THE COUNTY OF GALVESTON

RUFUS G. CROWDER, CPPO CPPB
PURCHASING AGENT

COUNTY COURTHOUSE
722 Moody (21st Street)
Fifth (5th) Floor, Purchasing
GALVESTON, TEXAS 77550
(409) 770-5371

ERIN S. QUIROGA, MBA, CPPB
ASST. PURCHASING AGENT

April 15, 2025

Honorable County Judge
And Commissioners' Court
County Courthouse
Galveston, Texas

RE: RFP 25-035, Highway 3 Boat Ramp and Parking Lot Reconstruction Project
Contract #206455

Gentlemen,

On March 27, 2025, submittals were opened for RFP 25-035, Highway 3 Boat Ramp and Parking Lot Reconstruction Project. Six (6) submittals were received from the following companies:

• Brothers Group for General Contracting	Sugarland, TX
• Jerdon Enterprise, LP	Stafford, TX
• Lee Construction & Maintenance Company dba LMC Corporation	Houston, TX
• Teamwork Construction Services, Inc.	Houston, TX
• Texas Gulf Construction Co., Inc.	Galveston, TX
• Lucas Construction Company, Inc.	League City, TX

After a thorough review of the submittal by the Evaluation Committee, Lucas Construction Company, Inc. was deemed to have submitted a satisfactory proposal and is recommended by the assigned Evaluation Committee for award.

Your consideration in this matter will be greatly appreciated.

Respectfully submitted,

Rufus G. Crowder, CPPO CPPB
Purchasing Agent
County of Galveston

COUNTY OF GALVESTON

SPECIFICATIONS AND CONTRACT DOCUMENTS

Highway 3 Boat Ramp and Parking Lot Reconstruction
RFP 25-035

April 28th, 2025

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GALVESTON COUNTY
PURCHASING DEPARTMENT

REQUEST FOR PROPOSAL

RFP 25-035

HIGHWAY 3 BOAT RAMP AND PARKING LOT RECONSTRUCTION PROJECT

BID DUE DATE: 03/20/2025

2:00 PM CST

Rufus Crowder, CPPO, CPPB
Purchasing Agent
Galveston County
722 Moody (21st Street)
Fifth (5th) Floor
Galveston, Texas 77550
(409) 770-5372

REQUEST FOR PROPOSAL
HIGHWAY 3 BOAT RAMP AND PARKING LOT RECONSTRUCTION PROJECT
GALVESTON COUNTY, TEXAS

****The Galveston County Purchasing Department utilizes Bonfire Interactive to distribute and receive bids and proposals in an electronic format via an online portal.** Potential Bidders must register through the online portal to participate electronically.

"Walk-in" or "mailed-in" proposal submittals are still allowed, however, **Bidders are strongly encouraged to submit their proposals online via Galveston County's e-Procurement Portal located at https://galvestoncountytx.bonfirehub.com/. Please see Item F, SUBMISSION INSTRUCTIONS, for further details.**

Purpose:
Galveston County is seeking bids from construction companies for the Highway 3 Boat Ramp and Parking Lot Reconstruction project. This is a grant-funded project on Dickinson Bayou within the city limits of Dickinson, Texas.

Galveston County contracted with an engineering firm to complete engineer-design work and are available within this RFP. A Pre-Bid meeting will be held at the boat ramp location where the engineer and County staff will be available for questions.

Construction activities include demolition of current parking lot and concrete boat ramp; removal of two overhead lighting and service poles. Construction includes concrete parking lot, curbs and sidewalk; concrete boat ramp; underground power line and installation of service poles and light fixtures; and minor repairs to timber bulkhead.

Submittal "Walk Ins" Instructions:
Sealed bids in **sets of three (3), one (1) unbound single-sided original and two (2) single-sided copies,** will be received in the office of the Galveston County Purchasing Agent **until 2:00 PM CST, on Thursday, March 20, 2025** and opened immediately in that office in the presence of Galveston County Auditor and the Purchasing Agent. Sealed bids are to be delivered to Rufus G. Crowder, CPPO CPPB, Galveston County Purchasing Agent at the Galveston County Courthouse, 722 Moody, (21st Street), Floor 5, Purchasing, Galveston, Texas 77550, (409) 770-5372.

The time stamp clock located in the Purchasing Agent's office shall serve as the official time keeping piece for this solicitation process. Any proposals received after 2:00 PM CST on the specified date will be returned unopened.

All submittals must be marked on the outside of the sealed envelope:
RFP #25-035, Highway 3 Boat Ramp and Parking Lot Reconstruction Project

Respondent's name, return address, should be prominently displayed on the proposal package for identification purposes.

PROCUREMENT TIMELINE
A timeline for this solicitation and initial process is included below. Galveston County reserves the right to change these dates and will notify Respondents of any changes:

Advertise Solicitation (first date of publication)	Wednesday, February 12, 2025
Advertise Solicitation (second date of publication)	Wednesday, February 19, 2025
Non-Mandatory Pre-Proposal Conference & On-Site Visit	**Wednesday, February 26, 2025 at 10 AM CST**
Deadline for Questions & Inquiries	**Thursday, March 06, 2025 by 5:00 PM CST**
Submission Deadline / RFP Opening	**Thursday, March 20, 2025 at 2:00 PM CST**

Virtual Bid Opening:
Interested parties can attend the Thursday, March 20, 2025 at 2:00 PM CST bid opening virtually. Join the meeting link below:
Join from Meeting Link:

https://galvestoncountytx.webex.com/galvestoncountytx/j.php?MTID=m7b8408eda477df4ca563e7395752225d

Non-Mandatory Pre-Proposal Conference & On-Site Visit:
Interested parties may attend the Wednesday, February 26, 2025, 10 AM CST Non-Mandatory Pre-Proposal Conference and On-Site visit in person. This will be located at:

Highway 3 Boat Ramp
2907 48th Street
Dickinson, TX 77539

Plans and Specifications: Specifications can be obtained at the office of the Galveston County Purchasing Agent, located in the Galveston County Courthouse, 722 Moody, (21st Street), Floor 5, Purchasing, Galveston, Texas, 77550, or by visiting the Galveston County website @ http://www.galvestoncountytx.gov/county-offices/purchasing

Pricing: Submitted prices, if required and applicable, shall be either lump sum or unit prices as shown on bid sheets. The net price shall be delivered to Galveston County, including all freight, shipping, and license fees. Galveston County is tax exempt, and no taxes should be included in proposal pricing.

Bonding Requirements:
A bid bond **is a requirement** of this solicitation.

A Performance & Payment bond **are requirements** of this solicitation.

DEBARMENT AND SUSPENSION:
To participate in this solicitation, respondent certifies that neither it, nor any of its Principals, are presently debarred, suspended, proposed for debarment, disqualified, excluded, or in any way declared ineligible for the award of contracts by any Federal agency. All contractors/subcontractors that are debarred, suspended, or otherwise excluded from or ineligible for participation on federal assistance programs may not undertake any activity in part or in full under this project.

The Galveston County Commissioners' Court reserves the right to waive any informality and to reject any and all bids and to accept the bid or bids which, in its opinion, is most advantageous to Galveston County with total respect the governing laws.

Rufus G. Crowder, CPPO CPPB
Purchasing Agent
Galveston County

GENERAL PROVISIONS

REQUEST FOR PROPOSAL
HIGHWAY 3 BOAT RAMP AND PARKING LOT RECONSTRUCTION PROJECT
GALVESTON COUNTY, TEXAS

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GENERAL PROVISIONS

REQUEST FOR PROPOSAL
HIGHWAY 3 BOAT RAMP AND PARKING LOT RECONSTRUCTION PROJECT
GALVESTON COUNTY, TEXAS

The Special Provisions and the General Provisions of this Request for Proposal and the Exhibits attached hereto are made a part of this agreement between the Parties. In the event of a conflict between the General Provisions and the Special Provisions, the terms of the Special Provisions shall control.

This solicitation is issued under the general guidance and mandates as refenced in the *Texas Local Government Code, SUBCHAPTER C. COMPETITIVE BIDDING IN GENERAL, Sec. 262.021. SHORT TITLE. This subchapter may be cited as the County Purchasing Act.*

Interested parties are requested to familiarize themselves with these provisions as well as the entire General and Special Provision sections of this document prior to participating and submitting a response to this request.

1. **RFP PACKAGE**
The Request for Proposal, General and Special provisions, drawings, specifications/line-item details, contract documents, addenda (if any), and the Proposal are all part of the Proposal package and Resultant Contract. ***Proposals must be submitted in sets of three (3), one (1) unbound original, and two (2) copies,*** *on the forms provided by the County if County forms are provided and shall include the Proposal sheets completed in their entirety and signed by an authorized representative by original signature. Failure to complete and sign the Proposal sheets/contract page(s) may disqualify the Proposal from being considered by the Commissioners' Court. Any individual signing on behalf of the Proposer expressly affirms that he or she is duly authorized to tender this Proposal and to sign the Proposal under the terms and conditions in this request for Proposal on behalf of the Proposer and to bind the Proposer to the terms and conditions of this request for Proposal and the Proposer's response hereto.*

Proposer further understands that Proposers' signing of the contract shall be of no effect unless the contract is subsequently awarded by the Commissioners' Court and the contract properly executed by the Commissioners' Court.

All figures must be written in ink or typed. Figures written in pencil or with erasures are not acceptable. However, mistakes may be crossed out, corrections inserted, and initialed in ink by the individual signing the Proposal. If there are discrepancies between unit prices quoted and extensions, the unit price shall prevail.

Each Proposer is required to thoroughly review this entire Request for Proposal package to familiarize themselves with the Proposal procedures, the plans and specifications for the requested work, as well as the terms and conditions of the contract the successful Proposer will execute with the County.

2. **PROPOSER'S RESPONSIBILITY**
The Proposer must affirmatively demonstrate its responsibility. The Proposer must also meet the following minimum requirements:

   A. have adequate financial resources or the ability to obtain such resources as required;
   B. be able to comply with all federal, state, and local laws, rules, regulations, ordinances, and orders regarding this request for Proposal;
   C. have a satisfactory record of performance;
   D. have a satisfactory record of integrity and ethics; and
   E. be otherwise qualified and eligible to receive an award.

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3. TIME FOR RECEIVING PROPOSALS

Proposals may be submitted by mail or hand delivery and **must be submitted only to the Galveston County Purchasing Agent**. If by delivery, the Proposer must deliver the Proposal to the reception desk in the County Purchasing Agent's Office. The delivery and mailing instructions for the Galveston Count Purchasing Agent are the following:

Rufus Crowder, CPPO CPPB
Galveston County Purchasing Agent
722 Moody, Fifth (5th) Floor
Galveston, Texas 77550

Proposals will **not** be accepted by facsimile transmission or by electronic mail (email) unless superseded by instructions within the Special Provisions section of this solicitation. Proposals must be received by the County Purchasing Agent on or before the deadline for the opening of the Proposals. **For clarity, mailing date/postmark is not sufficient – Proposals must be received by the County Purchasing Agent on or before the deadline.** Late Proposals will not be accepted and will be returned to the Proposer unopened. Proposals received prior to the submission deadline will be maintained unopened until the specified time for opening.

The County Purchasing Agent will accept Proposals from 8:00 a.m. to 5:00 p.m. on each business day up to the submission deadline. Business days do not include Saturdays and Sundays, and do not include other days in which the County is closed for business in observance of holidays or for other reasons.

The time-stamp clock within the County Purchasing Agent's Office shall be the official time clock for the purpose of this solicitation and thus shall be the determinant of whether the Proposal was timely received.

The Proposer should prominently identify the procurement number and name on the outside of the envelope/mailing package. If the Proposer fails to identify the request for Proposal number and name on the outside of the envelope as required, the Purchasing Agent will open the envelope for the sole purpose of identifying the solicitation number for which the submission was made. The envelope will then be resealed. No liability will attach to a County office or employee for the premature opening of a Proposal.

If a Proposal is not submitted, return this Request for Proposal and state reason (s), otherwise your name may be removed from the Purchasing Agent's mailing list.

4. COMPETITIVENESS, INTEGRITY, INQUIRIES AND QUESTIONS

To prevent biased evaluations and to preserve the competitiveness and integrity of the procurement process, **Proposers are to direct all communications regarding this Request for Proposal only to the Galveston County Purchasing Agent,** unless otherwise specifically noted.

Do not contact the requesting department. Attempts by offering firms to circumvent this requirement will be viewed negatively and may result in rejection of the Proposal of the firm found to be in non-compliance.

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All questions regarding this Request for Proposal must be submitted in writing to:

Rufus Crowder, CPPO CPPB
Purchasing Agent
722 Moody
Fifth (5th) Floor
Galveston, Texas 77550
Fax: (409) 621-7997
E-mail: purchasing.bids@co.galveston.tx.us

All questions received and the responses thereto will be mailed, emailed, or faxed to all prospective Proposers by addendum. No inquiries except clarification of instructions will be addressed by telephone.

Proposer is advised to carefully review this Request for Proposal – it provides specific information necessary to aid participating firms in formulating a thorough response. Proposer's failure to examine all documents shall not entitle the Proposer to any relief from the conditions imposing in the Request for Proposal and the resultant contract.

An authorized person from the Proposer must sign the Proposal. This signatory must be a person from the submitting firm who is duly authorized to tender and sign the Proposal on behalf of the Proposer and to bind the Proposer to the terms and conditions of this Request for Proposal, the Proposer's response, and all other terms and conditions of the contract. By this signature, the Proposer further acknowledges that the Proposer has read the request for Proposal and Proposal documents thoroughly before submitting a Proposal and will fulfill the obligations in accordance with the terms, conditions, and specifications detailed herein.

5. PROPOSAL OPENING

The Purchasing Agent shall open the Proposals on the date and time specified herein. Proposals shall be opened in a manner that avoids disclosure of the contents to competing offerors and that keeps the Proposals secret during negotiations. The Purchasing Agent will examine Proposals promptly and thoroughly. **Upon opening, no Proposal may be withdrawn for a period of sixty (60) calendars days after the Proposal opening date.**

6. WITHDRAWAL OF PROPOSAL / FIRM PROPOSAL RULE

Proposers may request withdrawal of their sealed Proposal prior to the scheduled Proposal opening time provided the request for withdrawal is submitted to the Purchasing Agent in writing. No Proposals may be withdrawn for a period of sixty (60) calendar days after opening of the Proposals.

7. COMMISSIONERS' COURT

No contract is binding on the County until it is properly placed on the Commissioners' Court agenda, approved in open Court, authorized to be executed by the County Judge, and fully executed by both parties.

Department heads and elected officials are not authorized to enter into any type of agreement or contract on behalf of the County. Only the Commissioners' Court acting as a body may enter into a contract on behalf of and contractually bind the County. Additionally, department heads and elected officials are not authorized to agree to any type of supplemental agreements or contracts for goods or services.

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Supplemental agreements are subject to review by the County Legal Department prior to being accepted and signed by the County's authorized representative.

8. REJECTION OF PROPOSALS / DISQUALIFICATION

Galveston County, acting through its Commissioners' Court, reserves the right to:

- reject any and all Proposals in whole or in part received by reason of this request for Proposal:
- waive any informality in the Proposals received;
- disregard the Proposal of any Proposer determined to be not responsible;
- disregard the Proposal of any Proposer determined to have not submitted its Proposal timely; and/or
- discontinue its efforts for any reason under this request for Proposal package at any time prior to actual execution of contract by the County.

Proposers may be disqualified, and rejection of Proposals may be recommended to the Commissioners' Court for any of (but not limited to) the following causes:

A. Failure to use the Proposal forms furnished by the County, if applicable;
B. Lack of signature by an authorized representative of Proposer;
C. Failure to properly complete the Proposal;
D. Engaging in communications regarding this procurement during the pendency of this procurement with County officials and/or personnel who are not within the Purchasing Department;
E. Failure to meet the mandatory requirements of this request for Proposal; and/or
F. Evidence of collusion among Proposers.

9. RESTRICTIVE OR AMBIGUOUS SPECIFICATIONS

It is the responsibility of the prospective Proposer to review the entire request for Proposal packet and to notify the Purchasing Agent if the specifications are formulated in a manner that would restrict competition or appear ambiguous. Any protest or question(s) regarding the specifications or Proposal procedures must be received in the Purchasing Agent's Office not less than seventy-two (72) hours prior to the time set for Proposal opening. Proposers are to submit their Proposal as specified herein or propose an approved equal.

10. SUBSTITUTES / DESCRIPTION OF MATERIALS AND EQUIPMENT

Any brand name or manufacturer reference used herein is intended to be descriptive and not restrictive, unless otherwise noted, and is used to indicate the type and quality of material. The term "or equal" if used, identifies commercially produced items that have the essential performance and salient characteristics of the brand name stated in the item description. All supplies, material, or equipment shall be new and of the most suitable grade for the purpose intended. For clarification, "new" includes products containing recovered materials that are EPA-designated items and additionally see Section 63 of these General Provisions on contracts involving federal funds. It is not the County's intent to discriminate against any materials or equipment of equal merit to those specified. However, if Proposer desires to use any substitutions, prior written approval must be obtained from the Purchasing Agent and sufficiently in advance such that an addendum may be issued. All material supplied must be one hundred percent (100%) asbestos free. Proposer, by submission of its Proposal, certifies that if awarded any portion of this procurement, the Proposer will supply only material and equipment that is 100% asbestos free.

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11. EXCEPTIONS TO PROPOSAL CONDITIONS

The Proposer will list on a separate sheet of paper any exceptions to the conditions of this request for Proposal. This sheet will be labeled, "Exceptions to Proposal Conditions", and will be attached to the Proposal. If no exceptions are stated, **it will be understood that all general and special conditions will be complied with, without exception.**

The Proposer must specify in its Proposal any alternatives it wishes to propose for consideration by the County. Each alternative should be sufficiently described and labeled within the Proposal and should indicate its possible or actual advantage to the program being offered.

The County reserves the right to offer these alternatives to other Proposers.

12. AWARDED PRICES

During the contractual period of the resultant contract, any prices submitted by the respondent shall include all costs to the County, including the material, delivery, current freight rate, state tax, or any other cost.

Award prices include all royalties and costs arising from patents, trademarks, and copyrights in any way involved in the work. Whenever the Awardee is required or desires to use any design, device, material or process covered by letters of patent or copyright, the Awardee shall indemnify and save harmless the County, its officers, agents and employees from any and all claims for infringement by reason of the use of any such patented design, tool, material, equipment, or process, to be performed under the contract, and shall indemnify the County its officers, agents, and employees for any costs, expenses and damages which may be incurred by reason of any infringement at any time during the prosecution or after the completion of the work.

Proposal pricing will be either lump sum or unit prices as shown on the Proposal sheets if included. The net priced items will be delivered to Galveston County, including all freight, shipping, and delivery charges. Galveston County is a tax-exempt local government of the State of Texas, therefore, no taxes shall be included with submitted pricing.

Cash discount must be shown on the Proposal, otherwise prices will be considered net. Unless prices and all information requested are complete, the Proposal may be disregarded and given no consideration.

In case of default by the contractor, the County of Galveston may procure the articles or services from other sources and may deduct from any monies due, or that may thereafter become due to the contractor, the difference between the price named in the contract of purchase order and the actual cost thereof to the County of Galveston. Prices paid by the County of Galveston shall be considered the prevailing market price at the time such purchase is made. Periods of performance may be extended if the facts as to the cause of delay justify such extension in the opinion of the Purchasing Agent and the Commissioners' Court.

13. PROCUREMENT CARD (P-CARD) PROGRAM

The County of Galveston participates in a Procurement Card (P-Card) program that allows payments made to a vendor by credit card. This method typically results in substantially faster bill payments, sometimes within three (3) to five (5) days of the actual transaction date. All transaction fees from the card provider are to be paid by the successful contractor. If awarded company will accept payment via credit card (Visa, MasterCard, etc.), this should be notated in the Proposal submittal.

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14. PASS THROUGH COST ADJUSTMENTS

Except in instances of extreme extenuating circumstances, Contractor prices shall remain firm throughout the contract period and any renewals. Examples of extreme extenuating circumstances include such situations as a nationwide rail strike, oil shortage or oil embargo.

In extreme extenuating circumstances. Contractors may be allowed to temporarily "pass through" additional costs they are forced to incur through no fault of their own. A request for a pass-through cost increase will not be considered unless a Contractor's cost for the Contractor's product exceeds 10% over the original cost for the product. Also, the increase in cost must be nationwide and consistent for a minimum period of sixty (60) calendar days. Costs that historically are anticipated to rise over a period of time (for example only, such as wages or insurance costs) do not qualify for pass through. If a Contractor thinks he will be asking for a pass-through cost adjustment during the term of the contract, then the original cost of the product to Contractor must be stated in Contractor's original Proposal.

