will be based on the volume of rock computed by the method of average end areas.
- 5.1.2.1. **Installation.** Measurement will be made in final position.
- 5.1.2.2. **Removal.** Measurement will be made at the point of removal.

- 5.2. **Temporary Pipe Slope Drains.** Temporary pipe slope drains will be measured by the foot.
- 5.3. **Temporary Paved Flumes.** Temporary paved flumes will be measured by the square yard of surface area. The measured area will include the energy dissipater at the flume outlet.
- 5.4. **Construction Exits.** Construction exits will be measured by the square yard of surface area.
- 5.5. **Earthwork for Erosion and Sediment Control.**
- 5.5.1. **Equipment and Labor Measurement.** Equipment and labor used will be measured by the actual number of hours the equipment is operated and the labor is engaged in the work.
- 5.5.2. **Volume Measurement.**
- 5.5.2.1. **In Place.**
- 5.5.2.1.1. **Excavation.** Excavation will be measured by the cubic yard in its original position and the volume computed by the method of average end areas.
- 5.5.2.1.2. **Embankment.** Embankment will be measured by the cubic yard in its final position by the method of average end areas. The volume of embankment will be determined between:
- the original ground surfaces or the surface upon that the embankment is to be constructed for the feature and
 - the lines, grades and slopes of the accepted embankment for the feature.
- 5.5.2.2. **In Vehicles.** Excavation and embankment quantities will be combined and paid for under "Earthwork (Erosion and Sediment Control, In Vehicle)." Excavation will be measured by the cubic yard in vehicles at the point of removal. Embankment will be measured by the cubic yard in vehicles measured at the point of delivery. Shrinkage or swelling factors will not be considered in determining the calculated quantities.
- 5.6. **Construction Perimeter Fence.** Construction perimeter fence will be measured by the foot.
- 5.7. **Sandbags for Erosion Control.** Sandbags will be measured as each sandbag or by the foot along the top of sandbag berms or dams.
- 5.8. **Temporary Sediment-Control Fence.** Installation or removal of temporary sediment-control fence will be measured by the foot.
- 5.9. **Biodegradable Erosion Control Logs.** Installation or removal of biodegradable erosion control logs will be measured by the foot along the centerline of the top of the control logs.
- 5.10. **Vertical Tracking.** Vertical tracking will not be measured or paid for directly but is considered subsidiary to this item.

6. PAYMENT

The following will not be paid for directly but are subsidiary to pertinent items:

- erosion-control measures for Contractor project-specific locations (PSLs) inside and outside the right of way (such as construction and haul roads, field offices, equipment and supply areas, plants, and material sources);
- removal of litter, unless a separate pay item is shown on the plans;
- repair to devices and features damaged by Contractor operations;
- added measures and maintenance needed due to negligence, carelessness, lack of maintenance, and failure to install permanent controls;

- removal and reinstallation of devices and features needed for the convenience of the Contractor;
- finish grading and dressing upon removal of the device; and
- minor adjustments including but not limited to plumbing posts, reattaching fabric, minor grading to maintain slopes on an erosion embankment feature, or moving small numbers of sandbags.

Stabilization of disturbed areas will be paid for under pertinent Items except vertical tacking which is subsidiary.

Furnishing and installing pipe for outfalls associated with sediment traps and ponds will not be paid for directly but is subsidiary to the excavation and embankment under this Item.

- 6.1. **Rock Filter Dams.** The work performed and materials furnished in accordance with this Item and measured as provided under "Measurement" will be paid for at the unit price bid as follows:

- 6.1.1. **Installation.** Installation will be paid for as "Rock Filter Dams (Install)" of the type specified. This price is full compensation for furnishing and operating equipment, finish backfill and grading, lacing, proper disposal, labor, materials, tools, and incidentals.

- 6.1.2. **Removal.** Removal will be paid for as "Rock Filter Dams (Remove)." This price is full compensation for furnishing and operating equipment, proper disposal, labor, materials, tools, and incidentals.