A request for a pass-through cost does not guarantee that one will be granted. Contractors must submit such information on each request as required by the County Purchasing Agent. The County Purchasing Agent will review each request on a case-by-case basis and if valid submit the request to the Commissioners' Court for authorization and determination of the appropriateness of each request as well as amount and duration of increase. Contractors will not be permitted any additional compensation for mark-ups or profits based on the increase in price. Rather, such additional compensation will be limited to the actual increase in original cost to the Contractor as such increase is reflected by the original cost stated in the Proposal. But in no event will the amount of additional compensation exceed 25% increase in Contractor's original cost for the product as such cost is reflected in Contractor's original Proposal or the duration exceed a period of sixty (60) calendar days. In addition, should the cost, during the period of the pass through, return to normal or decrease to below pre pass through prices, appropriate downward adjustments shall be made. No more than one pass through adjustment will be permitted per year.

15. MODIFICATION OF PROPOSALS

A Proposer may modify a Proposal by letter at any time prior to the submission deadline for receipt of Proposals. Modification requests must be received by the Purchasing Agent prior to the submission deadline. Modifications made before opening time must be initialed by Proposer guaranteeing authenticity. Proposals may not be amended or altered after the official opening with the single exception that any product literature and/or supporting data required by the actual specifications, if any, will be accepted at any time prior to the Commissioners' Court considering of same.

16. PRE-PROPOSAL CONFERENCE

A pre-Proposal conference for the purpose of discussing contract requirements and answering questions of prospective Proposers may be conducted in this procurement. A pre-Proposal conference may be mandatory or voluntary. If the pre-Proposal conference is mandatory, then the County is authorized to condition acceptance of a Proposal on compliance with attendance. The Special Provision section of this procurement shall specify if a pre-Proposal conference is to be held and shall specify whether the pre-Proposal conference is mandatory or voluntary. Regardless of whether the pre-Proposal conference is mandatory or voluntary, only a principal, officer, or employee of the Proposer may represent the Proposer at the pre-Proposal conference and no person may represent more than one Proposer at the pre-Proposal conference.

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17. SIGNATURE OF PROPOSALS

Each Proposal shall give the complete name of the Proposer and the mailing address of the Proposer and be signed by an authorized representative by original signature with the authorized representative's name and legal title typed below the signature line. Each Proposal shall include the Proposer's Federal Employer Identification Number (FEIN). Failure to sign the Contract page(s) and Proposal response sheets may disqualify the Proposal from being considered by the County. The person signing on behalf of the Proposer expressly affirms that the person is duly authorized to tender the Proposal on behalf of the Proposer and to sign the Proposal sheets and contract under the terms and conditions of this Request for Proposal and to bind the Proposer hereto and further understands that the signing of the contract shall be of no effect until it is properly placed on the Commissioners' Court agenda, approved in open Court, authorized to be executed by the County Judge, and fully executed by both parties.

18. AWARD OF PROPOSALS – EVALUATION CRITERIA AND FACTORS

The award will be made to the responsible Proposer whose Proposal is determined to be the lowest and best evaluated offer demonstrating the best ability to fulfill the requirements set forth in this Request for Proposal. **The proposed cost to the County will be considered firm and cannot be altered after the submission deadline, unless the County invokes its right to request a best and final offer.**

"Lowest and best" means a Proposal or offer providing the best value considering associated direct and indirect costs, including transport, maintenance, reliability, life cycle, warranties, and customer service after a sale.

In determining the lowest and best Proposal for a contract for the purchase of earth-moving, material-handling, road maintenance, or construction equipment, the Commissioners' Court may also consider the information submitted under Section 262.0255 of the Local Government Code; and in determining the lowest and best Proposal for a contract for the purchase of road construction material, the Commissioners' Court may consider the pickup and delivery locations of the Proposers and the cost to the county of delivering or hauling the material to be purchased. The Commissioners' Court may award contracts for the purchase of road construction material to more than one Proposer if each of the selected Proposers submits the lowest and best Proposal for a particular location or type of material.

Each Proposer, by submitting a Proposal, agrees that if its` Proposal is accepted by the Commissioners' Court, the Proposer will furnish all items and services upon which prices have been tendered and upon the terms and conditions in this Proposal, including but not limited to the best and final offer if applicable, and the contract.

The contractor shall commence work only after the transmittal of a fully executed contract and after receiving written notification to proceed from the County Purchasing Agent. The contractor will perform all services indicated in the Proposal in compliance with this contract.

Neither department heads nor elected officials are authorized to sign any binding contracts or agreements prior to being properly placed on the Commissioners'' Court agenda and approved in open court. Department heads and other elected officials are not authorized to enter into any type of agreement or contract on behalf of Galveston County. Only the Commissioners' Court, acting as a body, may enter into a contract on behalf of the County. Additionally, department heads and other elected officials are not authorized to agree to any type of supplemental agreements or contracts for goods or services. Supplemental agreements are subject to review by the County's legal counsel prior to being signed by the County's authorized representatives.

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The County of Galveston reserves the right to accept Proposals on individual items listed, or group items, or on the Proposal as a whole; to reject any and all Proposals; to waive any informality in the Proposals; to disregard Proposals that are not submitted timely; to disregard the Proposals of Proposers determined to be not responsible; and to accept the Proposal that appears to be in the best interest of the County. The selection process may, however, include a request for additional information or an oral presentation to support the written Proposal.

In determining and evaluating the best Proposal, the pricing component may not necessarily be controlling, but quality, equality, efficiency, utility, general terms, delivery, suitability of the service offered, and the reputation of the service in general use will also be considered along with any other relevant items.

The County reserves the right to reject any or all Proposals in whole or in part received by reason of this Request for Proposal and may discontinue its efforts under this Request for Proposal for any reason or no reason or solely for the County's convenience at any time prior to actual execution of the contract by the County.

A Proposer whose Proposal does not meet the mandatory requirements set forth in this request for Proposal will be considered non-compliant.

The invitation to submit a Proposal which appears in the newspaper, or other authorized advertising mediums, these general provisions, the special specifications which follow, the Proposal sheets, forms, and any addenda issued are all considered part of the Proposal and resultant contract.

Each Proposer, by submitting a Proposal, agrees that if its Proposal is accepted by the Commissioners' Court, such Proposer will furnish all items and services upon the terms and conditions in this request for Proposal and the resultant contract.

Notice of contract award is anticipated to be made within ninety (90) days of opening of Proposals to the lowest responsive and responsible contractor, whose Proposal complies with all the requirements in the request for Proposal.

Contractor shall submit to the County, for approval, within ten (10) days from notice of contract award, all Certificates of Insurance evidencing the required coverage as described under Section 37, Requirement of and Proof of Insurance, or if different, then as described within the Special Provisions or resultant contract.

The contractor shall not commence work under these terms and conditions of the contract until all applicable Purchase Orders, Certificates of Insurance, Performance and Payment Bonds, and Irrevocable Letters of Credit (if required) have been approved by the County of Galveston and the Contractor has received notice to proceed in writing and an executed copy of the contract from the County Purchasing Agent.

19. DISPUTE AFTER AWARD / PROTEST

Any actual or prospective Proposer who is allegedly aggrieved in connection with this procurement or award of a contract resulting therefrom may protest. The protest shall be submitted in writing to the Purchasing Agent within seven (7) calendar days after such aggrieved person knows of or should have known of the facts giving rise thereto. If the protest is not resolved by mutual agreement, the Purchasing Agent will promptly issue a decision in writing to the protestant. If the protestant wishes to appeal the decision rendered by the Purchasing Agent, such appeal must be made to the Commissioners' Court

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through the Purchasing Agent. The decision of the Commissioners' Court will be final. The Commissioners' Court need not consider protests unless this procedure is followed.

20. PUBLIC INFORMATION ACT (f/k/a Open Records Act)

The Proposer acknowledges that the County is a government body for purposes of the Public Information Act, codified as Chapter 552 of the Texas Government Code, and as such is required to release information in accordance with the provisions of the Public Information Act.

If Proposer considers any of its submitted information to be proprietary in nature, trade secret, or otherwise confidential, then it must clearly and conspicuously mark such information as proprietary, trade, secret, or confidential. By the submission of its Proposal, Proposer expressly affirms that it has clearly and conspicuously marked any information within its submission that Proposer considers confidential, proprietary, and/or trade secret.

In the event the County receives a request for information under the Public Information Act seeking information that the Proposer has marked as confidential, proprietary, and /or trade secret, then the County agrees that it shall provide notice to the Proposer of the request for information and the request for decision process under the Public Information Act. Thus, the County will submit the initial correspondence to the Texas Attorney General – however, the burden is and shall be on the Proposer to submit correspondence to the Attorney General if the Proposer wishes its information to be withheld. Proposer is deemed to have knowledge of the Public Information Act. **By the submission of its Proposal, Proposer expressly acknowledges that the burden to withhold its' information from public disclosure lays with the Proposer;** thus, Proposer further acknowledges and agrees that it shall submit comments to the Texas Attorney General in the request for decision process if Proposer wishes to have its' information withheld from public disclosure.

21. PROPOSER'S E-MAIL ADDRESSES – CONSENT TO DISCLOSURE

Notwithstanding the foregoing Section 20, Proposer acknowledges and agrees that the confidentiality of all email addresses Proposer uses or discloses in communicating with the County are **open** to the public in accordance with Section 552.137 of the Government Code and Proposer consents to the release of its email addresses.

22. RESULTANT CONTRACT

Proposer should submit a proposed contract / agreement with its response, or its sample material terms and conditions for review and consideration.

It is the intent of this solicitation to enter a contract that meets State and Federal guidelines. It is imperative that all responders seeking a contract under this solicitation effort, familiarize and adhere to the requirements of the General Provisions, Special Provisions, and the procurement standards as referenced in 2 C.F.R. Part 200, Sections 200.317-200.326, and Appendix II, 2 C.F.R. Part 200. Sections 200.317–200.326 and Appendix II are referenced in the General Provisions section of this solicitation.

The resultant contract consists of the following documents: Request for Proposal, General Provisions, Special Provisions, General Terms and Conditions (including specifications, drawings, and addenda), Proposer's Proposal, Proposal Sheets, contract award, and any other documents referenced herein or

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attached hereto for the work. Collectively these documents may also be referred to as the Plans and Specifications.

The Galveston County Commissioners Court, and/or authorized designees will be responsible for negotiating with the successful contractor, the scope of work, the standards of performance, the specific technology provided, and the support services required for the proposed projects. All contractual amendments will be processed in accordance with Galveston County Purchasing Policies and Procedures.

Amendments will also be brought to Galveston County Commissioners' Court for approval as deemed necessary. The approval process serves to ensure the project technology and/or service is within the scope of the resultant contract, and that pricing meets the agreed upon pricing methodology as specified in the contract, and that funds are available.

Proposer shall correctly and fully execute the resultant contract first. After this, the contract shall be set for consideration by the Commissioners' Court. If the Commissioners' Court authorizes the execution of the contract, the resultant contract shall become effective upon the Commissioners' Court execution of same, provided that the contract is executed by all parties to the contract. Contract documents shall consist of the contract, the General and Special Provisions, drawings, solicitation package (including best and final offer(s) if such is utilized), any addenda issued, and any change orders issued during the work. If applicable to the attached Proposal, Proposer must sign three (3) original contracts and return all three with their Proposal submittal.

The Contractor shall procure all permits, licenses, certificates, or any such approvals of plans or specifications as may be required by federal, state, and local laws, ordinances, rules, and regulations, for the proper execution and completion of the work under the resultant agreement.

The Contractor is responsible for all damage or loss by fire, theft or otherwise, to materials, tools, equipment, and consumables, left on County property by the contractor.

The resultant agreement is considered a non-exclusive agreement between the parties.

The successful contractor hereby certifies that this agreement is made without prior understanding, agreement or connection with any corporation, firm or person who submitted Proposals for the Work covered by the resultant agreement and is in all respects fair and without collusion or fraud. As to Contractor, the successful contractor hereby warrants and certifies that he/she is authorized to enter into this agreement and to execute same on behalf of the Contractor as the act of the said Contractor.

The agreement, including the General and Special Conditions and all amendments or addenda issued by the county, contains all the terms and conditions agreed upon by the parties. No other agreements, oral or otherwise, regarding the subject matter of the resultant agreement shall be deemed to exist or to bind either party hereto.

To satisfy cost reasonableness responsibilities at the time of any extension period, the County of Galveston reserves the right to obtain additional quotes and current pricing information from the successful contractor and other contractors to perform the work as stated per the specification listed herein and in the resultant. The solicited results may be used by the County to determine if the contract extensions will be considered, or other service options be utilized.

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23. CONTRACT TERM

The term of the resultant contract will begin on the date of full execution or the execution by the Commissioners' Court, whichever is later, and will terminate on the date specified in the resultant contract unless terminated earlier as herein set forth.

24. COLLATERAL CONTRACT

The County reserves the right to provide by separate contract or otherwise, in such manner as not to delay its programs or damage said Contractor, all labor and material essential to the completion of the work that is not included in this contract.

Award prices include all royalties and costs arising from patents, trademarks, and copyrights in any way involved in the work. Whenever the Awardee is required or desires to use any design, device, material or process covered by letters of patent or copyright, the Awardee shall indemnify and save harmless the County, its officers, agents and employees from any and all claims for infringement by reason of the use of any such patented design, tool, material, equipment, or process, to be performed under the contract, and shall indemnify the County its officers, agents, and employees for any costs, expenses and damages which may be incurred by reason of any infringement at any time during the prosecution or after the completion of the work.

25. TERMINATION FOR DEFAULT

Failure of either party in the performance of any of the provisions of this contract shall constitute a breach of contract, in which case either party may require corrective action within ten (10) business days from date of receipt of written notice citing the exact nature of such breach. Failure of the party being notified to take corrective action within the prescribed ten (10) business days, or failure to provide written reply of why no breach has occurred, shall constitute a Default of Contract.

All notices relating to default by Proposer of the provisions of the contract shall be issued by the County through its Legal counsel, and all replies shall be made in writing to the County's legal counsel. Notices issued by or issued to anyone other than the County's legal counsel shall be null and void and shall be considered as not having been issued or received.

Galveston County reserves the right to enforce the performance of this contract in any manner prescribed by law in the event of breach or default of this contract, and may contract with another party, with or without solicitation of Proposals or further negotiations. At a minimum, Proposer shall be required to pay any difference in service or materials, should it become necessary to contract with another source, plus reasonable administrative costs, and attorney fees.

In the event of Termination for Default, Galveston County, its agents, or representatives shall not be liable for loss of any profits anticipated to be made by Proposer.

In addition to the remedies stated herein, the County has the right to pursue other remedies permitted by law or in equity.

No waiver by either party of any event of default under this agreement shall operate as a waiver of any subsequent default under the terms of this agreement.

County reserves the right to terminate this contract immediately in the event Proposer:

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A. Fails to meet delivery or completion schedules; and/or
B. Fails to otherwise perform in accordance with the accepted Proposal and the contract.

26. TERMINATION FOR CONVENIENCE

County may terminate this contract upon at least thirty (30) calendar days prior written notice for its convenience or for any reason deemed by the County to serve the public interest. As well, County may terminate this contract upon thirty (30) calendar days prior written notice for any reason resulting from any governmental law, order, ordinance, regulation, or court order. In no event shall County be liable for loss of any profits anticipated to be made hereunder by Proposer should this contract be terminated early.

27. FORCE MAJEURE

If by reason of Force Majeure either Party shall be rendered unable, wholly or in part, to carry out its responsibilities under this contract by any occurrence by reason of Force Majeure, then the Party unable to carry out its responsibility shall give the other Party notice and full particulars of such Force Majeure in writing within a reasonable time after the occurrence of the event, and such notice shall suspend the Party's responsibility for the continuance of the Force Majeure claimed, but for no longer period.

Force Majeure means acts of God, floods, hurricanes, tropical storms, tornadoes, earthquakes, or other natural disasters, acts of a public enemy, acts of terrorism, sovereign conduct, riots, civil commotion, strikes or lockouts, and other causes that are not occasioned by either Party's conduct which by the exercise of due diligence the Party is unable to overcome, and which substantially interferes with operations.

28. ESTIMATED QUANTITIES

Any reference to quantities shown in the request for Proposal is an estimate only. Since the exact quantities cannot be predetermined, the County reserves the right to adjust quantities as deemed necessary to meet its requirements.

29. CONTRACTOR INVESTIGATION

Before submitting a Proposal, each Proposer shall make all investigations and examinations necessary to ascertain all site conditions and requirements affecting the full performance of the contract and to verify any representations made by the County upon which the contractor will rely. Proposer shall exercise due diligence and is further charged with knowledge of the local, State, and Federal laws, rules, and regulations applicable to this contract. If the Proposer receives an award as a result of its Proposal submission in this procurement, the Proposer's failure to have made such investigations and examinations will in no way relieve the Proposer from its obligation to comply in every detail with all provisions and requirements of the contract, nor will a plea of ignorance of such conditions and requirements be accepted as a basis for any claim whatsoever by the contractor for additional compensation and/or for excused nonperformance.

30. NO COMMITMENT BY COUNTY OF GALVESTON

This request for procurement does not commit the County of Galveston to award any costs or pay any costs, or to award any contract, or to pay any costs associated with or incurred in the preparation of a Proposal in response to this request for Proposal and does not commit the County of Galveston to procure or contract for services or supplies.

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31. PROPOSAL COSTS BORNE BY PROPOSER

Galveston County shall not be liable for any costs incurred by Proposer in preparation, production, or submission of a Proposal, including but not limited to best and final offer if applicable. As well, Galveston County shall not be liable for any work performed by Proposer prior to issuance of fully executed contract and properly issued notice to proceed. Galveston County shall not be liable for any costs incurred by Proposer by reason of attending a pre-Proposal conference. Galveston County shall not be liable for any costs incurred by Proposer by reason of the County invoking use of best and final offers.

32. BEST AND FINAL OFFERS (BAFO)

In acceptance of Proposals, the County reserves the right to negotiate further with one or more of the Proposers as to any features of their Proposals and to accept modifications of the work and price when such action will be in the best interest of the County. This includes, but is not limited to, the solicitation of a Best and Final Offer from one or more of the Proposers. If a Best and Final Offer is invoked, this allows acceptable Proposers the opportunity to amend, change, or supplement their original Proposal. Proposers may be contacted in writing by the Purchasing Agent, requesting that they submit their Best and Final Offer. Any such Best and Final Offer must include discussed and negotiated changes.

33. SINGLE PROPOSAL RESPONSE

If only one Proposal is received in response to the request for Proposal, a detailed cost Proposal may be requested of the single Proposer. A cost/price analysis and evaluation and/or audit may be performed of the cost Proposal to determine if the price is fair and reasonable.

34. CHANGES IN SPECIFICATIONS

If it becomes necessary to revise any part of this Request for Proposal, a written notice of such revision will be provided to all Proposers in the form of addenda. The County is not bound by any oral representations, clarifications, or changes made in the written specifications by the County's employees or officials, unless such clarification or change is provided to Proposers in a written addendum from the Purchasing Agent. Proposers are advised to inquire prior to the submission deadline as to whether any addenda to this request for Proposal have been issued, as the successful Proposer will be required to abide by such addenda.

The County of Galveston reserves the right to revise or amend the specifications up to the time set for opening of Proposals. Such revisions and amendments, if any, shall be announced by form of addenda. Copies of such addenda (or addendum in the event only one addendum is issued in the procurement) shall be furnished to all prospective contractors. Prospective contractors are defined as those contractors listed on the County's request for proposal list for this material/service or those who have obtained documents from the Purchasing Agent's Office subsequent to the advertisement. If revisions and amendments require changes in quantities or prices proposed, or both, the date set for opening of Proposals may be postponed by such number of days as in the opinion of the County shall enable prospective contractors to revise their Proposals. In any case, the Proposal opening shall be at least seven (7) business days after the last revising or amendment addendum and the addendum shall include an announcement of the new date, if applicable, for the opening of Proposals.

35. PROPOSAL IDEAS AND CONCEPTS

The County reserves to itself the right to adopt or use for its benefit, any concept, plan, or idea contained in any Proposal.

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36. PROPOSAL DISCLOSURES

While this procurement is pending, the names of those who submitted Proposals will not be made public unless in conformity with the County Purchasing Act. Likewise, no pricing, staffing, or other contents of the Proposal information will be released unless in conformity with the County Purchasing Act. Proposers are requested to withhold all inquiries regarding their Proposal or other submissions until after an award is made. No communication is to be had with any County employee or official, other than the County Purchasing Agent, regarding whether a Proposal was received - violations of this provision may result in the rejection of a Proposal.

37. INDEMNIFICATION

The contractor agrees to assume all risks and responsibility for, and agrees to indemnify, defend, and save harmless, the County of Galveston, its elected and appointed officials and department heads, and its agents and employees from and against all claims, demands, suits, actions, recoveries, judgments, and costs and expenses including reasonable attorney's fees for the defense thereof, arising out of or in connection therewith on account of the loss of life, property or injury or damage to the person which shall arise from contractor's operations under this contract, its use of County facilities and/or equipment or from any other breach on the part of the contractor, its employees, agents or any person(s), in or about the County's facilities with the expressed or implied consent of the County. Contractor shall pay any judgment with cost which may be obtained against Galveston County resulting from contractor's operations under this contract.

Contractor agrees to indemnify and hold the County harmless from all claims of subcontractors, laborers incurred in the performance of this contract. Contractor shall furnish satisfactory evidence that all obligations of this nature herein above designated have been paid, discharged or waived. If Contractor fails to do so, then the County reserves the right to pay unpaid bills of which County has written notice direct and withhold from Contractor's unpaid compensation a sum of money reasonably sufficient to liquidate any and all such lawful claims.

38. REQUIREMENT OF AND PROOF OF INSURANCE

The successful Proposer shall furnish evidence of insurance to the County Purchasing Agent and shall maintain such insurance as required hereunder or as may be required in the Special Provisions or resultant contract, if different. Contractor shall obtain and thereafter continuously maintain in full force and effect, Commercial General Liability insurance, including but not limited to bodily injury, property damage, and contractual liability, with combined single limits as listed below or as may be required by State or Federal law, whichever is greater.

A. For damages arising out of bodily injury to or death of one person in any one accident: ONE HUNDRED THOUSAND AND NO/100 ($100,000.00) DOLLARS.

B. For damages arising out of bodily injury to or death of two or more persons in any one accident: THREE HUNDRED THOUSAND AND NO/100 ($300,000.00) DOLLARS.

C. For any injury to or destruction of property in any one accident: ONE HUNDRED THOUSAND AND NO/100 ($100,000.00) DOLLARS.

Insurance shall be placed with insurers having an A.M. Best's rating of no less than A. Such insurance must be issued by a casualty company authorized to do business in the State of Texas, and in

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standard form approved by the Board of Insurance Commissioners of the State of Texas, with coverage provisions ensuring the public from loss or damage that may arise to any person or property by reason of services rendered by Contractor.

Galveston County shall be listed as the additional insured on policy certificates and shall be provided with no less than thirty (30) calendar days prior notice of any changes to the policy during the contractual period.

Certificates of Insurance, fully executed by a licensed representative of the insurance company written or countersigned by an authorized Texas state agency, shall be filed with the County Purchasing Agent within ten (10) business days of issuance of notification from the County Purchasing Agent to Proposer that the contract is being activated as written proof of such insurance and further provided that Proposer shall not commence work under this contract until it has obtained all insurance required herein, provided written proof as required herein, and received written notice to proceed issued from the County Purchasing Agent.

Proof of renewal/replacement coverage shall be provided prior to the expiration, termination, or cancellation date of any policy and Galveston County shall be named as an additional insured on any such renewal/replacement coverage and a certificate of insurance showing such shall be provided to the Purchasing Agent. Said insurance shall not be cancelled, permitted to expire, or changed without at least thirty (30) days prior written notice to the County.

Insurance required herein shall be maintained in full force and effect during the life of this contract and shall be issued on an occurrence basis. Contractor shall require that any and all subcontractors that are not protected under the Contractor's own insurance policies take and maintain insurance of the same nature and in the same amounts as required of Contractor and provide written proof of such insurance to Contractor. Proof of renewed/replacement coverage shall be provided prior to the expiration, termination, or cancellation date of any policy. Contractor shall not allow any subcontractor to commence work on the subcontract until such insurance required for the subcontractor has been obtained and approved.

Workers' Compensation Insurance: Successful Proposer shall carry in full force Workers' Compensation Insurance Policy(ies), if there is more than one employee, for all its' employees, including but not limited to full time, part time, and emergency employees employed by the successful Proposer. Current insurance certificates certifying that such policies as specified above are in full force and effect shall be furnished by successful Proposer to the County.

Insurance is to be placed with insurers having a Best rating of no less than A. The Proposer shall furnish the County with certificates of insurance and original endorsements affecting coverage required by these insurance clauses within ten (10) business days of receiving notification from the County Purchasing Agent that the contract is being activated. The certificates and endorsements for each insurance policy are to be signed by a person authorized by the insurer to bind coverage on its behalf. The Proposer shall be required to submit annual renewals for the term of this contract prior to expiration of any policy.

In addition to the remedies stated herein, the County has the right to pursue other remedies permitted by law or in equity.

The County agrees to provide Proposer with reasonable and timely notice of any claim, demand, or cause of action made or brought against the County arising out of or related to utilization of the property. Proposer shall have the right to defend any such claim, demand, or cause of action at its sole cost and expense and within its sole and exclusive discretion. The County agrees not to compromise or settle any

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claim or cause of action arising out of or related to the utilization of the property without the prior written consent of the Proposer.

In no event shall the County be liable for any damage to or destruction of any property belonging to the Proposer.

Subrogation Waiver. Proposer and Proposer's insurance carrier waive any and all rights to subrogation against Galveston County in regard to any suit or claim arising out of personal injury or property damage resulting from Proposer's performance under this agreement.

39. PROPOSAL GUARANTEE

Unless specified differently within the Special Provisions of this procurement, each Proposer shall be required to submit a Proposal guarantee with its Proposal as required within this Section.

Evidencing its firm commitment to engage in contract if Proposer is selected for award of contract, each Proposer is required to furnish with their Proposal a cashier's check or an acceptable Proposer's bond (generally, a Proposal bond) in the amount of five percent (5%) of the total contract price. If Proposer is using a bond, then the bond must be executed with a surety company authorized to do business in the State of Texas. Failure to furnish the Proposal guarantee in the proper form and amount, by the time set for opening of Proposals may be cause for rejection of the Proposal.

The cashier's check or Proposer bond (as applicable) will be returned to each respective unsuccessful Proposer(s) after the Commissioners' Court award of contract and shall be returned to the successful Proposer upon the completion and submission of all contract documents. Provided however, that the cashier's check or Proposer bond will be forfeited to the County as liquidated damages should successful Proposer fail to execute the contract within thirty (30) days after receiving notice of the acceptance of its Proposal.

40. PERFORMANCE AND PAYMENT BONDS (if required)

Successful Proposer, before beginning work, shall execute a performance bond and a payment bond, each of which must be in the amount of the contract. The required payment and performance bonds must each be executed by a corporate surety authorized to write surety bonds in the State of Texas and in accordance with Chapter 3503 of the Insurance Code (codified in 2005 and originally within Section 1, Chapter 87, Acts of the 56th Leg., R.S., 1959, and in Article 7.19-1, Vernon's Texas Insurance Code).

The performance and payment bonds must each clearly and prominently display on the bond or on an attachment to the bond:

a.) The name, mailing address, physical address, and telephone number, including the area code, of the surety company to which any notice of claim should be sent; or
b.) The toll-free telephone number maintained by the Texas Department of Insurance under Subchapter B, Chapter 521, Insurance Code, and a statement that the address of the surety company to which any notice of claim should be sent may be obtained from the Texas Department of Insurance by calling the toll free-telephone number.

The performance bond shall be solely for the protection of Galveston County, in the full amount of the

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contract, and conditioned on the faithful performance of the work in accordance with the plans, specifications, and contract documents. The payment bond 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 labor or material, and in the amount of the contract.

The payment and performance bonds required to be furnished herein must be furnished before the contractor begins work and are a requirement for issuance of a Notice to Proceed. Such bonds must be furnished to the Galveston County Purchasing Agent within thirty (30) calendar days after the date of the full execution of the contract or, if applicable, as required under Chapter 2253, Government Code, whichever is earlier. Contractor's failure to provide the required payment and performance bonds within such time period shall constitute an event of default under this contract. Contractor shall not commence work until all applicable certificates of insurance, performance bonds, and payment bonds have been received and approved by the County Purchasing Agent and the Contractor receives notice to proceed in writing that has been issued by the County Purchasing Agent.

Additionally, if this request for Proposal is for the award of a public works contract, then compliance with Chapter 2253 of the Texas Government Code, which is known as the McGregor Act, is mandatory. Performance and payment bonds are required to be furnished in accordance with Chapter 2253 of the Texas Government Code. Proposer should familiarize itself with the entire provisions of Chapter 2253 of the Texas Government Code.

41. PATENT AND COPYRIGHT PROTECTION

The Proposer agrees at its sole expense to protect the County from claims involving infringement of patents, copyright, trademark, trade secret, or other intellectual property rights. **Proposer shall indemnify and save harmless the County of Galveston, its officers, employees, and agents, from liability of any nature and kind whatsoever, including without limitation cost and expenses, for or on account of any copyrighted, trademarked, trade secret, patented or un-patented invention, process, or article manufactured or used in the performance of the contract, or other intellectual property rights, including its use by the County.** Proposer also agrees that if Proposer is awarded this contract, that no work performed hereunder shall be subject to patent, copyright, or other intellectual property by Proposer.

42. CONFLICT OF INTEREST DISCLOSURE REPORTING (FORM CIQ)

Proposer may be required under Chapter 176 of the Texas Local Government Code to complete and file a Conflict-of-Interest Questionnaire (CIQ Form). The CIQ Form pertains to business relationship, gift giving and family relationship reporting. If Proposer is required to file a CIQ Form, then **the completed CIQ Form must be filed with the County Clerk of Galveston County, Texas.**

Business relationship. If Proposer has an employment or other business relationship with a local government officer of Galveston County or with a family member of a local government officer of Galveston County that results in the officer or family member of the officer receiving taxable income that exceeds $2,500.00 during the preceding 12-month period, then Proposer **MUST** complete a CIQ Form and file the original of the CIQ Form with the County Clerk of Galveston County.

Gift-giving. If Proposer has given a local government officer of Galveston County or a family member of a local government officer of Galveston County one or more gifts with an aggregate value of more than

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one-hundred dollars ($100.00) during the preceding 12-months. then Proposer **MUST** complete a CIQ Form and file the original of the CIQ Form with the County Clerk of Galveston County.
Family member. For purposes of the business relationship and gift giving reporting requirements, a "family member" means a person related to another person with the first degree of consanguinity or affinity, as described by Subchapter B, Chapter 573, Texas Government Code. Examples of persons within the first degree by consanguinity or affinity include a son. daughter. father, mother, spouse. son-in-law. daughter-in-law, father-in-law, mother-in-law, stepson, stepdaughter, stepmother, and stepfather.

Family relationship. If Proposer has a "family relationship" with a local government officer of Galveston County then Proposer **MUST** complete a CIQ Form and file the original of the CIQ Form with the County Clerk of Galveston County, regardless of whether Proposer has a business relationship or has given gifts to the local government officer or a family member of the local government officer. For this purpose, "family relationship" means Proposer is related within the third degree by consanguinity or the second degree by affinity, as those terms are defined under Chapter 573 of the Texas Government Code, to a local government officer of Galveston County. Examples of such relationships include a son, daughter, mother, father, brother, sister, grandchild, great-grandchild, grandparent, great-grandparent, niece, nephew, uncle, aunt, spouse, mother-in-law, father-in-law, daughter-in-law, son-in-law, spouse's grandchild, spouse's grandparent, grandparent's spouse, grandchild's spouse, stepson, stepdaughter, stepmother, and stepfather.

Proposer must file its original CIQ Form with the Galveston County Clerk. The Galveston County Clerk has offices at the following locations:

Galveston County Clerk
Galveston County Justice Center, Suite 2001
600 59th Street
Galveston, Texas 77551

Galveston County Clerk
North County Annex, 1st Floor
174 Calder Road
League City, Texas 77573

Again, if Proposer is required to file a CIQ Form, the original completed form is filed with the Galveston County Clerk (**not the Purchasing Agent**).

For Proposer's convenience, a blank CIQ Form is enclosed with this Proposal package. Blank CIQ Form(s) may also be obtained by visiting the Purchasing Agent's website. This website is linked from the Galveston County homepage, at http://www.galvestoncountytx.gov.

Chapter 176 specifies deadlines for the filing of CIQ Forms (both initial filings and updated filings).

It is Proposer's sole responsibility to file a true and complete CIQ Form with the Galveston County Clerk if Proposer is required to file by the requirements of Chapter 176 of the Local Government Code. Proposer is advised that it is an offense to fail to comply with the disclosure reporting requirements dictated under Chapter 176 of the Texas Local Government Code, and the failure to file may be grounds to void the contract, if Proposer is awarded a contract.

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If Proposer has any questions about compliance with Chapter 176, Proposer may wish to consult its' legal counsel. Compliance is the individual responsibility of each person, business, and agent who is subject to Chapter 176 of the Texas Local Government Code.

43. DISCLOSURE OF INTERESTED PARTIES / FORM 1295

Under Section 2252.908 of the Government Code, any business entity that enters into a contract with Galveston County that requires the approval of the Commissioners' Court must submit a "Disclosure of Interested Parties" to the County prior to the execution of the contract. This form, the "Disclosure of Interested Parties" form was promulgated by the Texas Ethics Commission and is the "Form 1295". **This procurement is subject to these requirements.**

The Texas Ethics Commission was charged with promulgating rules to implement Section 2252.908 of the Government Code. The rules adopted by the Texas Ethics Commission are located at Sections 46.1, 46.3, and 46.5 of Title 1 of the Texas Administrative Code. Thus, the law covering these requirements is located at Section 2252.908 of the Government Code, and in Title 1, Sections 46.1, 46.3, and 46.5 of the Texas Administrative Code.

The Texas Ethics Commission's website is: www.ethics.state.tx.us. The area of the Texas Ethics Commission website pertaining to Form 1295 is:

www.ethics.state.tx.us/whatsnew/elf_info_form1295.htm.

Form 1295 must be completed electronically through the Texas Ethics Commission website (handwritten forms are not allowable). Once the business entity has completed their electronic filing of Form 1295, then the business entity must print out the electronically completed form, and sign and notarize the Form 1295. Once Form 1295 is signed and notarized, the business entity must submit their completed, signed, and notarized Form 1295 to the Galveston County Purchasing Agent.

Successful Proposer is and shall be subject to these requirements, and no resultant contract may be executed by the Commissioners' Court until the completed, signed, and notarized Form 1295 is on file with the County Purchasing Agent.

No portion of the Form 1295 process commits the County to any type of award of contract whatsoever.

After the Purchasing Agent's Office receives the completed, signed, and notarized Form 1295, the Purchasing Department representative will, within 30 days, go to the Texas Ethics Commission website to submit electronic confirmation of the County's receipt of the completed, signed, and notarized Form 1295.

44. CERTIFICATION REGARDING DEBARMENT, SUSPENSION, PROPOSED DEBARMENT, AND OTHER RESPONSIBILITY MATTERS & REQUIREMENT TO REGISTER IN SAM

Proposer certifies that neither it, nor any of its Principals, are presently debarred, suspended, proposed for debarment, disqualified, excluded, or in any way declared ineligible for the award of contracts by any Federal agency. Contractor agrees that it shall refund Galveston County for any payments made to Contractor while ineligible. Contractor acknowledges that Contractor's uncured failure to perform under this Agreement, if such should occur, may result in Contractor being debarred from performing additional work for the County, the respecting State Agency administering the grant funding the contract, if

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applicable, the State, FEMA, or HUD (as applicable), and other Federal and State entities. Further, Proposer has executed the Certification Regarding Debarment, Suspension, Proposed Debarment, and Other Responsibility Matters and returned the fully completed and executed original certification with the submission of its Proposal.

The truthful and fully completed and executed original of the Certification Regarding Debarment, Suspension, Proposed Debarment, and Other Responsibility Matters must be included with the submission of Proposer's Proposal and is a mandatory requirement of this request for Proposal. Proposer's failure to include the fully completed and executed original of this Certification shall be considered non-compliance with the requirements of this request for Proposal and grounds for the rejection of Proposer's Proposal.

Proposer shall immediately notify the County Purchasing Agent if it becomes debarred or suspended, placed on the Consolidated List of Debarred Contractors, or in any other way becomes ineligible for award of contract by any Federal agency. This Certification is a material fact relied upon by Galveston County; if it is later determined that the contractor did not comply with 2 C.F.R. Part 180 and 2 C.F.R. Part 3000, in additional to the remedies available to Galveston County and the State agency administering this grant, the Federal Government may pursue available remedies, including but not limited to suspension and/or debarment of contractor.

If the contract to be awarded pursuant to this procurement involves the use of Federal funds, then Proposer must also be registered in the Federal Contractor Registry through the System for Award Management (SAM) to be eligible for award of contract pursuant to this procurement.

Information regarding the SAM is available at:

http://www.federalcontractorregistry.com/?gclid=CIG1hf2rr8wCFYkCaQoducANZw or at https://www.sam.gov/portal/SAM/#1.

No contract involving the use of Federal funds may be awarded to any Proposer unless and until such registration is current and in good standing under SAM. If this contract involves the use of Federal funds, then Proposer must enclose proof of such SAM registration within its response, which is also a mandatory requirement of this procurement; failure to enclose such proof shall be considered non-compliance with the requirements of this procurement and grounds for the rejection of Proposer's response to this procurement (i.e., Proposal, Proposal, or qualifications statement, as applicable).

45. TRANSACTIONS WITH TERRORIST ORGANIZATIONS PROHIBITED

(Texas Government Code 2252.151; 2252.152) Prohibition on contracts with certain companies per Government Code 2252.151 Definitions:

(1)**"Company"** has the meaning assigned by Section 806.001.

(2)**"Foreign terrorist organization"** means an organization designated as a foreign terrorist organization by the United States secretary of state as authorized by 8 U.S.C. Section 1189.
(3)**"Governmental contract"** means a contract awarded by a governmental entity for general construction, an improvement, a service, or a public works project for a purchase of supplies, materials, or equipment.

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The term includes a contract to obtain a professional or consulting service subject to Government Code, Chapter 2254.

(4)**"Governmental entity"** has the meaning assigned by Government Code, Section 2252.001.

Pursuant to Chapter 2252, Texas Government Code. Contractor shall certify that, at the time of execution of this Contract, neither the Contractor, nor any wholly owned subsidiary, majority-owned subsidiary, parent company or affiliate of the same (1) engages in business with Iran, Sudan, or any foreign terrorist organization as described in Chapters 806 or 807 of the Texas Government Code, or Subchapter F of Chapter 2252 of the Texas Government Code, or (2) is a company listed by the Texas Comptroller of Public Accounts under Sections 806.051, 807.051, or 2252.153 of the Texas Government Code.

46. VERIFICATION NOT TO BOYCOTT ISRAEL

Prohibition on contracts with companies boycotting Israel per Government Code 2271.001 Definitions:

(1) **"Boycott Israel"** has the meaning assigned by Section 808.001.

(2) **"Company"** has the meaning assigned by Section 808.001; except that the term does not include a sole proprietorship.

(2) **"Governmental entity"** has the meaning assigned by Government Code, Section 2251.001.

PROVISION REQUIRED IN CONTRACT. (a) This section applies only to a contract that:

(1) is between a governmental entity and a company with 10 or more full-time employees; and

(2) has a value of $100,000 or more that is to be paid wholly or partly from public funds of the governmental entity.

(b) A governmental entity may not enter into a contract with a company for goods or services unless the contract contains a written verification from the company that it:

(1) does not boycott Israel; and
(2) will not boycott Israel during the term of the contract.

As required by GOVERNMENT CODE, CHAPTER 2271, **CONTRACTOR hereby verifies that it does not boycott Israel and will not boycott Israel throughout the term of this Agreement.** For the purposes of this verification, "Boycott Israel" means refusing to deal with, terminating business activities, or otherwise taking any action that is intended to penalize, inflict economic harm on, or limit commercial relations specifically with Israel, or a person or entity doing business in Israel or in an Israeli-controlled territory, but does not include an action made for ordinary business purposes.

47. SOVEREIGN IMMUNITY

The County specifically reserves any claim it may have to sovereign, qualified, or official immunity as a defense to any action arising in conjunction with this contract.

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48. CONTROLLING LAW AND VENUE

Proposer acknowledges and agrees that the contract is and shall be governed and construed by the laws of the State of Texas and that venue shall lie exclusively in a court of competent jurisdiction in Galveston County, Texas.

49. MERGERS, ACQUISITIONS

The Proposer shall be required to notify the County of any potential for merger or acquisition of which there is knowledge at the time that a Proposal is submitted.

If subsequent to the award of any contract resulting from this request for Proposal the Proposer shall merge or be acquired by another firm, the following documents must be submitted to the County:

A. Corporate resolutions prepared by the awarded Proposer and the new entity ratifying acceptance of the original contract, terms, conditions and prices;
B. New entity's Federal Identification Number (FEIN);
C. New entity's proposed operating plans;
D. New entity's proof of registration in SAM for contracts involving Federal funds;
E. New entity's certification regarding debarment;
F. New entity's certification regarding lobbying; and
G. W-9 Form for new entity

Moreover, Proposer is required to provide the County with notice of any anticipated merger or acquisition as soon as Proposer has actual knowledge of the anticipated merger or acquisition. The New Proposer's proposed plan of operation must be submitted prior to merger to allow time for submission of such plan to the Commissioners'' Court for its approval.

50. DELAYS

The County reserves the right to delay the scheduled commencement date of the contract if it is to the advantage of the County. There shall be no additional costs attributed to these delays should any occur. Proposer agrees it will make no claims for damages, for damages for lost revenues, for damages caused by breach of contract with third parties, or any other claim by Proposer attributed to these delays, should any occur. In addition, Proposer agrees that any contract it enters into with any third party in anticipation of the commencement of the contract will contain a statement that the third party will similarly make no claim for damages based on delay of the scheduled commencement date of the contract.