When the Engineer directs that the rock filter dam installation or portions thereof be replaced, payment will be made at the unit price bid for "Rock Filter Dams (Remove)" and for "Rock Filter Dams (Install)" of the type specified. This price is full compensation for furnishing and operating equipment, finish backfill and grading, lacing, proper disposal, labor, materials, tools, and incidentals.

- 6.2. **Temporary Pipe Slope Drains.** The work performed and materials furnished in accordance with this Item and measured as provided under "Measurement" will be paid for at the unit price bid for "Temporary Pipe Slope Drains" of the size specified. This price is full compensation for furnishing materials, removal and disposal, furnishing and operating equipment, labor, tools, and incidentals.

Removal of temporary pipe slope drains will not be paid for directly but is subsidiary to the installation Item. When the Engineer directs that the pipe slope drain installation or portions thereof be replaced, payment will be made at the unit price bid for "Temporary Pipe Slope Drains" of the size specified, which is full compensation for the removal and reinstallation of the pipe drain.

Earthwork required for the pipe slope drain installation, including construction of the sediment trap, will be measured and paid for under "Earthwork for Erosion and Sediment Control."

Riprap concrete or stone, when used as an energy dissipater or as a stabilized sediment trap, will be measured and paid for in accordance with Item 432, "Riprap."

- 6.3. **Temporary Paved Flumes.** The work performed and materials furnished in accordance with this Item and measured as provided under "Measurement" will be paid for at the unit price bid for "Temporary Paved Flume (Install)" or "Temporary Paved Flume (Remove)." This price is full compensation for furnishing and placing materials, removal and disposal, equipment, labor, tools, and incidentals.

When the Engineer directs that the paved flume installation or portions thereof be replaced, payment will be made at the unit prices bid for "Temporary Paved Flume (Remove)" and "Temporary Paved Flume (Install)." These prices are full compensation for the removal and replacement of the paved flume and for equipment, labor, tools, and incidentals.

Earthwork required for the paved flume installation, including construction of a sediment trap, will be measured and paid for under "Earthwork for Erosion and Sediment Control."

- 6.4. **Construction Exits.** Contractor-required construction exits from off right of way locations or on-right of way PSLs will not be paid for directly but are subsidiary to pertinent Items.

The work performed and materials furnished in accordance with this Item and measured as provided under "Measurement" for construction exits needed on right of way access to work areas required by the Department will be paid for at the unit price bid for "Construction Exits (Install)" of the type specified or "Construction Exits (Remove)." This price is full compensation for furnishing and placing materials, excavating, removal and disposal, cleaning vehicles, labor, tools, and incidentals.

When the Engineer directs that a construction exit or portion thereof be removed and replaced, payment will be made at the unit prices bid for "Construction Exit (Remove)" and "Construction Exit (Install)" of the type specified. These prices are full compensation for the removal and replacement of the construction exit and for equipment, labor, tools, and incidentals.

Construction of sediment traps used in conjunction with the construction exit will be measured and paid for under "Earthwork for Erosion and Sediment Control."

- 6.5. **Earthwork for Erosion and Sediment Control.**

- 6.5.1. **Initial Earthwork for Erosion and Sediment Control.** The work performed and materials furnished in accordance with this Item and measured as provided under "Measurement" will be paid for at the unit price bid for "Excavation (Erosion and Sediment Control, In Place)," "Embankment (Erosion and Sediment Control, In Place)," "Excavation (Erosion and Sediment Control, In Vehicle)," "Embankment (Erosion and Sediment Control, In Vehicle)," or "Earthwork (Erosion and Sediment Control, In Vehicle)."

This price is full compensation for excavation and embankment including hauling, disposal of material not used elsewhere on the project; embankments including furnishing material from approved sources and construction of erosion-control features; and equipment, labor, tools, and incidentals.

Sprinkling and rolling required by this Item will not be paid for directly but will be subsidiary to this Item.

- 6.5.2. **Maintenance Earthwork for Erosion and Sediment Control for Cleaning and Restoring Control Measures.** The work performed and materials furnished in accordance with this Item and measured as provided under "Measurement" will be paid under a Contractor Force Account Item from invoice provided to the Engineer.