51. ACCURACY OF DATA

Information and data provided through this request for Proposal are believed to be reasonably accurate.

52. SUBCONTRACTING/ASSIGNMENT

Proposer shall not assign, sell, or otherwise transfer its contract in whole or in part without prior written permission of the County acting by and through its Commissioners'' Court. Such consent, if granted, shall not relieve the Proposer of any of its responsibilities under this contract.

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53. INDEPENDENT CONTRACTOR

Proposer expressly acknowledges that it is an independent contractor. Nothing in this agreement is intended nor shall be construed to create an agency relationship, an employer/employee relationship, a joint venture relationship, or any other relationship allowing County to exercise control or direction over the manner or method by which Proposer or Proposer's subcontractors perform in providing the requirements stated in the request for Proposal.

54. MONITORING PERFORMANCE

The County shall have the unfettered right to monitor and audit the Proposer's work in every respect. In this regard, the Proposer shall provide its full cooperation and ensure the cooperation of its employees, agents, assigns, and subcontractors. Further, the Proposer shall make available for inspection and/or copying when requested, original data, records, and accounts relating to the Proposer's work and performance under this contract. In the event any such material is not held by the Proposer in its original form, a true copy shall be provided.

55. SUBJECT TO APPROPRIATION OF FUNDS

State law prohibits the obligation and expenditure of public funds beyond the fiscal year for which a budget has been approved by the Commissioners' Court. Galveston County anticipates this to be an integral part of future budgets to be approved during the periods of this contract, except for unanticipated needs or events which may prevent such payments against this contract. However, Galveston County cannot guarantee the availability of funds, and enters into this contract only to the extent such funds are made available through appropriation (allocation) by the Commissioners' Court. This contract shall not be construed as creating any debt on behalf of the County of Galveston in violation of TEX. CONST. art. XI, § 7, and it is understood that all obligations of Galveston County are subject to the availability of funds.

56. CONTRACTS SUBJECT TO GRANT FUNDING

Notwithstanding the foregoing, if the contract to be awarded by this procurement is funded with Federal or State grant funds, the Proposer acknowledges that the obligations of the County under the contract are contingent upon the continued availability of grant funding to meet the County's obligations. If the grant(s) to the County is reduced, de-obligated, or otherwise discontinued or terminated, Contractor agrees that the County may immediately terminate the contract without penalty or any liability whatsoever on the part of the County, the State, or the Federal awarding agency.

57. PROCUREMENT ETHICS

Galveston County is committed to the highest ethical standards. Therefore, it is a serious breach of the public trust to subvert the public purchasing process by directing purchases to certain favored vendors, or to tamper with the competitive Proposal process, whether it's done for kickbacks, friendship or any other reason. Since misuse of the purchasing power of a local government carries criminal penalties, and many such misuses are from a lack of clear guidelines about what constitutes an abuse of office, the Code of Ethics outlined below must be strictly followed.

Galveston County also requires ethical conduct from those who do business with the County.

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CODE OF ETHICS – Statement of Purchasing Policy:
Public employment is a public trust. It is the policy of Galveston County to promote and balance the objective of protecting the County's integrity and the objective of facilitating the recruitment and retention of personnel needed by Galveston County. Such policy is implemented by prescribing essential standards of ethical conduct without creating unnecessary obstacles to entering public office.

Public employees must discharge their duties impartially so as to assure fair competitive access to governmental procurement by responsible contractors. Moreover, they should conduct themselves in such a manner as to foster public confidence in the integrity of the Galveston County procurement organization. To achieve the purpose of this Article, it is essential that those doing business with Galveston County also observe the ethical standards prescribed herein.

General Ethical Standards:
It shall be a breach of ethics to attempt to realize personal gain through public employment with Galveston County by any conduct inconsistent with the proper discharge of the employee's duties.

It shall be a breach of ethics to attempt to influence any public employee of Galveston County to breach the standards of ethical conduct set forth in this code.

It shall be a breach of ethics for any employee of Galveston County to participate directly or indirectly in a procurement when the employee knows that:

- The employee or any member of the employee's family, has a financial interest pertaining to the procurement;
- A business or organization in which the employee or any member of the employee's family, has a financial interest pertaining to the procurement; or
- Any other person, business, or organization with which the employee or any member of the employee's family is negotiating or has an arrangement concerning prospective employment is involved in the procurement.

Gratuities:
It shall be a breach of ethics for any person to offer, give, or agree to give any employee or former employee of Galveston County, or for any employee or former employee of Galveston County to solicit, demand, accept or agree to accept from another person, a gratuity or an offer of employment in connection with any decision, approval, disapproval, recommendation, preparation of any part of a program requirement or a purchase request, influencing the content of any specification or procurement standard, rendering of advice, investigation, auditing, or in any other advisory capacity in any proceeding or application, request for ruling, determination, claim or controversy, or other particular matter, pertaining to any program requirement or a contract or subcontract, or to any solicitation or Proposal pending before this government.

Kickbacks:
It shall be a breach of ethics for any payment, gratuity or offer of employment to be made by or on behalf of a subcontractor under a contract to the prime contractor or higher tier subcontractor for any contract for Galveston County, or to any person associated therewith, as an inducement for the award of a contract, subcontract or order.

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Contract Clause:
The prohibition against gratuities and kickbacks prescribed above shall be conspicuously set forth in every contract and solicitation by Galveston County.

Confidential Information:
It shall be a breach of ethics for any employee or former employee of Galveston County to knowingly use confidential information for actual or anticipated personal gain, or for the actual or anticipated gain of any other person.

Prohibition against Contingent Fees:
It shall be a breach of ethical standards for a person to be retained, or to retain a person, to solicit or secure a Galveston County contract upon an agreement or understanding for a commission, percentage, brokerage, or contingent fee, except for retention of bona fide employees or bona fide established commercial selling agencies for the purpose of securing business. Failure to abide by this section constitutes a breach of ethical standards.

Representation:
Proposer represents and warrants, by signing and submitting its Proposal, that it has not retained anyone in violation of this section prohibiting contingent fees.

Contract Clause:
The representation prescribed above shall be conspicuously set forth in every contract and solicitation thereof.

58. NON-COLLUSION AFFIDAVIT

Proposer certifies, by signing and submitting a Proposal , that the Proposal is not made in the interest of, or on behalf of, any undisclosed person, partnership, company, association, organization, or corporation; that the Proposal is genuine and not collusive or sham; that the contractor has not directly or indirectly induced or solicited another contractor to put in a false or sham Proposal, and has not directly or indirectly colluded, conspired, connived, or agreed with any contractor or anyone else to put in a sham Proposal or that anyone shall refrain from proposing; that the contractor has not in any manner, directly or indirectly, sought by agreement, communications, or conference with anyone to fix the Proposal price of the contractor of any other Proposer, or to fix any overhead, profit or cost element of the Proposal price, or that of any other contractor, or to secure any advantage against the public body awarding the contract or anyone interested in the proposed contract; that all statements contained in the Proposal are true; and further, that the contractor has not, directly or indirectly, submitted his or her Proposal price or any breakdown thereof, or the contents thereof, or divulged information or data relative thereto, or paid, and will not pay, any fee to any cooperation, partnership, company association, organization, Proposal depository, or to any member or agent thereof to effectuate a collusive or sham Proposal.

A blank Non-Collusion Affidavit is included with this Proposal packet. Proposer must enclose a truthful and fully executed original Non-Collusion Affidavit with the submission of its Proposal. This is a mandatory requirement of this request for Proposal. Failure to include the truthfully and fully executed Non-Collusion Affidavit in the submission of its Proposal shall be considered non-compliance with the requirements of this request for Proposal by the Proposer and grounds for the rejection of Proposer's submission.

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No negotiations, decisions, or actions shall be initiated by any company as a result of any verbal discussion with any County employee prior to the opening of responses to this request for Proposal.

No officer or employee of the County of Galveston, and no other public or elected official, or employee, who may exercise any function or responsibilities in the review or approval of this undertaking shall have any personal or financial interest, direct or indirect, in any contract or negotiation process thereof. The above compliance request will be part of all County of Galveston contracts for this service.

59. CERTIFICATION REGARDING LOBBYING – COMPLIANT WITH APPENDIX A TO 24 C.F.R. PART 871

Proposer certifies that, 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 Proposer, to any person for influencing or attempting to influence a department or employee of an agency, a member 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 a department or employee of any agency, a member of Congress, a department or employee of congress, or an employee of a member of Congress in connection with this federal contract, grant, loan, or cooperative agreement, **the Proposer shall complete and submit Standard Form LLL. "Disclosure Form to Report Lobbying", in accordance with its instructions.**

c. Proposer shall require that the language of this certification be included in the award documents for all sub-awards at all tiers (including subcontracts, sub-grants, and contracts under grants, loans, and cooperative agreements) and that all sub-recipients shall certify and disclose accordingly.

This certification is a material representation of fact upon which reliance was placed when this transaction was made or entered into. Submission of the certification is a prerequisite for making or entering into a contract with Proposer and is imposed by Section 1352, Title 31, United States Code. Further, 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.

The truthful and fully completed and executed original of the Certification Regarding Lobbying (included with Proposal packet) must be included with the submission of Proposer's Proposal and is a mandatory requirement of this request for Proposal. Proposer's failure to include the fully completed and executed or original of this Certification shall be considered non-compliant with the requirements of this request for Proposal and grounds for the rejection of the Proposer's Proposal.

60. NON-DISCRIMINATION

a. **Equal Employment Opportunity:** Proposer will not discriminate against any employee or applicant for employment because of race, color, religion, national origin, sex, disability, genetic information or veteran status. Proposer will take affirmative action to ensure that applicants are employed, and that employees are treated during employment, without regard to their race, color, religion, national origin, sex, disability,

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genetic information or veteran status. Such action shall include, but not be limited to, the following: 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. Proposer agrees to post in conspicuous places, available to employees and applicants for employment, notices of employment.

Proposer will, in all solicitation or advertisements for employees placed by or on behalf of Proposer, state that all qualified applicants will receive consideration for employment without regard to race, color, religion, national origin, sex, disability, genetic information, or veteran status.
Proposer will cause the foregoing provisions to be inserted in all subcontracts for any work covered by this Agreement so that such provisions will be binding upon each subcontractor, provided that the foregoing provisions shall not apply to contracts or subcontracts for standard commercial supplies or raw materials.

Proposer will include the provisions herein in every subcontract or purchase order unless exempted.

b. Drug Free Work Place Act: Proposer shall comply with all applicable requirements of the Drug-Free Workplace Act of 1988 (Public Law 100-690, Title V, Subtitle D; 41 U.S.C. § 8102, et seq.) and implementing regulations thereunder.

c. Americans with Disabilities Act: Proposer shall comply with all applicable provisions of the Americans with Disabilities Act of 1990 (Public Law 101-136) and implementing regulations thereunder.

d. OSHA Regulations: Proposer agrees to maintain and to display any applicable materials for its employees in accordance with OSHA regulations.

e. Compliance with Immigration Laws and Use of E-Verify: Proposer agrees to comply with all requirements of the U.S. Immigration Reform and Control Act of 1986, as amended, and any implementing regulations thereto. Proposer further agrees to utilize the E-Verify system through the Department of Homeland Security on its employees. Proposer shall not employ unauthorized aliens and shall not assign services to be performed to any supplier or subcontractor who are unauthorized aliens. If any personnel performing any services hereunder are discovered to be an unauthorized alien, then Proposer will immediately remove such personnel from performing services hereunder and shall replace such personnel with personnel who are not unauthorized alien(s).

f. State and Federal Law Compliance: Proposer agrees to comply with all other State and Federal laws and regulations applicable to the provision of services under this contract.

g. The Contractor shall comply with the Age Discrimination Act of 1975 which provides that no person in the United States shall on the basis of age be excluded from participation in, be denied the benefits of, or be subjected to discrimination under any program or activity receiving federal financial assistance.

61. RECORD RETENTION AND RIGHT TO AUDIT

Proposer shall keep and maintain all records associated with this contract for a minimum of five (5) years from the close of the contract or as required by Federal or State law or regulation, whichever period is longer. If awarded this contract, Proposer shall allow the County reasonable access to the records in Proposer's possession, custody, or control that the County deems necessary to assist it in auditing the services, costs, and payments provided hereunder. If this contract involves the use of Federal or State funds, then Proposer shall also allow reasonable access to representatives of the Office of Inspector

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General, the General Accounting Office, the State Auditor's Office, and the other Federal and or State agencies overseeing the funds that such entities deem necessary to facilitate review by such agencies and Proposer shall maintain fiscal records and supporting documentation for all expenditures in a manner that conforms with OMB Circular A-87 (relocated to 2 C.F.R. Part 225) and this contract.

62. TITLE VI ASSURANCES/TxDOT

The County is subject to Title VI of the Civil Rights Act of 1964 and the Federal and State laws and regulations of the United States Department of Transportation and Texas Department of Transportation (TxDOT). Pursuant to these requirements, the County must have its contractors provide required assurances on compliance with non-discrimination by itself and its subcontractors. The Title VI Assurances within this Subsection are not exhaustive – whenever any Federal, State, or Local requirement requires additional clauses, this list shall not be construed as limiting. Contractor agrees as follows:

(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 incorporated herein by reference and made a part of this contract.

(2) **Non-discrimination**: The Contractor, with regard to the work performed by it during the contract, shall not discriminate on the basis of race, color, national origin, religion, sex, age, disability or Veteran status 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) **Solicitations for Subcontractors, Including Procurement 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 procurement 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, national origin, religion, sex, age, disability or Veteran status.

(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 Galveston County or the Texas Department of Transportation to be pertinent to ascertain compliance with such Regulations, orders and instructions. Where any information required of the Contractor is in the exclusive possession of another who fails or refuses to furnish this information the Contractor shall so certify to Galveston County or the Texas Department of Transportation as appropriate and shall set forth what efforts it has made to obtain the information.

(5) **Sanctions for Non-compliance**: In the event of the Contractor's noncompliance with the nondiscrimination provisions of this contract, Galveston County shall impose such contract sanctions as it or the Texas Department of Transportation may determine to be appropriate, including, but not limited to:

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(a) withholding of payments to the Contractor under the contract until the Contractor complies, and/or;
(b) cancellation, termination, or suspension of the contract, in whole or in part.

(6) **Incorporation of Provisions**. The Contractor shall include the provisions of paragraphs (1) through (6) in every subcontract, including procurement 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 Galveston County or the Texas Department of Transportation may direct as a means of enforcing such provisions including sanctions for non-compliance: Provided, however, that, in the event Contractor becomes involved in, or is threatened with, litigation with a subcontractor or supplier as a result of such direction, the Contractor may request Galveston County to enter into such litigation to protect the interests of Galveston County, and, in addition, the Contractor may request the United States to enter into such litigation to protect the interests of the United States.

63. ASSURANCES FOR CONSTRUCTION PROGRAMS - TEXAS GENERAL LAND OFFICE (GLO)
The County is subject to Federal and State laws and regulations of the United States and The Texas General Land Office (GLO). Pursuant to these requirements, the County must have its contractors provide required assurances on compliance with non-discrimination by itself and its subcontractors. These Assurances within this Subsection are not exhaustive – whenever any Federal, State, or Local requirement requires additional clauses, this list shall not be construed as limiting. Contractor agrees as follows:

(1) Will comply with the Intergovernmental Personnel Act of 1970 (42 U.S.C. §§4728-4763) relating to prescribed standards for merit systems for programs funded under one of the 19 statutes or regulations specified in Appendix A of OPM's Standards for a Merit System of Personnel Administration (5 C.F.R. 900, Subpart F).

(2) Will comply with the Lead-Based Paint Poisoning Prevention Act (42 U.S.C. §§4801 et seq.) which prohibits the use of lead-based paint in construction or rehabilitation of residence structures.

(3) Will comply with all Federal statutes relating to non-discrimination. These include but are not limited to: (a) Title VI of the Civil Rights Act of 1964 (P.L. 88-352) which prohibits discrimination on the basis of race, color or national origin; (b) Title IX of the Education Amendments of 1972, as amended (20 U.S.C. §§1681-1683, and 1685-1686), which prohibits discrimination on the basis of sex; (c) Section 504 of the Rehabilitation Act of 1973, as amended (29 U.S.C.§794), which prohibits discrimination on the basis of handicaps; (d) the Age Discrimination Act of 1975, as amended (42 U.S.C. §§6101-6107), which prohibits discrimination on the basis of age; (e) the Drug Abuse Office and Treatment Act of 1972 (P.L. 92-255), as amended, relating to nondiscrimination on the basis of drug abuse; (f) the Comprehensive Alcohol Abuse and Alcoholism Prevention, Treatment and Rehabilitation Act of 1970 (P.L. 91-616), as amended, relating to nondiscrimination on the basis of alcohol abuse or alcoholism; (g) §§523 and 527 of the Public Health Service Act of 1912 (42 U.S.C. §§290 dd-3 and 290 ee-3), as amended, relating to confidentiality of

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alcohol and drug abuse patient records; (h) Title VIII of the Civil Rights Act of 1968 (42 U.S.C. §§3601 et seq.), as amended, relating to nondiscrimination in the sale, rental or financing of housing; (i) any other non-discrimination provisions in the specific statute(s) under which application for Federal assistance is being made; and (j) the requirements of any other nondiscrimination statute(s) which may apply to the application.

(4) Will comply with the Intergovernmental Personnel Act of 1970 (42 U.S.C. §§4728-4763) relating to prescribed standards for merit systems for programs funded under one of the 19 statutes or regulations specified in Appendix A of OPM's Standards for a Merit System of Personnel Administration (5 C.F.R. 900, Subpart F).

(5) Will comply with the Lead-Based Paint Poisoning Prevention Act (42 U.S.C. §§4801 et seq.) which prohibits the use of lead-based paint in construction or rehabilitation of residence structures.

(6) Will comply with all Federal statutes relating to non-discrimination. These include but are not limited to: (a) Title VI of the Civil Rights Act of 1964 (P.L. 88-352) which prohibits discrimination on the basis of race, color or national origin; (b) Title IX of the Education Amendments of 1972, as amended (20 U.S.C. §§1681-1683, and 1685-1686), which prohibits discrimination on the basis of sex; (c) Section 504 of the Rehabilitation Act of 1973, as amended (29 U.S.C.§794). which prohibits discrimination on the basis of handicaps; (d) the Age Discrimination Act of 1975, as amended (42 U.S.C. §§6101-6107), which prohibits discrimination on the basis of age; (e) the Drug Abuse Office and Treatment Act of 1972 (P.L. 92-255), as amended, relating to nondiscrimination on the basis of drug abuse; (f) the Comprehensive Alcohol Abuse and Alcoholism Prevention, Treatment and Rehabilitation Act of 1970 (P.L. 91-616), as amended, relating to nondiscrimination on the basis of alcohol abuse or alcoholism; (g) §§523 and 527 of the Public Health Service Act of 1912 (42 U.S.C. §§290 dd-3 and 290 ee-3), as amended, relating to confidentiality of
alcohol and drug abuse patient records; (h) Title VIII of the Civil Rights Act of 1968 (42 U.S.C. §§3601 et seq.), as amended, relating to nondiscrimination in the sale, rental or financing of housing; (i) any other non-discrimination provisions in the specific statute(s) under which application for Federal assistance is being made; and (j) the requirements of any other nondiscrimination statute(s) which may apply to the application.

(7) Will comply, or has already complied, with the requirements of Titles II and III of the Uniform Relocation Assistance and Real Property Acquisition Policies Act of 1970 (P.L. 91-646) which provide for fair and equitable treatment of persons displaced or whose property is acquired as a result of Federal and federally assisted programs. These requirements apply to all interests in real property acquired for project purposes regardless of Federal participation in purchases.

(8) Will comply with the provisions of the Hatch Act (5 U.S.C. §§1501-1508 and 7324-7328) which limit the political activities of employees whose principal employment activities are funded in whole or in part with Federal funds.

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(9) Will comply, as applicable, with the provisions of the Davis- Bacon Act (40 U.S.C. §§276a to 276a-7), the Copeland Act (40 U.S.C. §276c and 18 U.S.C. §874), and the Contract Work Hours and Safety Standards Act (40 U.S.C. §§327-333) regarding labor standards for federally assisted construction sub agreements.

(10) Will comply with flood insurance purchase requirements of Section 102(a) of the Flood Disaster Protection Act of 1973 (P.L. 93-234) which requires recipients in a special flood hazard area to participate in the program and to purchase flood insurance if the total cost of insurable construction and acquisition is $10,000 or more.

(11) Will comply with environmental standards which may be prescribed pursuant to the following: (a) institution of environmental quality control measures under the National Environmental Policy Act of 1969 (P.L. 91-190) and Executive Order (EO) 11514; (b) notification of violating facilities pursuant to EO 11738; (c) protection of wetlands pursuant to EO 11990; (d) evaluation of flood hazards in floodplains in accordance with EO 11988; (e) assurance of project consistency with the approved State management program developed under the Coastal Zone Management Act of 1972 (16 U.S.C. §§1451 et seq.); (f) conformity of Federal actions to State (Clean Air) Implementation Plans under Section 176(c) of the Clean Air Act of 1955, as amended (42 U.S.C. §§7401 et seq.); (g) protection of underground sources of drinking water under the Safe Drinking Water Act of 1974, as amended (P.L. 93-523); and, (h) protection of endangered species under the Endangered Species Act of 1973, as amended (P.L. 93205).

(12) Will comply with the Wild and Scenic Rivers Act of 1968 (16 U.S.C. §§1271 et seq.) related to protecting components or potential components of the national wild and scenic rivers system.

(13) Will assist the awarding agency in assuring compliance with Section 106 of the National Historic Preservation Act of 1966, as amended (16 U.S.C. §470), EO 11593 (identification and protection of historic properties), and the Archaeological and Historic Preservation Act of 1974 (16 U.S.C. §§469a-1 et seq.).

(14) Will cause to be performed the required financial and compliance audits in accordance with the Single Audit Act Amendments of 1996 and OMB Circular No. A-133, "Audits of States, Local Governments, and Non-Profit Organizations."

(15) Will comply with all applicable requirements of all other Federal laws, executive orders, regulations, and policies governing this program.

(16) Will comply with the requirements of Section 106(g) of the Trafficking Victims Protection Act (TVPA) of 2000, as amended (22 U.S.C. 7104) which prohibits grant award recipients or a sub-recipient from (1) Engaging in severe forms of trafficking in persons during the period of time that the award is in effect (2) Procuring a commercial sex act during the period of time that the award is in effect or (3) Using forced labor in the performance of the award or subawards under the award.

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64. GENERAL AFFIRMATIONS – TEXAS GENERAL LAND OFFICE (GLO)
To the extent they apply, affirms, and agrees to the following, without exception:

1. represents and warrants that, in accordance with Section 2155.005 of the Texas Government Code, neither nor the firm, corporation, partnership, or institution represented by , or anyone acting for such a firm, corporation, partnership, or institution has (1) violated any provision of the Texas Free Enterprise and Antitrust Act of 1983, Chapter 15 of the Texas Business and Commerce Code, or the federal antitrust laws, or (2) communicated directly or indirectly the contents of this Contract or any solicitation response upon which this Contract is based to any competitor or any other person engaged in the same line of business as .

2. If the Contract is for services, shall comply with Section 2155.4441 of the Texas Government Code, requiring the purchase of products and materials produced in the State of Texas in performing service contracts.

3. Under Section 231.006 of the Family Code, the vendor or applicant [] certifies that the individual or business entity named in this Contract, bid or application is not ineligible to receive the specified grant, loan, or payment and acknowledges that this Contract may be terminated and payment may be withheld if this certification is inaccurate.

4 A bid or an application for a contract, grant, or loan paid from state funds must include the name and social security number of the individual or sole proprietor and each partner, shareholder, or owner with an ownership interest of at least 25 percent of the business entity submitting the bid or application. certifies it has submitted this information to the GLO.

5. If the Contract is for the purchase or lease of computer equipment, as defined by Texas Health and Safety Code Section 361.952(2), certifies that it is in compliance with Subchapter Y, Chapter 361 of the Texas Health and Safety Code, related to the Computer Equipment Recycling Program and the Texas Commission on Environmental Quality rules in Title 30 Texas Administrative Code Chapter 328.

6. Pursuant to Section 2155.003 of the Texas Government Code, represents and warrants that it has not given, offered to give, nor intends to give at any time hereafter any economic opportunity, future employment, gift, loan, gratuity, special discount, trip, favor, or service to a public servant in connection with the Contract.

7. Payments due under the Contract shall be directly applied towards eliminating any debt or delinquency owes to the State of Texas including, but not limited to, delinquent taxes, delinquent student loan payments, and delinquent child support.

8. Upon request of the GLO, shall provide copies of its most recent business continuity and disaster recovery plans.

9. If the Contract is for consulting services governed by Texas Government Code Chapter 2254, Subchapter B, in accordance with Section 2254.033 of the Texas Government Code, relating to consulting services, certifies that it does not employ an individual who has been employed by The GLO or another agency at any time during the two years preceding the 's submission of its offer to provide consulting services to the GLO or, in the alternative, , in its offer to provide consulting services to the GLO, disclosed the following: (i) the nature of the previous employment with the GLO or other state agency; (ii) the date

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the employment was terminated; and (iii) the annual rate of compensation for the employment at the time of its termination.

10. If the Contract is not for architecture, engineering, or construction services, except as otherwise provided by statute, rule, or regulation, must use the dispute resolution process provided for in Chapter 2260 of the Texas Government Code to attempt to resolve any dispute arising under the Contract. NOTHING IN THIS SECTION SHALL BE CONSTRUED AS A WAIVER OF SOVEREIGN IMMUNITY BY THE GLO.

11. If the Contract is for architecture, engineering, or construction services, subject to Texas Government Code, Section 2260.002 and Texas Civil Practice and Remedies Code Chapter 114, and except as otherwise provided by statute, rule, or regulation, shall use the dispute resolution process provided for in Chapter 2260 of the Texas Government Code to attempt to resolve all disputes arising under this Contract. Except as otherwise provided by statute, rule, or regulation, in accordance with the Texas Civil Practice and Remedies Code, Section 114.005, claims encompassed by Texas Government Code, Section 2260.002(3) and Texas Civil Practice and Remedies Code Section 114.002 shall be governed by the dispute resolution process set forth below in subsections (a)-(d). NOTHING IN THIS SECTION SHALL BE CONSTRUED AS A WAIVER OF SOVEREIGN IMMUNITY BY THE GLO.

    a. Notwithstanding Texas Government Code, Chapter 2260.002(3) and Chapter 114.012 and any other statute or applicable law, if the 's claim for breach of contract cannot be resolved by the parties in the ordinary course of business, may make a claim against the GLO for breach of contract and the GLO may assert a counterclaim against the as is contemplated by Texas Government Code, Chapter 2260, Subchapter B. In such event, must provide written notice to the GLO of a claim for breach of the Contract not later than the 180th day after the date of the event giving rise to the claim. The notice must state with particularity: (1) the nature of the alleged breach; (2) the amount the seeks as damages; and (3) the legal theory of recovery.

    b. The chief administrative officer, or if designated in the Contract, another officer of the GLO, shall examine the claim and any counterclaim and negotiate with the in an effort to resolve them. The negotiation must begin no later than the 120th day after the date the claim is received, as is contemplated by Texas Government Code, Chapter 2260, Section 2260.052.

    c. If the negotiation under paragraph (b) above results in the resolution of some disputed issues by agreement or in a settlement, the parties shall reduce the agreement or settlement to writing and each party shall sign the agreement or settlement. A partial settlement or resolution of a claim does not waive a party's rights under this Contract as to the parts of the claim that are not resolved.

    d. If a claim is not entirely resolved under paragraph (b) above, on or before the 270th day after the date the claim is filed with the GLO, unless the parties agree in writing to an extension of time, the parties may agree to mediate a claim made under this dispute resolution procedure. This dispute resolution procedure is the 's sole and exclusive process for seeking a remedy for an alleged breach of contract by the GLO if the parties are unable to resolve their disputes as described in this section.

    e. Nothing in the Contract shall be construed as a waiver of the state's or the GLO's sovereign immunity. This Contract shall not constitute or be construed as a waiver of any of the privileges, rights, defenses, remedies, or immunities available to the State of Texas. The failure to enforce, or any delay in the enforcement, of any privileges, rights, defenses, remedies, or immunities available

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to the State of Texas under this Contract or under applicable law shall not constitute a waiver of such privileges, rights, defenses, remedies or immunities or be considered as a basis for estoppel. The GLO does not waive any privileges, rights, defenses, or immunities available to it by entering into this Contract or by its conduct, or by the conduct of any representative of the GLO, prior to or subsequent to entering into this Contract.

f. Except as otherwise provided by statute, rule, or regulation, compliance with the dispute resolution process provided for in Texas Government Code. Chapter 2260, subchapter B and incorporated by reference in subsection (a)-(d) above is a condition precedent to the: (1) filing suit pursuant to Chapter 114 of the Civil Practices and Remedies Code; or (2) initiating a contested case hearing pursuant to Subchapter C of Chapter 2260 of the Texas Government Code.

12. If Texas Government Code Chapter 2270 prohibiting state contracts with companies boycotting Israel applies to and this Contract, then verifies it does not boycott Israel and will not boycott Israel during the term of this Contract.

13. This Contract is contingent upon the continued availability of lawful appropriations by the Texas Legislature. understands that all obligations of the GLO under this Contract are subject to the availability of state funds. If such funds are not appropriated or become unavailable, the GLO may terminate the Contract. The Contract shall not be construed as creating a debt on behalf of the GLO in violation of Article III, Section 49a of the Texas Constitution.

14. certifies that it is not listed on the federal government's terrorism watch list as described in Executive Order 13224.

15. In accordance with Section 669.003 of the Texas Government Code, relating to contracting with the executive head of a state agency, certifies that it is not (1) the executive head of the GLO, (2) a person who at any time during the four years before the effective date of the Contract was the executive head of the GLO, or (3) a person who employs a current or former executive head of the GLO.

16. represents and warrants that all statements and information prepared and submitted in connection with this Contract are current, complete, true, and accurate. Submitting a false statement or making a material misrepresentation during the performance of this Contract is a material breach of contract and may void the Contract or be grounds for its termination.

17. Pursuant to Section 2155.004(a) of the Texas Government Code, certifies that neither nor any person or entity represented by has received compensation from the GLO to participate in the preparation of the specifications or solicitation on which this Contract is based. Under Section 2155.004(b) of the Texas Government Code, certifies that the individual or business entity named in this Contract is not ineligible to receive the specified contract and acknowledges that the Contract may be terminated, and payment withheld if this certification is inaccurate. This Section does not prohibit from providing free technical assistance.

18. represents and warrants that it is not engaged in business with Iran, Sudan, or a foreign terrorist organization, as prohibited by Section 2252.152 of the Texas Government Code.

19. If the Contract is for professional or consulting services governed by Texas Government Code Chapter 2254, represents and warrants that none of its employees including, but not limited to, those authorized

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to provide services under the Contract, were former employees of the GLO during the twelve (12) month period immediately prior to the date of execution of the Contract.

20. The Contract shall be governed by and construed in accordance with the laws of the State of Texas, without regard to the conflicts of law provisions. The venue of any suit arising under the Contract is fixed in any court of competent jurisdiction of Travis County, Texas, unless the specific venue is otherwise identified in a statute which directly names or otherwise identifies its applicability to the GLO.

21. IF THE CONTRACT IS NOT FOR ARCHITECTURE OR ENGINEERING SERVICES GOVERNED BY TEXAS GOVERNMENT CODE CHAPTER 2254, , TO THE EXTENT ALLOWED BY LAW, SHALL DEFEND, INDEMNIFY AND HOLD HARMLESS THE STATE OF TEXAS AND THE GLO, AND/OR THEIR OFFICERS, AGENTS, EMPLOYEES, REPRESENTATIVES, CONTRACTORS, ASSIGNEES, AND/OR DESIGNEES FROM ANY AND ALL LIABILITY, ACTIONS, CLAIMS, DEMANDS, OR SUITS, AND ALL RELATED COSTS, ATTORNEY FEES, AND EXPENSES ARISING OUT OF, OR RESULTING FROM ANY ACTS OR OMISSIONS OF OR ITS AGENTS, EMPLOYEES, SUBCONTRACTORS, ORDER FULFILLERS, OR SUPPLIERS OF SUBCONTRACTORS IN THE EXECUTION OR PERFORMANCE OF THE CONTRACT AND ANY PURCHASE ORDERS ISSUED UNDER THE CONTRACT. THE DEFENSE SHALL BE COORDINATED BY WITH THE OFFICE OF THE TEXAS ATTORNEY GENERAL WHEN TEXAS STATE AGENCIES ARE NAMED DEFENDANTS IN ANY LAWSUIT AND MAY NOT AGREE TO ANY SETTLEMENT WITHOUT FIRST OBTAINING THE CONCURRENCE FROM THE OFFICE OF THE TEXAS ATTORNEY GENERAL. AND THE GLO SHALL FURNISH TIMELY WRITTEN NOTICE TO EACH OTHER OF ANY SUCH CLAIM.

22. IF THE CONTRACT IS FOR ARCHITECTURE OR ENGINEERING SERVICES GOVERNED BY TEXAS GOVERNMENT CODE CHAPTER 2254, , TO THE EXTENT ALLOWED BY LAW, SHALL INDEMNIFY AND HOLD HARMLESS THE STATE OF TEXAS AND THE GLO, AND/OR THEIR OFFICERS, AGENTS, EMPLOYEES, REPRESENTATIVES, CONTRACTORS, ASSIGNEES, AND/OR DESIGNEES FROM ANY AND ALL LIABILITY, ACTIONS, CLAIMS, DEMANDS, OR SUITS, AND ALL RELATED DAMAGES, COSTS, ATTORNEY FEES, AND EXPENSES TO THE EXTENT CAUSED BY, ARISING OUT OF, OR RESULTING FROM ANY ACTS OF NEGLIGENCE, INTENTIONAL TORTS, WILLFUL MISCONDUCT, PERSONAL INJURY OR DAMAGE TO PROPERTY, AND/OR OTHERWISE RELATED TO 'S PERFORMANCE, AND/OR FAILURES TO PAY A SUBCONTRACTOR OR SUPPLIER BY THE OR ITS AGENTS, EMPLOYEES, SUBCONTRACTORS, ORDER FULFILLERS, CONSULTANTS UNDER CONTRACT TO , OR ANY OTHER ENTITY OVER WHICH THE CONTRACTOR EXERCISES CONTROL, OR SUPPLIERS OF SUBCONTRACTORS IN THE EXECUTION OR PERFORMANCE OF THE CONTRACT. THE DEFENSE SHALL BE COORDINATED BY WITH THE OFFICE OF THE TEXAS ATTORNEY GENERAL WHEN TEXAS STATE AGENCIES ARE NAMED DEFENDANTS IN ANY LAWSUIT AND MAY NOT AGREE TO ANY SETTLEMENT WITHOUT FIRST OBTAINING THE CONCURRENCE FROM THE OFFICE OF THE TEXAS ATTORNEY GENERAL. AND THE GLO SHALL FURNISH TIMELY WRITTEN NOTICE TO EACH OTHER OF ANY SUCH CLAIM.

23 TO THE EXTENT ALLOWED BY LAW, SHALL DEFEND, INDEMNIFY, AND HOLD HARMLESS THE GLO AND THE STATE OF TEXAS FROM AND AGAINST ANY AND ALL CLAIMS, VIOLATIONS, MISAPPROPRIATIONS OR INFRINGEMENT OF ANY PATENT, TRADEMARK, COPYRIGHT, TRADE SECRET OR OTHER INTELLECTUAL PROPERTY

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RIGHTS AND OR OTHER INTANGIBLE PROPERTY. PUBLICITY OR PRIVACY RIGHTS, AND/OR IN CONNECTION WITH OR ARISING FROM: (1) THE PERFORMANCE OR ACTIONS OF PURSUANT TO THIS CONTRACT; (2) ANY DELIVERABLE, WORK PRODUCT, CONFIGURED SERVICE OR OTHER SERVICE PROVIDED HEREUNDER; AND/OR (3) THE GLO'S AND/OR 'S USE OF OR ACQUISITION OF ANY REQUESTED SERVICES OR OTHER ITEMS PROVIDED TO THE GLO BY OR OTHERWISE TO WHICH THE GLO HAS ACCESS AS A RESULT OF 'S PERFORMANCE UNDER THE CONTRACT. AND THE GLO SHALL FURNISH TIMELY WRITTEN NOTICE TO EACH OTHER OF ANY SUCH CLAIM. SHALL BE LIABLE TO PAY ALL COSTS OF DEFENSE, INCLUDING ATTORNEYS' FEES. THE DEFENSE SHALL BE COORDINATED BY WITH THE OFFICE OF THE TEXAS ATTORNEY GENERAL (OAG) WHEN TEXAS STATE AGENCIES ARE NAMED DEFENDANTS IN ANY LAWSUIT AND MAY NOT AGREE TO ANY SETTLEMENT WITHOUT FIRST OBTAINING THE CONCURRENCE FROM OAG. IN ADDITION, WILL REIMBURSE THE GLO AND THE STATE OF TEXAS FOR ANY CLAIMS, DAMAGES, COSTS, EXPENSES OR OTHER AMOUNTS, INCLUDING, BUT NOT LIMITED TO, ATTORNEYS' FEES AND COURT COSTS, ARISING FROM ANY SUCH CLAIM. IF THE GLO DETERMINES THAT A CONFLICT EXISTS BETWEEN ITS INTERESTS AND THOSE OF OR IF THE GLO IS REQUIRED BY APPLICABLE LAW TO SELECT SEPARATE COUNSEL, THE GLO WILL BE PERMITTED TO SELECT SEPARATE COUNSEL AND WILL PAY ALL REASONABLE COSTS OF THE GLO'S COUNSEL.

24. has disclosed in writing to the GLO all existing or potential conflicts of interest relative to the performance of the Contract.

25. Sections 2155.006 and 2261.053 of the Texas Government Code prohibit state agencies from accepting a solicitation response or awarding a contract that includes proposed financial participation by a person who, in the past five years, has been convicted of violating a federal law or assessed a penalty in connection with a contract involving relief for Hurricane Rita, Hurricane Katrina, or any other disaster, as defined by Section 418.004 of the Texas Government Code, occurring after September 24, 2005. Under Sections 2155.006 and 2261.053 of the Texas Government Code, certifies that the individual or business entity named in this Contract is not ineligible to receive the specified contract and acknowledges that this Contract may be terminated, and payment withheld if this certification is inaccurate.

26. understands that the GLO will comply with the Texas Public Information Act (Chapter 552 of the Texas Government Code) as interpreted by judicial rulings and opinions of the Attorney General of the State of Texas. Information, documentation, and other material related to this Contract may be subject to public disclosure pursuant to the Texas Public Information Act. In accordance with Section 2252.907 of the Texas Government Code, shall make any information created or exchanged with the State/GLO pursuant to the Contract, and not otherwise excepted from disclosure under the Texas Public Information Act, available in a format that is accessible by the public at no additional charge to the State or the GLO.

27. The person executing this Contract certifies that he/she is duly authorized to execute this Contract on his/her own behalf or on behalf of and legally empowered to contractually bind to the terms and conditions of the Contract and related documents.

28. If the Contract is for architectural or engineering services, pursuant to Section 2254.0031 of the Texas Government Code, which incorporates by reference Section 271.904(d) of the Texas Local Government Code, shall perform services (1) with professional skill and care ordinarily provided by competent engineers or architects practicing under the same or similar circumstances and professional license, and

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(2) as expeditiously as is prudent considering the ordinary professional skill and care of a competent engineer or architect.

29. The state auditor may conduct an audit or investigation of any entity receiving funds from the state directly under the Contract or indirectly through a subcontract under the Contract. The acceptance of funds directly under the Contract or indirectly through a subcontract under the Contract acts as acceptance of the authority of the state auditor, under the direction of the legislative audit committee, to conduct an audit or investigation in connection with those funds. Under the direction of the legislative audit committee, an entity that is the subject of an audit or investigation by the state auditor must provide the state auditor with access to any information the state auditor considers relevant to the investigation or audit. shall ensure that this paragraph concerning the authority to audit funds received indirectly by subcontractors through the Contract and the requirement to cooperate is included in any subcontract it awards. The GLO may unilaterally amend the Contract to comply with any rules and procedures of the state auditor in the implementation and enforcement of Section 2262.154 of the Texas Government Code.

30. certifies that neither it nor its principals are debarred, suspended, proposed for debarment, declared ineligible, or otherwise excluded from participation in the Contract by any state or federal agency.

31. expressly acknowledges that state funds may not be expended in connection with the purchase of an automated information system unless that system meets certain statutory requirements relating to accessibility by persons with visual impairments. Accordingly, represents and warrants to the GLO that any technology provided to the GLO for purchase pursuant to this Contract is capable, either by virtue of features included within the technology or because it is readily adaptable by use with other technology, of: providing equivalent access for effective use by both visual and non-visual means; presenting information, including prompts used for interactive communications, in formats intended for non-visual use; and being integrated into networks for obtaining, retrieving, and disseminating information used by individuals who are not blind or visually impaired. For purposes of this Section, the phrase "equivalent access" means a substantially similar ability to communicate with or make use of the technology, either directly by features incorporated within the technology or by other reasonable means such as assistive devices or services which would constitute reasonable accommodations under the Americans With Disabilities Act or similar state or federal laws. Examples of methods by which equivalent access may be provided include, but are not limited to, keyboard alternatives to mouse commands and other means of navigating graphical displays, and customizable display appearance.

32. If the Contract is for the purchase or lease of covered television equipment, as defined by Section 361.971(3) of the Texas Health and Safety Code, certifies its compliance with Subchapter Z, Chapter 361 of the Texas Health and Safety Code, related to the Television Equipment Recycling Program.

33. Pursuant to Section 572.069 of the Texas Government Code, certifies it has not employed and will not employ a former state officer or employee who participated in a procurement or contract negotiations for the GLO involving within two (2) years after the date that the contract is signed, or the procurement is terminated or withdrawn. This certification only applies to former state officers or employees whose state service or employment ceased on or after September 1, 2015.