This price is full compensation for excavation, embankment, and re-grading including removal of accumulated sediment in various erosion control installations as directed, hauling, and disposal of material not used elsewhere on the project; excavation for construction of erosion-control features; embankments including furnishing material from approved sources and construction of erosion-control features; and equipment, labor, tools, and incidentals.

Earthwork needed to remove and obliterate erosion-control features will not be paid for directly but is subsidiary to pertinent Items unless otherwise shown on the plans.

Sprinkling and rolling required by this Item will not be paid for directly but will be subsidiary to this Item.

- 6.6. **Construction Perimeter Fence.** The work performed and materials furnished in accordance with this Item and measured as provided under "Measurement" will be paid for at the unit price bid for "Construction Perimeter Fence." This price is full compensation for furnishing and placing the fence; digging, fence posts, wire, and flagging; removal and disposal; and materials, equipment, labor, tools, and incidentals.

Removal of construction perimeter fence will be not be paid for directly but is subsidiary to the installation Item. When the Engineer directs that the perimeter fence installation or portions thereof be removed and replaced, payment will be made at the unit price bid for "Construction Perimeter Fence," which is full compensation for the removal and reinstallation of the construction perimeter fence.

- 6.7. **Sandbags for Erosion Control.** Sandbags will be paid for at the unit price bid for "Sandbags for Erosion Control" (of the height specified when measurement is by the foot). This price is full compensation for materials, placing sandbags, removal and disposal, equipment, labor, tools, and incidentals.
- Removal of sandbags will not be paid for directly but is subsidiary to the installation item. When the Engineer directs that the sandbag installation or portions thereof be replaced, payment will be made at the unit price bid for "Sandbags for Erosion Control," which is full compensation for the reinstallation of the sandbags.
- 6.8. **Temporary Sediment-Control Fence.** The work performed and materials furnished in accordance with this item and measured as provided under "Measurement" will be paid for at the unit price bid as follows:
- 6.8.1. **Installation.** Installation will be paid for as "Temporary Sediment-Control Fence (Install)." This price is full compensation for furnishing and operating equipment finish backfill and grading, lacing, proper disposal, labor, materials, tools, and incidentals.
- 6.8.2. **Removal.** Removal will be paid for as "Temporary Sediment-Control Fence (Remove)." This price is full compensation for furnishing and operating equipment, proper disposal, labor, materials, tools, and incidentals.
- 6.9. **Biodegradable Erosion Control Logs.** The work performed and materials furnished in accordance with this item and measured as provided under "Measurement" will be paid for at the unit price bid as follows:
- 6.9.1. **Installation.** Installation will be paid for as "Biodegradable Erosion Control Logs (Install)" of the size specified. This price is full compensation for furnishing and operating equipment finish backfill and grading, staking, proper disposal, labor, materials, tools, and incidentals.
- 6.9.2. **Removal.** Removal will be paid for as "Biodegradable Erosion Control Logs (Remove)." This price is full compensation for furnishing and operating equipment, proper disposal, labor, materials, tools, and incidentals.
- 6.10. **Vertical Tracking.** Vertical tracking will not be measured or paid for directly but is considered subsidiary to this item.

Item 529

Concrete Curb, Gutter, and Combined Curb and Gutter



1. DESCRIPTION

Construct hydraulic cement concrete curb, gutter, and combined curb and gutter.

2. MATERIALS

Furnish materials conforming to:

- Item 360, "Concrete Pavement"
- Item 420, "Concrete Substructures"
- Item 421, "Hydraulic Cement Concrete"
- Item 440, "Reinforcement for Concrete"

Use Class A concrete or material specified on the plans. Use Grade 8 coarse aggregate for extruded Class A concrete. Use other grades if approved.

When approved, use fibers meeting the requirements of [DMS-4550](#), "Fibers for Concrete," to replace reinforcing steel in Class A concrete. Dose fibers in accordance with the Department's MPL of pre-qualified fibers for concrete.

3. CONSTRUCTION

Provide finished work with a well-compacted mass and a surface free from voids and honeycomb, in the required shape, line, and grade. Round exposed edges with an edging tool of the radius shown on the plans. Mix, place, and cure concrete in accordance with Item 420, "Concrete Substructures." Construct joints at locations shown on the plans. Cure for at least 72 hr.

Furnish and place reinforcing steel in accordance with Item 440, "Reinforcement for Concrete."

Set and maintain a guideline that conforms to alignment data shown on the plans, with an outline that conforms to the details shown on the plans. Ensure that changes in curb grade and alignment do not exceed 1/4 in. between any 2 contacts on a 10-ft. straightedge.

- 3.1. **Conventionally Formed Concrete.** Shape and compact subgrade, foundation, or pavement surface to the line, grade, and cross-section shown on the plans. Lightly sprinkle subgrade or foundation material immediately before concrete placement.

Pour concrete into forms, and strike off with a template 1/4 to 3/8 in. less than the dimensions of the finished curb unless otherwise approved. After initial set, plaster surface with mortar consisting of 1 part hydraulic cement and 2 parts fine aggregate. Brush exposed surfaces to a uniform texture.

Place curbs, gutters, and combined curb and gutters in 50-ft. maximum sections unless otherwise approved.

- 3.2. **Extruded or Slipformed Concrete.** Hand-tamp and sprinkle subgrade or foundation material before concrete placement. Provide clean surfaces for concrete placement. Coat cleaned surfaces, if required, with approved adhesive or coating at the rate of application shown on the plans or as directed. Place concrete with approved self-propelled equipment.

The forming tube of the extrusion machine or the form of the slipform machine must be easily adjustable vertically during the forward motion of the machine to provide variable heights necessary to conform to the established gradeline.

Attach a pointer or gauge to the machine so that a continual comparison can be made between the extruded or slipform work and the grade guideline. Other methods may be used when approved.

Finish surfaces immediately after extrusion or slipforming.

4. MEASUREMENT

This Item will be measured by the foot.

5. PAYMENT

The work performed and materials furnished in accordance with this Item and measured as provided under "Measurement" will be paid for at the unit price bid for "Concrete Curb," "Concrete Curb (Mono)," or "Concrete Curb and Gutter" of the type specified. This price is full compensation for surface preparation of curb foundation, equipment, labor, materials, tools

Item 550

Chain Link Fence



1. DESCRIPTION

Furnish, install, remove, repair, or replace chain link fence and gates.

2. MATERIALS

Furnish certification from the chain link fence materials manufacturer stating that all fencing materials comply with the requirements of this Item before installation of the fence. Use only new materials.

2.1. General. Furnish materials in accordance with the following:

- Item 421, "Hydraulic Cement Concrete," Class B
- Item 445, "Galvanizing"

2.2. Wire Fabric. Provide wire fabric with:

- 9 gauge (0.148 in. diameter) steel wire with a minimum breaking strength of 1,290 lb. meeting ASTM A392 Class I or ASTM A491;
- mesh size of 2 in. $\pm 1/8$ in. between parallel wires with at least 7 meshes in a vertical dimension of 23 in. along the diagonals of the openings; and
- knuckled selvages at the top and bottom edge of the fabric, unless otherwise shown on the plans.

2.3. Posts. Provide posts of the size and weight shown on the plans. Do not provide rerolled or open-seam posts. Use material for all posts meeting ASTM F1043 Group 1A Regular Grade or Group 1C High Strength.

2.4. Post Caps. Provide malleable iron post caps designed to exclude all moisture. Furnish barbed wire support arms integral with the post caps if barbed wire is shown on the plans. Furnish post caps with an opening for the top rail if top rail is shown on the plans. Post caps must have a 2-in. skirt.

2.5. Gates. Provide gates fabricated from round sections of pipe of the size and weight shown on the plans. Use material for all gate pipes meeting ASTM F1043 Group 1A Regular Grade or Group 1C High Strength. For each gate, include:

- corner and tee fittings of malleable iron or pressed steel with means for attaching diagonal bracing members;
- hinges of malleable iron allowing a full 180° swing, easily operated by one person;
- ball-and-socket-type bottom hinges that do not twist or turn from the action of the gate and prevent the closed gate from being lifted off the hinges;
- a positive stop that prevents any portion of the gate from swinging over an adjacent traffic lane;
- malleable iron pulley systems for roll type gate (only when required);
- diagonal braces consisting of 3/8-in. diameter cable with turnbuckles, 2 to each gate frame, and, for vehicle gates, a vertical pipe brace of the size and weight shown on the plans at the center of each gate leaf;
- latches of malleable iron or steel for single gates with a single-fork latch and padlock eye that will keep the gate closed;
- 2 fork latches mounted on a center plunger rod with a padlock eye for double-leaf gates;
- holdbacks for each leaf of vehicular gates, with a semi-automatic holdback catch anchored at least 12 in. into a 12-in. diameter by 24-in. deep concrete footing; and

- a malleable iron center rest, designed to receive the plunger rod anchored as shown on the plans for all double-leaf gates.
- 2.6. **Top Rail.** Use material meeting ASTM F1043 Group 1A or 1C for all top rail pipes. Provide 1.660 in. OD top rail manufactured from Group 1A standard weight (Schedule 40) steel pipe weighing 2.27 lb. per foot or from Group 1C high-strength pipe weighing 1.84 lb. per foot when shown on the plans. Provide pipe in sections at least 18 ft. long joined with outside steel sleeve couplings at least 6 in. long with a minimum wall thickness of 0.70 in. Use couplings designed to allow for expansion of the top rail.
- 2.7. **Tension Wire.** Use 7 gauge (0.177-in.) carbon steel wire with a minimum breaking strength of 1,950 lb. for the bottom edge of all fence fabric, and for the top edge of fence fabric when a top rail is not specified.
- 2.8. **Truss Bracing.** Provide truss bracing as shown on the plans.
- 2.9. **Cables.** Provide 7-wire strand cables manufactured of galvanized annealed steel at least 3/8 in. in diameter.
- 2.10. **Barbed Wire.** Provide 3 strands of twisted 12.5 gauge barbed wire with 2-point, 14 gauge barbs spaced approximately 5 in. apart conforming to ASTM A121 or ASTM A585 when specified on the plans.
- 2.11. **Barbed Wire Support Arms.** Provide support arms at an angle of 45° from vertical, with clips for attaching 3 strands of barbed wire to each support arm and sufficient strength to support a 200-lb. weight applied at the outer strand when barbed wire is specified on the plans.
- 2.12. **Stretcher Bars.** Provide stretcher bars made of flat steel at least 3/16 × 3/4 in. and not more than 2 in. shorter than the fabric height. Provide one stretcher bar for each gate and end post and 2 stretcher bars for each corner and pull post.
- 2.13. **Grounds.** Provide copper-clad steel rods 8 ft. long with a minimum diameter of 5/8 in., or other UL-listed ground rods.
- 2.14. **Miscellaneous Fittings and Fasteners.** Furnish enough fittings and fasteners to erect all fencing materials in a proper manner. Furnish fittings for posts from pressed or rolled steel, forged steel, malleable iron or wrought iron of good commercial quality spaced as shown on the plans.
- 2.15. **Coatings.** Hot-dip galvanize all materials unless specified otherwise in this Item or on the plans. Fabric, tension wire, and barbed wire may be aluminum-coated or alloy-coated if approved. Additionally coat all material except bolts, nuts, washers, and pipe material with thermally fused polyvinyl chloride (PVC) in accordance with ASTM F668, Class 2b, meeting the specified color when shown on the plans.
 - 2.15.1. **Fabric.**
 - 2.15.1.1. **Galvanizing.** Hot-dip galvanize in accordance with ASTM A392, Class I.
 - 2.15.1.2. **Aluminum Coating.** Aluminum-coat in accordance with ASTM A491.
 - 2.15.1.3. **Alloy Coating.** Coat with zinc-5% aluminum-mischmetal alloy (Zn-5Al-MM) in accordance with ASTM F1345, Class I.
 - 2.15.2. **Posts, Braces, and Gates.**
 - 2.15.2.1. **Standard Weight (Schedule 40) Pipe.** Hot-dip galvanize inside and outside according to ASTM F1043 (1.8 oz./sq. ft. galvanized zinc weight).
 - 2.15.2.2. **High Strength Pipe.** Hot-dip galvanize before or after forming pipe according to ASTM F1043 Group 1C and as follows:
 - Outside—minimum 0.9 oz./sq. ft. galvanized zinc weight with a verifiable polymer overcoat.