34. The GLO does not tolerate any type of fraud. GLO policy promotes consistent, legal, and ethical organizational behavior by assigning responsibilities and providing guidelines to enforce controls. Any violations of law, agency policies, or standards of ethical conduct will be investigated, and appropriate

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actions will be taken. shall report any possible fraud. waste. or abuse that occurs in connection with the Contract to the GLO's Fraud Reporting hotline at (877) 888-0002.

35. The requirements of Subchapter J, Chapter 552, Government Code, may apply to this contract and agrees that the Contract can be terminated if knowingly or intentionally fails to comply with a requirement of that subchapter.

36. If, in its performance of the Contract, has access to a state computer system or database, must complete a cybersecurity training program certified under Texas Government Code Section 2054.519, as selected by the GLO. must complete the cybersecurity training program during the initial term of the Contract and during any renewal period. must verify in writing to the GLO its completion of the cybersecurity training program.

37. Under Section 2155.0061, Texas Government Code, certifies that the entity named in this contract is not ineligible to receive the specified contract and acknowledges that this contract may be terminated and payment withheld if this certification is inaccurate.

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65. SECTION 231.006, FAMILY CODE/DELINQUENT CHILD SUPPORT

Pursuant to Title 5, Section 231.006 of the Texas Family Code, as applicable, Proposer certifies that it, including all of its principals, is/are current in child support payments and that it is eligible to receive payments from State funds under a contract for property, materials, or services. Proposer acknowledges and agrees that if it is awarded this contract, then the ensuing agreement may be terminated, and payment withheld if this certification is inaccurate. Finally, by the submission of its Proposal, the Proposer certifies that it has included the names and social security numbers of each person with at least 25% ownership interest in Proposer within its response to the request for Proposal and that all such persons are current in child support payments.

66. ANTITRUST

Pursuant to 15 U.S.C. § 1, et seq., and Texas Business and Commerce Code, Chapter 15, Contractor, by the submission of its Proposal, certifies that neither Contractor nor any natural person, proprietorship, firm, corporation, partnership, association, or institution represented by Contractor or anyone acting for such natural person, proprietorship, firm, corporation, partnership, association, or institution has violated any Federal or State antitrust laws or communicated the nature of the offer, directly or indirectly, to any competitor or other person engaged in a similar line of business.

67. LABOR STANDARDS

On contracts funded under a federal grant: Proposer acknowledges that the contract to be awarded pursuant to this solicitation is on a grant program funded with Federal funds. Proposer shall comply with the requirements of 29 CFR Part 5 and Part 30 and shall be in conformity with Executive Order 11246, entitled "Equal Employment Opportunity", Copeland, "Anti-Kickback" Act (40 U.S.C. 3145, 29 C.F.R. Part 3), the Davis-Bacon and Related Acts (40 U.S.C. 3141-3148, 29 C.F.R. Parts 1,3, and 5), the Contract Work Hours and Safety Standards Act (40 U.S.C. 3701 et seq.), and all other applicable Federal, State, and local laws and regulations pertaining to labor standards, insofar as those acts apply to the performance of this Agreement. Proposer is also responsible for ensuring that all subcontractors comply with the requirements of 29 CFR Part 5 and Part 30 and shall be in conformity with Executive Order 11246, entitled "Equal Employment Opportunity", Copeland "Anti-Kickback" Act, the Davis-Bacon and Related Acts (29 CFR Parts 1, 3 and 5), the Contract Work Hours and Safety Standards Act (40 U.S.C. 3701 et seq.), and all other applicable Federal, State, and local laws and regulations pertaining to labor standards, insofar as those acts apply to the performance of this Agreement.

Contractor is encouraged to use local labor, but not at the expense of poor workmanship and higher cost. Contractor will not discriminate against any employee or applicant for employment because of race, religion, color, sex, or national origin. Contractor agrees to post in a conspicuous place a notice setting forth provisions of this non-discrimination clause.

68. PROCUREMENT STANDARDS - 2 C.F.R. §§ 200.317 – 200.326 & 2 C.F.R. PART 200, APPENDIX II

The Office of Management and Budget (OMB) revised the Uniform Guidance for grants (2 C.F.R. part 200) on August 13, 2020. This was the first major updating of the Uniform Guidance since 2014.

Effective Date:

- The full suite of changes became effective November 12, 2020. They will apply to all new Grants to States awards issued after that date, including the FY2021 awards.

Procurement:

New provisions for procurements by States (2 C.F.R. § 200.317):

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When procuring property and services under an award, a State will continue to follow the same policies and procedures it uses for procurement from its non-Federal funds. A State must now also comply with §§ 200.321 (contracting with small and minority businesses, women's business enterprises, and labor surplus area firms) and 200.322 (domestic preferences for procurements); and continue to comply with § 200.323 (procurement of recovered materials).

New provisions for all other non-Federal entities, including subrecipients of a State:

The OMB explains in the Aug. 13, 2020, Federal Register notice for the Uniform Guidance revisions, the following changes were made to 2 C.F.R § 200.320 (methods of procurement):

- The procurement types are now grouped into three categories:

  (1) Informal (micro-purchase, small purchase);

  (2) Formal (sealed Proposals, proposals); and

  (3) Non-Competitive (sole source).

The micro-purchase threshold is raised from $3,500 to $10,000. Micro-purchase thresholds higher than $10,000 are based on certain conditions that include a requirement to maintain records for threshold up to $50,000 and a formal approval process by the Fed. Govt. for threshold above $50,000.

More specifically, for Grants to States:

(1) the subrecipient may self-certify an increase of the micro-purchase threshold up to $50,000 (based on certain requirements).

(2) micro-purchase thresholds higher than $50,000 must be approved by the cognizant agency for indirect costs. (for details, see 2 C.F.R § 200.320 (a) (1) (iii) and (iv)).

The simplified acquisition threshold is raised from $150,000 to $250,000.

Two contract clauses were added to Appendix II of 2 C.F.R. Part 200. In addition to the previous contract clauses contained in the 2014 version of Appendix II of 2 C.F.R. Part 200, FEMA award recipient and subrecipient contracts and purchase orders must now include contract provisions for *Domestic Preferences for Procurements* (2 C.F.R. 200.322) and the *Prohibition on Contracting for Covered Telecommunications or Services* (2 C.F.R. 200.316)

2 C.F.R. § 200.317. Procurements by states.

When procuring property and services under a Federal award, a state must follow the same policies and procedures it uses for procurements from its non-Federal funds. The state will comply with §200.322 Procurement of recovered materials and ensure that every purchase order or other contract includes any clauses required by section §200.326 Contract provisions. All other non-Federal entities, including subrecipients of a state, will follow §§ 200.318 General procurement standards through 200.326 Contract provisions.

69 FR 26280, May 11, 2004; 78 FR 78608, Dec. 26, 20313

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2 C.F.R. § 200.318. General procurement standards.

(a) The non-Federal entity must use its own documented procurement procedures which reflect applicable State, local and tribal laws and regulations, provided that the procurements conform to applicable Federal law and the standards identified in this part.

(b) Non-Federal entities must maintain oversight to ensure that contractors perform in accordance with the terms, conditions, and specifications of their contracts or purchase orders.

(c)

(1) The non-Federal entity must maintain written standards of conduct covering conflicts of interest and governing the actions of its employees engaged in the selection, award and administration of contracts. No employee, officer, or agent may participate in the selection, award, or administration of a contract supported by a Federal award if he or she has a real or apparent conflict of interest. Such a conflict of interest would arise when the employee, officer, or agent, any member of his or her immediate family, his or her partner, or an organization which employs or is about to employ any of the parties indicated herein, has a financial or other interest in or a tangible personal benefit from a firm considered for a contract. The officers, employees, and agents of the non-Federal entity may neither solicit nor accept gratuities, favors, or anything of monetary value from contractors or parties to subcontracts. However, non-Federal entities may set standards for situations in which the financial interest is not substantial or the gift is an unsolicited item of nominal value. The standards of conduct must provide for disciplinary actions to be applied for violations of such standards by officers, employees, or agents of the non-Federal entity.

(2) If the non-Federal entity has a parent, affiliate, or subsidiary organization that is not a state, local government, or Indian tribe, the non-Federal entity must also maintain written standards of conduct covering organizational conflicts of interest. Organizational conflicts of interest means that because of relationships with a parent company, affiliate, or subsidiary organization, the non-Federal entity is unable or appears to be unable to be impartial in conducting a procurement action involving a related organization.

(d) The non-Federal entity's procedures must avoid acquisition of unnecessary or duplicative items. Consideration should be given to consolidating or breaking out procurements to obtain a more economical purchase. Where appropriate, an analysis will be made of lease versus purchase alternatives, and any other appropriate analysis to determine the most economical approach.

(e) To foster greater economy and efficiency, and in accordance with efforts to promote cost-effective use of shared services across the Federal Government, the non-Federal entity is encouraged to enter into state and local intergovernmental agreements or inter-entity agreements where appropriate for procurement or use of common or shared goods and services.

(f) The non-Federal entity is encouraged to use Federal excess and surplus property in lieu of purchasing new equipment and property whenever such use is feasible and reduces project costs.

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(g) The non-Federal entity is encouraged to use value engineering clauses in contracts for construction projects of sufficient size to offer reasonable opportunities for cost reductions. Value engineering is a systematic and creative analysis of each contract item or task to ensure that its essential function is provided at the overall lower cost.

(h) The non-Federal entity must award contracts only to responsible contractors possessing the ability to perform successfully under the terms and conditions of a proposed procurement. Consideration will be given to such matters as contractor integrity, compliance with public policy, record of past performance, and financial and technical resources. See also § 200.213 Suspension and debarment.

(i) The non-Federal entity must maintain records sufficient to detail the history of procurement. These records will include, but are not necessarily limited to the following: rationale for the method of procurement, selection of contract type, contractor selection or rejection, and the basis for the contract price.

(j)

(1) The non-Federal entity may use a time and materials type contract only after a determination that no other contract is suitable and if the contract includes a ceiling price that the contractor exceeds at its own risk. Time and materials type contract means a contract whose cost to a non-Federal entity is the sum of:

(i) The actual cost of materials; and

(ii) Direct labor hours charged at fixed hourly rates that reflect wages, general and administrative expenses, and profit.

(2) Since this formula generates an open-ended contract price, a time-and-materials contract provides no positive profit incentive to the contractor for cost control or labor efficiency. Therefore, each contract must set a ceiling price that the contractor exceeds at its own risk. Further, the non-Federal entity awarding such a contract must assert a high degree of oversight in order to obtain reasonable assurance that the contractor is using efficient methods and effective cost controls.

(k) The non-Federal entity alone must be responsible, in accordance with good administrative practice and sound business judgment, for the settlement of all contractual and administrative issues arising out of procurements. These issues include, but are not limited to, source evaluation, protests, disputes, and claims. These standards do not relieve the non-Federal entity of any contractual responsibilities under its contracts. The Federal awarding agency will not substitute its judgment for that of the non-Federal entity unless the matter is primarily a Federal concern. Violations of law will be referred to the local, state, or Federal authority having proper jurisdiction.

78 FR 78608, Dec. 26, 2013, as amended at 79 FR 75885, Dec. 19, 2014; 80 FR 43309, July 22, 2015; 80 FR 45395, July 30, 2015

2 C.F.R. § 200.319. Competition.

(a) All procurement transactions must be conducted in a manner providing full and open competition consistent with the standards of this section. In order to ensure objective contractor performance and eliminate unfair competitive advantage, contractors that develop or draft specifications, requirements, statements of work, or invitations for

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Proposals or requests for proposals must be excluded from competing for such procurements. Some of the situations considered to be restrictive of competition include but are not limited to:

(1) Placing unreasonable requirements on firms in order for them to qualify to do business;

(2) Requiring unnecessary experience and excessive bonding;

(3) Noncompetitive pricing practices between firms or between affiliated companies;

(4) Noncompetitive contracts to consultants that are on retainer contracts;

(5) Organizational conflicts of interest;

(6) Specifying only a "brand name" product instead of allowing "an equal" product to be offered and describing the performance or other relevant requirements of the procurement; and

(7) Any arbitrary action in the procurement process.

(b) The non-Federal entity must conduct procurements in a manner that prohibits the use of statutorily or administratively imposed state, local, or tribal geographical preferences in the evaluation of Proposals or proposals, except in those cases where applicable Federal statutes expressly mandate or encourage geographic preference. Nothing in this section preempts state licensing laws. When contracting for architectural and engineering (A/E) services, geographic location may be a selection criterion provided its application leaves an appropriate number of qualified firms, given the nature and size of the project, to compete for the contract.

(c) The non-Federal entity must have written procedures for procurement transactions. These procedures must ensure that all solicitations:

(1) Incorporate a clear and accurate description of the technical requirements for the material, product, or service to be procured. Such description must not, in competitive procurements, contain features which unduly restrict competition. The description may include a statement of the qualitative nature of the material, product or service to be procured and, when necessary, must set forth those minimum essential characteristics and standards to which it must conform if it is to satisfy its intended use. Detailed product specifications should be avoided if at all possible. When it is impractical or uneconomical to make a clear and accurate description of the technical requirements, a "brand name or equivalent" description may be used as a means to define the performance or other salient requirements of procurement. The specific features of the named brand which must be met by offers must be clearly stated; and

(2) Identify all requirements which the offerors must fulfill and all other factors to be used in evaluating Proposals or proposals.

(d) The non-Federal entity must ensure that all prequalified lists of persons, firms, or products which are used in acquiring goods and services are current and include enough qualified sources to ensure maximum open and free competition. Also, the non-Federal entity must not preclude potential Proposers from qualifying during the solicitation period.

78 FR 78608, Dec. 26, 2013, as amended at 79 FR 75885, Dec. 19, 2014

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2 C.F.R. § 200.320. Methods of procurement to be followed.

The non-Federal entity must use one of the following methods of procurement.

(a) Procurement by micro-purchases. Procurement by micro-purchase is the acquisition of supplies or services, the aggregate dollar amount of which does not exceed the micro-purchase threshold (§200.67 Micro-purchase). To the extent practicable, the non-Federal entity must distribute micro-purchases equitably among qualified suppliers. Micro-purchases may be awarded without soliciting competitive quotations if the non-Federal entity considers the price to be reasonable.

(b) Procurement by small purchase procedures. Small purchase procedures are those relatively simple and informal procurement methods for securing services, supplies, or other property that do not cost more than the Simplified Acquisition Threshold. If small purchase procedures are used, price or rate quotations must be obtained from an adequate number of qualified sources.

(c) Procurement by sealed Proposals (formal advertising). Proposals are publicly solicited and a firm fixed price contract (lump sum or unit price) is awarded to the responsible Proposer whose bid, conforming with all the material terms and conditions of the Request for Proposals, is the lowest in price. The sealed bid method is the preferred method for procuring construction if the conditions in paragraph (c)(1) of this section apply.

(1) In order for sealed bidding to be feasible, the following conditions should be present:

(i) A complete, adequate, and realistic specification or purchase description is available;

(ii) Two or more responsible Proposers are willing and able to compete effectively for the business; and

(iii) The procurement lends itself to a firm fixed price contract and the selection of the successful Proposer can be made principally on the basis of price.

(2) If sealed bids are used, the following requirements apply:

(i) Bids must be solicited from an adequate number of known suppliers, providing them sufficient response time prior to the date set for opening the bids, for local, and tribal governments, the invitation for bids must be publicly advertised;

(ii) The invitation for bids, which will include any specifications and pertinent attachments, must define the items or services in order for the Proposer to properly respond;

(iii) All bids will be opened at the time and place prescribed in the invitation for bids, and for local and tribal governments, the bids must be opened publicly;

(iv) A firm fixed price contract award will be made in writing to the lowest responsive and responsible Proposer. Where specified in bidding documents, factors such as discounts, transportation cost, and life cycle costs must be considered in determining which bid is lowest. Payment discounts will only be used to determine the low bid when prior experience indicates that such discounts are usually taken advantage of; and

(v) Any or all bids may be rejected if there is a sound documented reason.

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(d) Procurement by competitive proposals. The technique of competitive proposals is normally conducted with more than one source submitting an offer, and either a fixed price or cost-reimbursement type contract is awarded. It is generally used when conditions are not appropriate for the use of sealed bids. If this method is used, the following requirements apply:

(1) Requests for proposals must be publicized and identify all evaluation factors and their relative importance. Any response to publicized requests for proposals must be considered to the maximum extent practical;

(2) Proposals must be solicited from an adequate number of qualified sources;

(3) The non-Federal entity must have a written method for conducting technical evaluations of the proposals received and for selecting recipients;

(4) Contracts must be awarded to the responsible firm whose proposal is most advantageous to the program, with price and other factors considered; and

(5) The non-Federal entity may use competitive proposal procedures for qualifications-based procurement of architectural/engineering (A/E) professional services whereby competitors' qualifications are evaluated and the most qualified competitor is selected, subject to negotiation of fair and reasonable compensation. The method, where price is not used as a selection factor, can only be used in procurement of A/E professional services. It cannot be used to purchase other types of services though A/E firms are a potential source to perform the proposed effort.

(e) [Reserved]

(f) Procurement by noncompetitive proposals. Procurement by noncompetitive proposals is procurement through solicitation of a proposal from only one source and may be used only when one or more of the following circumstances apply:

(1) The item is available only from a single source;

(2) The public exigency or emergency for the requirement will not permit a delay resulting from competitive solicitation;

(3) The Federal awarding agency or pass-through entity expressly authorizes noncompetitive proposals in response to a written request from the non-Federal entity; or

(4) After solicitation of a number of sources, competition is determined inadequate.

78 FR 78608, Dec. 26, 2013, as amended at 79 FR 75885, Dec. 19, 2014; 80 FR 54409, Sept. 10, 2015

2 C.F.R. § 200.321. Contracting with small and minority businesses, women's business enterprises, and labor surplus area firms.

(a) The non-Federal entity must take all necessary affirmative steps to assure that minority businesses, women's business enterprises, and labor surplus area firms are used when possible.

(b) Affirmative steps must include:

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(1) Placing qualified small and minority businesses and women's business enterprises on solicitation lists;

(2) Assuring that small and minority businesses, and women's business enterprises are solicited whenever they are potential sources;

(3) Dividing total requirements, when economically feasible, into smaller tasks or quantities to permit maximum participation by small and minority businesses, and women's business enterprises;

(4) Establishing delivery schedules, where the requirement permits, which encourage participation by small and minority businesses, and women's business enterprises;

(5) Using the services and assistance, as appropriate, of such organizations as the Small Business Administration and the Minority Business Development Agency of the Department of Commerce; and

(6) Requiring the prime contractor, if subcontracts are to be let, to take the affirmative steps listed in paragraphs (1) through (5) of this section.

69 FR 26280, May 11, 2004; 78 FR 78608, Dec. 26, 2013, unless otherwise noted

2 C.F.R. § 200.322. Procurement of recovered materials.

A non-Federal entity that is a state agency or agency of a political subdivision of a state and its contractors must comply with section 6002 of the Solid Waste Disposal Act, as amended by the Resource Conservation and Recovery Act. The requirements of Section 6002 include procuring only items designated in guidelines of the Environmental Protection Agency (EPA) at 40 CFR part 247 that contain the highest percentage of recovered materials practicable, consistent with maintaining a satisfactory level of competition, where the purchase price of the item exceeds $10,000 or the value of the quantity acquired during the preceding fiscal year exceeded $10,000; procuring solid waste management services in a manner that maximizes energy and resource recovery; and establishing an affirmative procurement program for procurement of recovered materials identified in the EPA guidelines.

78 FR 78608, Dec. 26, 2013, as amended at 79 FR 75885, Dec. 19, 2014

2 C.F.R. § 200.323. Contract cost and price.

(a) The non-Federal entity must perform a cost or price analysis in connection with every procurement action in excess of the Simplified Acquisition Threshold including contract modifications. The method and degree of analysis is dependent on the facts surrounding the particular procurement situation, but as a starting point, the non-Federal entity must make independent estimates before receiving bids or proposals.

(b) The non-Federal entity must negotiate profit as a separate element of the price for each contract in which there is no price competition and in all cases where cost analysis is performed. To establish a fair and reasonable profit, consideration must be given to the complexity of the work to be performed, the risk borne by the contractor, the contractor's investment, the amount of subcontracting, the quality of its record of past performance, and industry profit rates in the surrounding geographical area for similar work.

(c) Costs or prices based on estimated costs for contracts under the Federal award are allowable only to the extent that costs incurred or cost estimates included in negotiated prices would be allowable for the non-Federal entity under Subpart E—Cost Principles of this part. The non-Federal entity may reference its own cost principles that comply with the Federal cost principles.

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(d) The cost plus a percentage of cost and percentage of construction cost methods of contracting must not be used.