- Inside—minimum 0.9 oz./sq. ft. galvanized zinc weight before forming, or minimum 0.3 mils zinc-based coating after forming containing a minimum 90% zinc dust, by weight.

- 2.15.2.3. **Optional Additional Coating.** Additionally coat all pipe material with 10 mils minimum thermally fused PVC according to ASTM F1043, meeting the specified color when shown on the plans.
- 2.15.3. **Fittings, Bolts, and Other Miscellaneous Hardware.** Galvanize all fittings, bolts, and miscellaneous hardware in conformance with Item 445, "Galvanizing."
- 2.15.4. **Tension Wire.** Zinc-coat tension wire with a minimum coating of 0.80 oz./sq. ft. or aluminum-coat with a minimum coating of 0.30 oz./sq. ft.
- 2.15.5. **Barbed Wire.** Zinc-coat barbed wire in accordance with ASTM A121 (0.80 oz./sq. ft.) or aluminum-coat in accordance with ASTM A585 (0.30 oz./sq. ft.).
- 2.15.6. **Pull Cable.** Zinc-coat pull cable with a minimum coating of 0.80 oz./sq. ft. of individual-wire surface when tested in conformance with ASTM A116.

3. CONSTRUCTION

Erect the chain link fence to the lines and grades established on the plans. Overall height of the fence when erected is the height above the grade shown.

Repair or replace damaged fence or gates. Remove and replace the post and foundation if posts cannot be repaired by straightening. Return all salvageable material to the location shown on the plans when a fence installation is to be removed in its entirety and not replaced. Backfill all postholes with suitable material. Return the salvaged fence fabric in secured rolls not more than 50 ft. long. Dispose of unsalvageable material.

- 3.1. **Clearing and Grading.** Clear all brush, rocks, and debris necessary for the installation of this fencing.

Stake the locations for corner posts and terminal posts unless otherwise shown on the plans. Follow the finished ground elevations for fencing panels between corner and terminal posts. Level off minor irregularities in the path of the fencing.

- 3.2. **Erection of Posts.** Install posts as shown on the plans. Plumb and permanently position posts with anchorages firmly set before fabric is placed. Brace corner and pull posts as shown on the plans.

- 3.2.1. **Post Spacing.** Space posts as shown in Table 1.

Table 1
Post Spacing and Placement

Post Type	Required Spacing or Placement
Line posts	no more than 10 ft. apart
Pull posts	no more than 500 ft. apart and at each change in direction exceeding 20° vertically
Corner posts	at each horizontal angle point

Install cables on all terminal posts and extend to adjacent posts. Install cables on each side of corner and pull posts with a 3/8-in. drop-forged eye-and-eye or eye-and-clevis turnbuckle unless otherwise shown on the plans.

- 3.2.2. **Postholes.** Drill holes for concrete footings for all posts to provide footings of the dimensions shown on the plans.

Penetrate solid rock by at least 12 in. (18 in. for end, corner, gate, and pull posts) or to plan depth where the rock is encountered before reaching plan depth. Drill holes in the solid rock with a diameter at least 1 in. greater than the outside diameter of the post.

Fill the hole in the solid rock with grout consisting of 1 part hydraulic cement and 3 parts clean, well-graded sand after the posts are set and plumbed. If desired, other grouting materials may be used only if approved. Thoroughly work the grout into the hole, leaving no voids. Construct concrete footings from the solid rock to the top of the ground.

- 3.2.3. **Gate Posts.** Align the tops of all gate frames with the fencing top tension wire or top rail. Provide vehicular gates that are greater in overall height than the adjacent fencing by the height necessary to extend to within 2 in. of the pavement between the curbs if curbs are shown on the plans.

- 3.2.4. **Concrete Footings.** Center posts in their footings. Place concrete and compact by tamping or other approved methods. Machine mix all batches of concrete over 1/2 cu. yd. Hand mixing concrete is allowed on batches under 1/2 cu. yd.

Use forms for footings where the ground cannot be satisfactorily excavated to neat lines. Crown the concrete or grout (for solid rock) to carry water from the post. Keep the forms in place for at least 24 hr. Backfill the footing with moistened material as soon as each form is removed, and thoroughly tamp. Cover concrete with at least 4 in. of loose moist material, free of clods and gravel, immediately after placing concrete. No other curing is required.

Spread all excess excavated and loose material used for curing neatly and uniformly. Remove excess concrete and other construction debris from the site.

- 3.3. **Erection of Fabric.** Place the fabric with the cables drawn taut with the turnbuckles after all posts have been permanently positioned and anchorages firmly set. Secure one end and apply enough tension to the other end to remove all slack before making attachments. Cut the fabric and independently attach each span at all corner posts and pull posts unless otherwise shown on the plans.

Follow the finished contour of the site with the bottom edge of fabric located approximately 2 in. above the grade. Grade uneven areas so the maximum distance between the bottom of fabric and ground is 6 in. or less.

Fasten fabric at 12 in. intervals to the top and bottom tension wires between posts. Fasten the fabric in the same manner when top rail is shown on the plans. Fasten the fabric on gate frames to the top and bottom of the frame at 12 in. intervals. Use steel wire fabric ties of 9 gauge steel or larger. Fasten fabric to terminal posts by steel stretcher bars and stretcher bar bands fitted with carriage bolts and nuts of the size and spacing shown on the plans. Use stretcher bars to fasten end posts, pull posts, corner posts, and gateposts with stretcher bar bands at intervals of no more than 15 in. Attach stretcher bars to terminal posts with 1 × 1/8 in. flat steel bands with 3/8-in. carriage bolts at intervals up to 15 in.

- 3.4. **Electrical Grounds.** Provide at least one electrical ground for each 1,000 ft. of fence, located near the center of the run. Provide additional grounds directly under the point where power lines pass over the fence.

Vertically drive or drill in the grounding rod until the top of the rod is approximately 6 in. below the top of the ground. Connect a No. 6 solid copper conductor to the rod and to the fence by a UL-listed method so that each element of the fence is grounded.

- 3.5. **Repair of Coatings.** Repair damaged zinc coating in accordance with Section 445.3.5., "Repairs."

4. MEASUREMENT

Chain link fence will be measured by the foot of fence installed, repaired, replaced, or removed, measured at the bottom of the fabric along the centerline of the fence from center to center of posts, excluding gates.

Gates will be measured as each gate installed, repaired, replaced, or removed.

5. PAYMENT

The work performed and materials furnished in accordance with this Item and measured as provided under "Measurement" will be paid for at the unit price bid for "Chain Link Fence (Install)" or "Chain Link Fence (Repair)" of the height specified or "Chain Link Fence (Remove)" and "Gate (Install)" or "Gate (Repair)" of the type, height, and width of opening specified or "Gate (Remove)." Clearing and grading for fencing and gates will not be paid for directly but is subsidiary to this Item.

- 5.1. **Chain Link Fence (Install).** This price is full compensation for furnishing and installing fencing, except gates; cleaning, grading, and backfilling; removing and disposing of surplus material; and equipment, labor, tools, and incidentals.
- 5.2. **Chain Link Fence (Repair).** This price is full compensation for furnishing materials; repairing or replacing fencing, except gates; cleaning, grading, and backfilling; removing and disposing of surplus or damaged material; and equipment, labor, tools, and incidentals.
- 5.3. **Chain Link Fence (Remove).** This price is full compensation for removing all fencing, except gates; cleaning, grading, and backfilling; removing and disposing of surplus material; and equipment, labor, tools, and incidentals.
- 5.4. **Gate (Install).** This price is full compensation for installing gate and for providing materials, center anchorages, equipment, labor, tools, and incidentals.
- 5.5. **Gate (Repair).** This price is full compensation for repairing or replacing gate and for furnishing materials; removing and disposing of damaged materials; and equipment, labor, tools, and incidentals.
- 5.6. **Gate (Remove).** This price is full compensation for removing gate and for materials, equipment, labor, tools, and incidentals.