69 FR 26280, May 11, 2004; 78 FR 78608, Dec. 26, 2013, unless otherwise noted

2 C.F.R. § 200.324. Federal awarding agency or pass-through entity review.

(a) The non-Federal entity must make available, upon request of the Federal awarding agency or pass-through entity, technical specifications on proposed procurements where the Federal awarding agency or pass-through entity believes such review is needed to ensure that the item or service specified is the one being proposed for acquisition. This review generally will take place prior to the time the specification is incorporated into a solicitation document. However, if the non-Federal entity desires to have the review accomplished after a solicitation has been developed, the Federal awarding agency or pass-through entity may still review the specifications, with such review usually limited to the technical aspects of the proposed purchase.

(b) The non-Federal entity must make available upon request, for the Federal awarding agency or pass-through entity pre-procurement review, procurement documents, such as requests for proposals or invitations for bids, or independent cost estimates, when:
(1) The non-Federal entity's procurement procedures or operation fails to comply with the procurement standards in this part;

(2) The procurement is expected to exceed the Simplified Acquisition Threshold and is to be awarded without competition or only one bid or offer is received in response to a solicitation;

(3) The procurement, which is expected to exceed the Simplified Acquisition Threshold, specifies a "brand name" product;

(4) The proposed contract is more than the Simplified Acquisition Threshold and is to be awarded to other than the apparent low Proposer under a sealed bid procurement; or

(5) A proposed contract modification changes the scope of a contract or increases the contract amount by more than the Simplified Acquisition Threshold.

(c) The non-Federal entity is exempt from the pre-procurement review in paragraph (b) of this section if the Federal awarding agency or pass-through entity determines that its procurement systems comply with the standards of this part.

(1) The non-Federal entity may request that its procurement system be reviewed by the Federal awarding agency or pass-through entity to determine whether its system meets these standards in order for its system to be certified. Generally, these reviews must occur where there is continuous high-dollar funding, and third party contracts are awarded on a regular basis;

(2) The non-Federal entity may self-certify its procurement system. Such self-certification must not limit the Federal awarding agency's right to survey the system. Under a self-certification procedure, the Federal awarding agency may rely on written assurances from the non-Federal entity that it is complying with these standards. The non-Federal entity must cite specific policies, procedures, regulations, or standards as being in compliance with these requirements and have its system available for review.

69 FR 26280, May 11, 2004; 78 FR 78608, Dec. 26, 2013, unless otherwise noted

2 C.F.R. § 200.325. Bonding requirements.

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For construction or facility improvement contracts or subcontracts exceeding the Simplified Acquisition Threshold, the Federal awarding agency or pass-through entity may accept the bonding policy and requirements of the non-Federal entity provided that the Federal awarding agency or pass-through entity has made a determination that the Federal interest is adequately protected. If such a determination has not been made, the minimum requirements must be as follows:

(a) A bid guarantee from each Proposer equivalent to five percent of the bid price. The "bid guarantee" must consist of a firm commitment such as a bid bond, certified check, or other negotiable instrument accompanying a bid as assurance that the Proposer will, upon acceptance of the bid, execute such contractual documents as may be required within the time specified.

(b) A performance bond on the part of the contractor for 100 percent of the contract price. A "performance bond" is one executed in connection with a contract to secure fulfillment of all the contractor's obligations under such contract.

(c) A payment bond on the part of the contractor for 100 percent of the contract price. A "payment bond" is one executed in connection with a contract to assure payment as required by law of all persons supplying labor and material in the execution of the work provided for in the contract.

69 FR 26280, May 11, 2004; 78FR 78608, Dec. 26, 2013, unless otherwise noted

2 C.F.R. § 200.326. Contract provisions.

The non-Federal entity's contracts must contain the applicable provisions described in Appendix II to Part 200—Contract Provisions for non-Federal Entity Contracts Under Federal Awards.

69 FR 26280, May 11, 2004; 78 FR 78608, Dec. 26, 2013, unless otherwise note

2 C.F.R. Part, 200, Appendix II

In addition to other provisions required by the Federal agency or non-Federal entity, all contracts made by the non-Federal entity under the Federal award must contain provisions covering the following, as applicable.

(A) Contracts for more than the simplified acquisition threshold currently set at $150,000, which is the inflation adjusted amount determined by the Civilian Agency Acquisition Council and the Defense Acquisition Regulations Council (Councils) as authorized by 41 U.S.C. 1908, must address administrative, contractual, or legal remedies in instances where contractors violate or breach contract terms, and provide for such sanctions and penalties as appropriate.

(B) All contracts in excess of $10,000 must address termination for cause and for convenience by the non-Federal entity including the manner by which it will be affected and the basis for settlement.

(C) Equal Employment Opportunity. Except as otherwise provided under 41 CFR Part 60, all contracts that meet the definition of "federally assisted construction contract" in 41 CFR Part 60-1.3 must include the equal opportunity clause provided under 41 CFR 60-1.4(b), in accordance with Executive Order 11246, "Equal Employment Opportunity" (30 FR 12319, 12935, 3 CFR Part, 1964-1965 Comp., p. 339), as amended by Executive Order 11375, "Amending Executive Order 11246 Relating to Equal Employment Opportunity," and implementing regulations at 41 CFR part 60, "Office of Federal Contract Compliance Programs, Equal Employment Opportunity, Department of Labor."

(D) Davis-Bacon Act, as amended (40 U.S.C. 3141-3148). When required by Federal program legislation, all prime construction contracts in excess of $2,000 awarded by non-Federal entities must include a provision for compliance with

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the Davis-Bacon Act (40 U.S.C. 3141-3144, and 3146-3148) as supplemented by Department of Labor regulations (29 CFR Part 5, "Labor Standards Provisions Applicable to Contracts Covering Federally Financed and Assisted Construction"). In accordance with the statute, contractors must be required to pay wages to laborers and mechanics at a rate not less than the prevailing wages specified in a wage determination made by the Secretary of Labor. In addition, contractors must be required to pay wages not less than once a week. The non-Federal entity must place a copy of the current prevailing wage determination issued by the Department of Labor in each solicitation. The decision to award a contract or subcontract must be conditioned upon the acceptance of the wage determination. The non-Federal entity must report all suspected or reported violations to the Federal awarding agency. The contracts must also include a provision for compliance with the Copeland "Anti-Kickback" Act (40 U.S.C. 3145), as supplemented by Department of Labor regulations (29 CFR Part 3, "Contractors and Subcontractors on Public Building or Public Work Financed in Whole or in Part by Loans or Grants from the United States"). The Act provides that each contractor or subrecipient must be prohibited from inducing, by any means, any person employed in the construction, completion, or repair of public work, to give up any part of the compensation to which he or she is otherwise entitled. The non-Federal entity must report all suspected or reported violations to the Federal awarding agency.

(E) Contract Work Hours and Safety Standards Act (40 U.S.C. 3701-3708). Where applicable, all contracts awarded by the non-Federal entity in excess of $100,000 that involve the employment of mechanics or laborers must include a provision for compliance with 40 U.S.C. 3702 and 3704, as supplemented by Department of Labor regulations (29 CFR Part 5). Under 40 U.S.C. 3702 of the Act, each contractor must be required to compute the wages of every mechanic and laborer on the basis of a standard work week of 40 hours. Work in excess of the standard work week is permissible provided that the worker is compensated at a rate of not less than one and a half times the basic rate of pay for all hours worked in excess of 40 hours in the work week. The requirements of 40 U.S.C. 3704 are applicable to construction work and provide that no laborer or mechanic must be required to work in surroundings or under working conditions which are unsanitary, hazardous or dangerous. These requirements do not apply to the purchases of supplies or materials or articles ordinarily available on the open market, or contracts for transportation or transmission of intelligence.

(F) Rights to Inventions Made Under a Contract or Agreement. If the Federal award meets the definition of "funding agreement" under 37 CFR §401.2 (a) and the recipient or subrecipient wishes to enter into a contract with a small business firm or nonprofit organization regarding the substitution of parties, assignment or performance of experimental, developmental, or research work under that "funding agreement," the recipient or subrecipient must comply with the requirements of 37 CFR Part 401, "Rights to Inventions Made by Nonprofit Organizations and Small Business Firms Under Government Grants, Contracts and Cooperative Agreements," and any implementing regulations issued by the awarding agency.

(G) Clean Air Act (42 U.S.C. 7401-7671q.) and the Federal Water Pollution Control Act (33 U.S.C. 1251-1387), as amended—Contracts and subgrants of amounts in excess of $150,000 must contain a provision that requires the non-Federal award to agree 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 awarding agency and the Regional Office of the Environmental Protection Agency (EPA).

(H) Debarment and Suspension (Executive Orders 12549 and 12689)—A contract award (see 2 CFR 180.220) must not be made to parties listed on the governmentwide exclusions in the System for Award Management (SAM), in accordance with the OMB guidelines at 2 CFR 180 that implement Executive Orders 12549 (3 CFR part 1986 Comp., p. 189) and 12689 (3 CFR part 1989 Comp., p. 235), "Debarment and Suspension." SAM Exclusions contains the names of parties debarred, suspended, or otherwise excluded by agencies, as well as parties declared ineligible under statutory or regulatory authority other than Executive Order 12549.

(I) Byrd Anti-Lobbying Amendment (31 U.S.C. 1352)—Contractors that apply or bid for an award exceeding $100,000 must file the required certification. Each tier certifies to the tier above that it will not and has not used Federal appropriated funds to pay any person or organization for influencing or attempting to influence an officer or employee of any agency, a member of Congress, officer or employee of Congress, or an employee of a member of Congress in

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connection with obtaining any Federal contract, grant or any other award covered by 31 U.S.C. 1352. Each tier must also disclose any lobbying with non-Federal funds that takes place in connection with obtaining any Federal award. Such disclosures are forwarded from tier to tier up to the non-Federal award.

(J) See §200.322 Procurement of recovered materials.

78 FR 78608, Dec. 26, 2013, as amended at 79 FR 75888, Dec. 19, 2014

DOMESTIC PREFERENCES FOR PROCUREMENTS *(All State and non-State entity purchase orders must adhere to the following)*

§ 200.322 Domestic preferences for procurements.

(a) As appropriate and to the extent consistent with law, the non-Federal entity should, to the greatest extent practicable under a Federal award, provide a preference for the purchase, acquisition, or use of goods, products, or materials produced in the United States (including but not limited to iron, aluminum, steel, cement, and other manufactured products). The requirements of this section must be included in all subawards including all contracts and purchase orders for work or products under this award.

(b) For purposes of this section:

(1) "Produced in the United States" means, for iron and steel products, that all manufacturing processes, from the initial melting stage through the application of coatings, occurred in the United States.

(2) "Manufactured products" means items and construction materials composed in whole or in part of non-ferrous metals such as aluminum; plastics and polymer-based products such as polyvinyl chloride pipe; aggregates such as concrete; glass, including optical fiber; and lumber.

PROHIBITION ON CONTRACTING FOR COVERED TELECOMMUNICATIONS OR SERVICES
(Effective August 13, 2020 for new, extended, or renewed procurements under all open FEMA awards)

§ 200.216 Prohibition on certain telecommunications and video surveillance services or equipment.

(a) Recipients and subrecipients are prohibited from obligating or expending loan or grant funds to:

(1) Procure or obtain;

(2) Extend or renew a contract to procure or obtain; or

(3) Enter into a contract (or extend or renew a contract) to procure or obtain equipment, services, or systems that uses covered telecommunications equipment or services as a substantial or essential component of any system, or as critical technology as part of any system. As described in Public Law 115-232, section 889, covered telecommunications equipment is telecommunications equipment produced by Huawei Technologies Company or ZTE Corporation (or any subsidiary or affiliate of such entities).

(i) For the purpose of public safety, security of government facilities, physical security surveillance of critical infrastructure, and other national security purposes, video surveillance and telecommunications equipment produced by Hytera Communications Corporation, Hangzhou

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Hikvision Digital Technology Company, or Dahua Technology Company (or any subsidiary or affiliate of such entities).

(ii) Telecommunications or video surveillance services provided by such entities or using such equipment.

(iii) Telecommunications or video surveillance equipment or services produced or provided by an entity that the Secretary of Defense, in consultation with the Director of the National Intelligence or the Director of the Federal Bureau of Investigation, reasonably believes to be an entity owned or controlled by, or otherwise connected to, the government of a covered foreign country.

(b) In implementing the prohibition under Public Law 115-232, section 889, subsection (f), paragraph (1), heads of executive agencies administering loan, grant, or subsidy programs shall prioritize available funding and technical support to assist affected businesses, institutions and organizations as is reasonably necessary for those affected entities to transition from covered communications equipment and services, to procure replacement equipment and services, and to ensure that communications service to users and customers is sustained.

(c) See Public Law 115-232, section 889 for additional information.

(c) See also § 200.471.

69. PROCUREMENT LAWS

a. Proposer shall comply with all applicable local, State, and Federal laws, rules, and regulations.

b. If this contract is made pursuant to a federal award, then Contractor acknowledges that the contract is subject, without limitation, to applicable provisions within 2 C.F.R. Part 200, Uniform Administrative Requirements, Cost Principles, and Audit Requirements for Federal Awards. Contractor shall comply with applicable provisions within 2 C.F.R., Sections 200.319 through 200.326, including but not limited to the following:

1.) **Equal Employment Opportunity**, 41 C.F.R. Part 60-1.4(b) (applicable to federally assisted construction contracts).

(a) During the performance of this contract, the contractor agrees as follows:

(1) The contractor will not discriminate against any employee or applicant for employment because of race, color, religion, sex, national original, disability, or veteran status. The contractor will take affirmative action to ensure that applicants are employed, and that employees are treated during employment, without regard to their race, color, religion, sex, national original, disability or veteran status. Such action shall include, but not be limited to the following: 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. The contractor agrees to post in conspicuous places, available to employees and applicants for employment, notices to be provided setting forth the provisions of this nondiscrimination clause.

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(2) The contractor will. in all solicitations or advertisements for employees placed by or on behalf of contractor. state that all qualified applicants will receive consideration for employment without regard to race, color, religion, sex, national original, disability, or veteran status.

(3) The contractor will send to each labor union or representative of workers with which he has a collective bargaining agreement or other contract or understanding. a notice to be provided advising the said labor union or workers' representatives of the contractor's commitments under this section and shall post copies of the notice in conspicuous places available to employees and applicants for employment.

(4) The contractor will comply with all provisions of Executive Order 11246 of September 24, 1965, and by rules, regulations, and relevant orders of the Secretary of Labor.

(5) The contractor will furnish all information and reports required by Executive Order 11246 of September 24, 1965, and by rules, regulations, and orders of the Secretary of Labor, or pursuant thereto, and will permit access to contractor's books, records, and accounts by the administering agency and the Secretary of Labor for purposes of investigation to ascertain compliance with such rules, regulations, and orders.

(6) In the event of the contractor's noncompliance with the nondiscrimination clauses of this contract or with any of the said rules, regulations, or orders, this contract may be cancelled, terminated, or suspended in whole or in part and the contractor may be declared ineligible for further Government contracts or federally assisted construction contracts in accordance with procedures authorized in Executive Order 11246 of September 24, 1965, and such other sanctions as may be imposed and remedies invoked as provided in Executive Order 11246 of September 24, 1965, or by rule, regulation, or order of the Secretary of Labor, or as otherwise provided by law.

(7) The contractor will include the portion of the sentence immediately preceding paragraph (1) and the provisions of paragraphs (1) through (7) in every subcontract or purchase order unless exempted by rules, regulations, or orders of the Secretary of Labor issued pursuant to section 204 of Executive Order 11246 of September 24, 1965, so that such provisions will be binding upon each subcontractor or vendor. The contractor will take such action with respect to any subcontract or purchase order as the administering agency may direct as a means of enforcing such provisions, including sanctions for noncompliance: Provided, however, that in the event a contractor becomes involved in, or is threatened with, litigation with a subcontractor or vendor as a result of such direction by the administering agency, the contractor may request the United States to enter into such litigation to protect the interests of the United States.

2.) **Small and minority business, women's business enterprises, and labor surplus area firms (2 C.F.R. § 200.321).** The County is required to take affirmative steps to assure that minority businesses, women's business enterprises, and labor surplus area firms are used when possible. This includes requiring the prime contractor, if subcontracts are to be let in the performance of this contract, to itself take affirmative steps in letting the subcontract. Accordingly, if subcontracts are to be let in the performance of this contract, the contractor must take affirmative steps in the letting of the subcontract(s), which must include:

(a) placing qualified small and minority businesses and women's business enterprises on solicitation lists;
(b) assuring that small and minority businesses, and women's business enterprises are solicited whenever they are potential sources;
(c) dividing total requirements, when economically feasible, into smaller tasks or quantities to permit maximum participation by small and minority businesses, and women's business enterprises; and
(d) using the services and assistance, as appropriate, of such organizations as the Small Business Administration and the Minority Business Development Agency of the Department of Commerce.

In accordance with FEMA procurement guidance:

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A small business is a business that is independently owned and operated, not dominant in the field of operation in which it is bidding on Galveston County contracts and qualified as a small business under the Small Business Administration criteria and size standards at 13 C.F.R. Part 121.

A women's business enterprise is a business enterprise that is: (a) at least 51 percent owned by one or more women or, in the case of a publicly owned business, at least 51 percent of the stock is owned by one or more women; and (b) whose management and daily operations are controlled by one or more women.

A minority business is a business that is (a) at least 51 percent owned by one or more minority group members or, in the case of a publicly owned business, at least 51 percent of the stock is owned by one or more minority group members; and (b) whose management and daily operations are controlled by one or more minority group members.

3.) **Davis-Bacon Act as amended (40 U.S.C. 3141-3148).** When required by Federal program legislation, all prime construction contracts in excess of $2,000 must include a provision for compliance with the Davis-Bacon Act as supplemented by the Department of Labor regulations (29 C.F.R. Part 5, "Labor Standards Provisions Applicable to Contracts Covering Federally Financed and Assisted Construction"). In accordance with the statute, contractor must be required to pay wages to laborers and mechanics at a rate not less than the prevailing wages specified in a wage determination made by the Secretary of Labor. In addition, contractors must be required to pay wages not less than once a week. The non-Federal entity (the County) must place a copy of the current prevailing wage determination issued by the Department of Labor in each solicitation. The decision to award a contract or subcontract must be condition upon the acceptance of the wage determination. The non-Federal entity must report all suspected or reported violations to the Federal awarding agency. The contract must also include a provision for compliance with the Copeland Anti-Kickback Act (40 U.S.C. § 3145) as supplemented by the Department of Labor regulations (29 C.F.R. Part 3, "Contractors and Subcontractors on Public Building or Public Work Financed in Whole or in Part by Loans or Grants from the United States").

4.) **Compliance with the Copeland "Anti-Kickback" Act.** Contractor is prohibited from inducing, by any means, any person employed in the construction, completion, or repair of public work, to give up any part of the compensation to which the person is otherwise entitled. The non-Federal entity must report all suspected or reported violations to the Federal awarding agency. "Whoever, by force, intimidation, or threat of procuring dismissal from employment, or by any other manner whatsoever induces any person employed in the construction, prosecution, completion or repair of any public building, public work, or building or work financed in whole or in part by loans or grants from the United States, to give up any part of the compensation to which he is entitled under his contract of employment, shall be fined under this title [Title 18, U.S.C.] or imprisoned not more than five years, or both." 18 U.S.C. § 874.

(a) Contractor shall comply with 18 U.S.C. § 874, 40 U.S.C. § 3145, and the requirements of 29 C.F.R. Part 3 as may be applicable, which are incorporated by reference into this contract.

(b) The contractor or subcontractor shall insert in any subcontracts the clause above and such other clauses as the Federal awarding agency may be appropriate instructions require, and also a clause requiring the subcontractors to include these clauses in any lower tier subcontracts. The prime contractor shall be responsible for the compliance by any subcontractor or lower tier subcontractor with all of these contract clauses.

(c) Breach. A breach of the contract clause above may be grounds for termination of the contract, and for debarment as a contractor and subcontractor as provided in 29 C.F.R. § 5.12.

5.) **Contract Work Hours and Safety Standards Act.**

(a) Where applicable, all contracts awarded by the County in excess of $100,000 that involve the employment of mechanics or laborers must include a provision for compliance with 40 U.S.C. §§ 3702 and 3704, as

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supplemented by the Department of Labor regulations at 29 C.F.R. Part 5. Under 40 U.S.C. § 3702 of the Contract Work Hours and Safety Standards Act, each contractor must be required to compute the wages of every mechanic and laborer on the basis of a standard work week of 40 hours. Work in excess of the standard work week is permissible provided that the worker is compensated at a rate of not less than one and a half times the basic rate of pay for all hours worked in excess of 40 hours in the work week. The requirements of 40 U.S.S. 3704 are applicable to construction work and provide that no laborer or mechanic must be required to work in surroundings or under working conditions which are unsanitary, hazardous or dangerous. These requirements do not apply to the purchase of supplies or material or articles ordinarily available on the open market, or contractors for transportation or transmission of intelligence.

(b) Compliance with the Contract Work Hours and Safety Standards Act.

(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.

(2) Violation; liability for unpaid wages; liquidated damages. In the event of any violation of the clause set forth in paragraph (1) of this subsection 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 subsection, in the sum of $10 for each calendar day on which such individual was required or permitted to work in excess of the standard work week of forty hours without payment of the overtime wages required by the clause set forth in paragraph (1) of this subsection.

(3) Withholding for unpaid wages and liquidated damages. The awarding Federal agency, State agency, or the County 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 subsection.

(4) Subcontracts. The contractor or subcontractor shall insert in any subcontracts the clauses set forth in paragraph (1) through (4) of this subsection 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 subsection.

6.) **Rights to Inventions Made Under a Contractor Agreement.**

(a) If the Federal award meets the definition of "funding agreement" under 37 C.F.R. § 401.2(a) and the recipient or subrecipient wishes to enter into a contract with a small business firm or nonprofit organization regarding the substitution of parties, assignment or performance of experimental, developmental, or research work under the "funding agreement," the recipient or subrecipient must comply with the requirements of 37 C.F.R. Part 401, "Rights to Inventions Made by Nonprofit Organizations and Small Business Firms Under Government Grants, Contracts and Cooperative Agreements," and any implementing regulations issued by the awarding agency.

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(b) Stafford Act Disaster Grants. This requirement does not apply to Public Assistance, Hazard Mitigation Grant Program, Crisis Counseling Assistance and Training Grant program, Disaster Case Management Grant Program, and Federal Assistance to Individuals and Households – Other Needs Assistance Grant Program, as FEMA awards under these programs do not meet the definition of "funding agreement."

(c) The regulations and 37 C.F.R. § 401.2(a) currently defines "funding agreement" as any contract, grant, or cooperative agreement entered into between any Federal agency, other than the Tennessee Valley Authority, and any contractor for the performance of experimental, developmental, or research work funded in whole or in part by the Federal government. This term also includes any assignment, substitution of parties, or subcontract of any type entered into for the performance of experimental, developmental, or research work under a funding agreement as defined in the first sentence of this paragraph.

7.) **Clean Air Act (42 U.S.C. §§ 7401 – 7671q) and the Federal Water Pollution Control Act 933 U.S.C. §§ 1251-1387), as amended.**

(a) The contractor agrees to comply with all applicable standards, orders or regulations issued pursuant to the Clean Air Act, as amended, 42 U.S.C. § 7401, et seq., and agrees to comply with all applicable standards, orders, or regulations issued pursuant to the Federal Water Pollution Contract Act, as amended, 33 U.S. C. § 1251, et seq.

(b) The contractor agrees to report each violation of the Clean Air Act and/or the Federal Water Pollution Control Act to the Federal awarding agency, the State agency administering the grant, and the Regional Office of the Environmental Protection Agency (EPA) and understands and agrees that the Federal awarding agency, the State agency, and the EPA will, in turn, report each violation as required to assure notification to Galveston County, the Federal Emergency Management Agency, and the appropriate EPA Regional Office.

8.) **Debarment and Suspension (Executive Orders 12549 and12689).** A contract award must not be made to parties listed on the government-wide exclusions in the System for Award Management (SAM), in accordance with the OMB guidelines at 2 C.F.R. Part 180 that implement Executive Orders 12549 and 12689. The Contractor is required to verify that none of the contractor, its principals (defined at 2 C.F.R. § 180.995), or its affiliates (defined at 2 C.F.R. § 180.905) are excluded (defined at 2 C.F.R. §180.940) or disqualified (defined at 2 C.F.R. § 180.935).

Contractor must comply with 2 C.F.R. Part 180, Subpart C and 2 C.F.R. Part 3000, Subpart C, and must include a requirement to comply with these regulations in any lower tier covered transaction it enters into. Proposer agrees to comply with the requirements of 2 C.F.R. Part 180, Subpart C, and 2 C.F.R. Part 3000, Subpart C, while this offer is valid and through the period of any contract that may arise from this offer. The Proposer further agrees to include a provision requiring such compliance in its lower tier covered transactions.

9.) **Domestic Preferences for Procurements (2 C.F.R. § 200.323)**
(a) As appropriate and to the extent consistent with law, the non-Federal entity should, to the greatest extent practicable under a Federal award, provide a preference for the purchase, acquisition, or use of goods, products, or materials produced in the United States (including but not limited to iron, aluminum, steel, cement, and other manufactured products). The requirements of this section must be included in all subawards including all contracts and purchase orders for work or products under this award.

(c) For purposes of this section:

(1) "Produced in the United States" means, for iron and steel products, that all manufacturing processes, from the initial melting stage through the application of coatings, occurred in the United States.

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(2) "Manufactured products" means items and construction materials composed in whole or in part of non-ferrous metals such as aluminum; plastics and polymer-based products such as polyvinyl chloride pipe; aggregates such as concrete; glass, including optical fiber; and lumber.

10.) **Prohibition on Certain Telecommunications and Video Surveillance Services or Equipment. (2 C.F.R. § 200.216)**

(a) Recipients and subrecipients are prohibited from obligating or expending loan or grant funds to:

(1) Procure or obtain;

(2) Extend or renew a contract to procure or obtain; or

(2) Enter into a contract (or extend or renew a contract) to procure or obtain equipment, services, or systems that uses covered telecommunications equipment or services as a substantial or essential component of any system, or as critical technology as part of any system.

As described in Public Law 115-232, section 889, covered telecommunications equipment is telecommunications equipment produced by Huawei Technologies Company or ZTE Corporation (or any subsidiary or affiliate of such entities).

(i) For the purpose of public safety, security of government facilities, physical security surveillance of critical infrastructure, and other national security purposes, video surveillance and telecommunications equipment produced by Hytera Communications Corporation, Hangzhou Hikvision Digital Technology Company, or Dahua Technology Company (or any subsidiary or affiliate of such entities).

(ii) Telecommunications or video surveillance services provided by such entities or using such equipment.

(iii) Telecommunications or video surveillance equipment or services produced or provided by an entity that the Secretary of Defense, in consultation with the Director of the National Intelligence or the Director of the Federal Bureau of Investigation, reasonably believes to be an entity owned or controlled by, or otherwise connected to, the government of a covered foreign country.

(b) In implementing the prohibition under Public Law 115-232, section 889 of the John S. McCain National Defense Authorization Act for Fiscal Year 2019 (FY 2019 NDAA), Pub. L. No. 115-232 (2018) and 2 C.F.R. 200.216, 200.327, 200.471, and Appendix II to C.F.R. Part 200, subsection (f), paragraph (1), heads of executive agencies administering loan, grant, or subsidy programs shall prioritize available funding and technical support to assist affected businesses, institutions and organizations as is reasonably necessary for those affected entities to transition from covered communications equipment and services, to procure replacement equipment and services, and to ensure that communications service to users and customers is sustained.

(c) See Public Law 115-232, section 889 for additional information.

(d) See also § 200.471.

11.) **Procurement of Recovered Materials (2 C.F.R. § 200.323)**

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(a.) A non-Federal entity that is a State agency or agency of a political subdivision of the State and its contractors must comply with Section 6002 of the Solid Waste Disposal Act, Public Law No. 89-272 (1965) (codified as amended by the Resource Conservation and Recovery Act at 42 U.S.C. § 6962).

The requirements of Section 6002 include procuring only items designated in guidelines of the Environmental Protection Agency (EPA) at 40 CFR part 247 that contain the highest percentage of recovered materials practicable, consistent with maintaining a satisfactory level of competition, where the purchase price of the item exceeds $10,000 or the value of the quantity acquired during the preceding fiscal year exceeded $10,000; procuring solid waste management services in a manner that maximizes energy and resource recovery; and establishing an affirmative procurement program for procurement of recovered materials identified in the EPA guidelines.

(b.) In the performance of this contract, the contractor shall make maximum use of products containing recovered materials that are EPA-designated items unless the product cannot be acquired:

(1) Competitively within a timeframe providing for compliance with the contract performance schedule;
(2) Meeting contract performance requirements; or

(3) At a reasonable price.

(e) Information about this requirement is available at EPA's Comprehensive Procurement Guidelines website, http://www.epa.gov/cpg/. The list of EPA-designated items is available at https://www.epa.gov/cpg/products.htm.

In the event of any discrepancy between the provisions in this Section 63 of General Provisions and provisions on the same subject elsewhere within this procurement, the most stringent shall control.

70. SECTION 3 CLAUSE (§ 135.38) – HOUSING AND URBAN DEVELOPMENT (HUD)

SECTION 3 ACT OF 1968 (12 U.S.C. 1701u and 24 CFR Part 135)

DISCLAIMER: THIS CONTRACT [IS NOT] HUD-FUNDED AND THEREFORE SECTION 3 [DOES NOT] APPLY TO THIS CONTRACT.

For any HUD-funded contract with a value in excess of $100,000, Contractor and subcontractors must comply with the Section 3 Act of 1968. The purpose of Section 3 is to ensure that employment and other economic opportunities generated by certain HUD financial assistance shall, to the greatest extent feasible, and consistent with existing Federal, State and local laws and regulations, be directed to low- and very low-income persons, particularly those who are recipients of government assistance for housing, and to business concerns which provide economic opportunities to low- and very low-income persons.

Section 3 is triggered when the normal completion of construction and rehabilitation projects creates the need for new employment, contracting, or training opportunities.

For any Section 3 Covered Contracts, Contractor and subcontractors must comply with all provisions of the Section 3 Act of 1968, contained under 24 CFR 135. Contractor and subcontractors must include the Section 3 Clause in its entirety, in every subcontract subject to compliance with regulations in 24 CFR 135.
Contractor and subcontractors must assure that to the greatest extent feasible, contracts for work to be performed in connection with the project are awarded to Section 3 Business Concerns. Contractor and subcontractors must post

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all new hire opportunities with the local Workforce Solutions Center and/or Work-in-Texas. in accordance with 24 CFR 135. The minimum numeric goals for Section 3 utilization are:

- 30 percent of total number of new hires are Section 3 Residents (i.e. 1 out of 3 new hires); 10 percent of all awarded construction contracts are awarded to Section 3 Business Concerns:
- 3 percent of all awarded non-construction contracts are awarded to Section 3 Business Concerns.

A. The work to be performed under this contract is subject to the requirements of section 3 of the Housing and Urban Development Act of 1968, as amended, 12 U.S.C. 1701u (section 3). The purpose of section 3 is to ensure that employment and other economic opportunities generated by HUD assistance or HUD-assisted projects covered by section 3, shall, to the greatest extent feasible, be directed to low- and very low-income persons, particularly persons who are recipients of HUD assistance for housing.

B. The parties to this contract agree to comply with HUD's regulations in 24 CFR part 135, which implement section 3. As evidenced by their execution of this contract, the parties to this contract certify that they are under no contractual or other impediment that would prevent them from complying with the part 135 regulations.

C. The contractor agrees to send to each labor organization or representative of workers with which the contractor has a collective bargaining agreement or other understanding, if any, a notice advising the labor organization or workers' representative of the contractor's commitments under this section 3 clause, and will post copies of the notice in conspicuous places at the work site where both employees and applicants for training and employment positions can see the notice. The notice shall describe the section 3 preference, shall set forth minimum number and job titles subject to hire, availability of apprenticeship and training positions, the qualifications for each; and the name and location of the person(s) taking applications for each of the positions; and the anticipated date the work shall begin.

D. The contractor agrees to include this section 3 clause in every subcontract subject to compliance with regulations in 24 CFR part 135, and agrees to take appropriate action, as provided in an applicable provision of the subcontract or in this section 3 clause, upon a finding that the subcontractor is in violation of the regulations in 24 CFR part 135. The contractor will not subcontract with any subcontractor where the contractor has notice or knowledge that the subcontractor has been found in violation of the regulations in 24 CFR part 135.

E. The contractor will certify that any vacant employment positions, including training positions, that are filled (1) after the contractor is selected but before the contract is executed, and (2) with persons other than those to whom the regulations of 24 CFR part 135 require employment opportunities to be directed, were not filled to circumvent the contractor's obligations under 24 CFR part 135.

F. Noncompliance with HUD's regulations in 24 CFR part 135 may result in sanctions, termination of this contract for default, and debarment or suspension from future HUD assisted contracts.

G. With respect to work performed in connection with section 3 covered Indian housing assistance, section 7(b) of the Indian Self-Determination and Education Assistance Act (25 U.S.C. 450e) also applies to the work to be performed under this contract. Section 7(b) requires that to the greatest extent feasible (i) preference and opportunities for training and employment shall be given to Indians, and (ii) preference in the award of contracts and sub contracts shall be given to Indian organizations and Indian-owned Economic

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Enterprises. Parties to this contract that are subject to the provisions of section 3 and section 7(b) agree to comply with section 3 to the maximum extent feasible, but not in derogation of compliance with section

71. REQUIRED CONTRACT PROVISIONS

The Part 200 Uniform Requirements require that non-Federal entities' contracts contain the applicable provisions described in Appendix II to Part 200 — "Contract Provisions for Non-Federal Entity Contracts Under Federal Awards." Violations of law will be referred to the proper authority in the applicable jurisdiction. All Prime Contractors awarded contracts by Galveston County which are federally funded, in whole or in part, are required to comply with the provisions below. Additionally, Prime Contractors with Galveston County are required to include the provisions below in any contracts executed with subcontractors performing the scope of work and shall pass these requirements on to its subcontractors and third-party contractors, as applicable. In addition to other provisions required by the relevant Federal agency, State of Texas, or Galveston County, all contracts made by Galveston County under the Federal award shall contain provisions covering the following, as applicable.

ACCESS TO RECORDS & RECORD RETENTION (2 CFR 200.336)

Contractor must provide Galveston County, the State of Texas, the Texas General Land Office (GLO), the U.S. Department of Housing and Urban Development (HUD), the FEMA Administrator, the Inspectors General, the Comptroller General of the United States, or any of their pass-through entities or authorized representatives access to any books, documents, papers, and records of the Contractor and its subcontractors which are directly pertinent to this contract/project for the purposes of making/responding to audits, examinations, excerpts, and transcriptions. The right also includes timely and reasonable access to the Contractor's personnel for the purpose of interview and discussion related to such documents. Contractor must keep records within Galveston County or note in bid that records will be available within the boundaries of Galveston County to those representatives within twenty-four (24) hours of request by the County. Contractor must maintain all records pertaining to the project for seven (7) years after receiving final payment and after all other pending matters have been closed.

ACCESSIBILITY (24 CFR 570.614) & SECTION 504 (29 U.S.C. Section 794 and 24 CFR Parts 8-9)

Contractor shall comply with all federal, state and local laws and regulations which prohibit recipients of federal funding from discriminating against individuals with disabilities. Applicable laws and regulations with which Contractor shall comply shall include, but are not limited to, the following: Section 504 of the Rehabilitation Act of 1973 (29 U.S.C. Section 794) (24 CFR Parts 8-9); Title II of the Americans with Disabilities Act of 1990; the Architectural Barriers Act of 1968 (42 U.S.C. 4151-4157); the Uniform Federal Accessibility Standards (Appendix A to 24 CFR Part 40 and Appendix A to 41 CFR Part 101-19, subpart 101-19.6); the Americans with Disabilities Act (42 U.S.C. 12131; 47 U.S.C. 155, 201, 218, and 225); Texas Administrative Code, Title 10, Chapter 60, Subchapter (B) the Texas Architectural Barriers Act (TABA); the Architectural Barriers (AB) Rules; and the Texas Accessibility Standards (TAS).

BYRD ANTI-LOBBYING AGREEMENT (2 CFR 200 APPENDIX II (J) AND 24 CFR 570.303)

Pursuant to 31 U.S.C.A. § 1352 (2003), if at any time during the contract term funding to contract exceeds $100,000.00, the Contractor shall file with the County the Federal Standard Form LLL titled "Disclosure Form to Report Lobbying." Each tier certifies to the tier above that it will not and has not used Federal appropriated funds to pay any person or organization for influencing or attempting to influence an officer or employee of any agency, a member of Congress, officer or employee of Congress, or an employee of a member of Congress in connection with obtaining any Federal contract, grant or any other award covered by 31 U.S.C. 1352. Each tier must also disclose any lobbying with non-Federal funds that takes place in connection with obtaining any Federal award. Such disclosures are forwarded from tier to tier up to the non-federal award.

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CIVIL RIGHTS ACT OF 1964 (Title VI 42 U.S.C. § 2000d)
Title VI of the Civil Rights Act of 1964, Section 109 of the Community Development Act of 1974, Section 504 of the Rehabilitation Act of 1973 (29 U.S.C. Section 794) (24 CFR Parts 8-9), and the Americans with Disabilities Act of 1990 (42 U.S.C. 12131; 47 U.S.C. 155, 201, 218, and 225), prohibits Contractors from excluding or denying individuals benefits or participation in this project on the basis of race, color, religion, national origin, sex, or disability. The provisions require that no person in the United States shall on the ground of race. color, religion, national origin, sex, or disability be excluded from participation in, be denied the benefits of, or be subjected to discrimination under any program or activity funded in whole or in part with community development funds made available pursuant to these Acts.

For purposes of this Part "program or activity" is defined as any function conducted by an identifiable administrative unit of the recipient, or private Contractor receiving community development funds or loans from the recipient. "Funded in whole or in part with community development funds" means that community development finds in any amount in the form of grants or proceeds from HUD guaranteed loans have been transferred by the recipient or a subrecipient to an identifiable administrative unit and disbursed in a program or activity. A Contractor may not, under any program or activity to which the regulations of this Part may apply directly or through contractual or other arrangements, on the grounds of race, color, national origin, or sex:

a. Deny any facilities, services, financial aid or other benefits provided under the program or activity;

b. Provide any facilities, services, financial aid or other benefits, which are different, or are provided in a different form from that provided to others under the program or activity;

c. Subject to segregated or separate treatment in any facility in, or in any matter of process related to receipt of any service or benefit under the program or activity;

d. Restrict in any way access to, or in the enjoyment of any advantage or privilege enjoyed by others in connection with facilities, services, financial aid or other benefits under the program or activity;

e. Treat an individual differently from others in determining whether the individual satisfies any admission, enrollment, eligibility, membership, or other requirement or condition which the individual must meet in order to be provided any facilities, services or other benefit provided under the program or activity; and

f. Deny an opportunity to participate in a program or activity as an employee.

CLEAN AIR ACT (2 CFR Appendix II to Part 200 (G))
Pursuant to 2 CFR Appendix II to Part 200 (G), if at any time during the contract term funding to contract exceeds $150,000, the Contractor must comply with all provisions of the Clean Air Act (42 U.S.C. 85) and Section 308 of the Federal Water Pollution Control Act (33 U.S.C. 1251-1387), as amended. Contractors securing a contract in excess of $150,000.00 shall not expend such funds by making use of subcontracting with facilities included on the Environmental Protection Agency List of Violating Facilities as per Section 306 of the Clean Air Act, Section 508 of The Clean Water Act, Executive Order 11738, and Environmental Protection Agency Regulations 40 CFR.
For any subcontractors under this contract receiving contracts in excess of $150,000 Contractor is required to include a provision that requires compliance with all applicable standards, orders or regulations issued pursuant to the Clean Air Act (42 U.S.C. 85) and Section 308 Federal Water Pollution Control Act as amended (33 U.S.C. 1251-1387). Violations shall be reported to the Federal awarding agency and the Regional Office of the Environmental Protection Agency (EPA).

CONTRACT WORK HOURS AND SAFETY STANDARDS ACT (2 CFR Appendix II to Part 200 (E))
Pursuant to 2 CFR 200 Appendix II (E), if at any time during the contract term funding to contract exceeds $100,000, the Contractor must comply with the Contract Work Hours and Safety Standards Act (40 U.S.C. 3701-3708). Where

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applicable, all contracts awarded in excess of $100,000 that involve the employment of mechanics or laborers must include a provision for compliance with 40 U.S.C. 3702 and 3704, as supplemented by Department of Labor regulations (29 CFR Part 5). Under 40 U.S.C. 3702 of the Act, each contractor must be required to compute the wages of every mechanic and laborer on the basis of a standard work week of 40 hours. Work in excess of the standard work week is permissible provided that the worker is compensated at a rate of not less than one and a half times the basic rate of pay for all hours worked in excess of 40 hours in the work week. The requirements of 40 U.S.C. 3704 are applicable to construction work and provide that no laborer or mechanic must be required to work in surroundings or under working conditions which are unsanitary, hazardous or dangerous. These requirements do not apply to the purchases of supplies or materials or articles ordinarily available on the open market, or contracts for transportation or transmission of intelligence

(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.

(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 therefore 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 of $10 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.

(3) Withholding for unpaid wages and liquidated damages. The (write in the name of the Federal agency or the loan or grant recipient) 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.

(4) Subcontracts. The contractor or subcontractor shall insert in any subcontracts the clauses set forth in paragraph (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.

COPELAND "ANTI-KICKBACK" ACT (40 U.S.C. 3145)

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Pursuant to 2 CFR Appendix II to Part 200 (D), Contractor must comply with the provisions of the Copeland "Anti-Kickback" Act (40 U.S.C. 3145), as supplemented by Department of Labor regulations (29 CFR Part 3, "Contractors and Subcontractors on Public Building or Public Work Financed in Whole or in Part by Loans or Grants from the United States"). The Act provides that each vendor, contractor, subcontractor, or subrecipient shall be prohibited from inducing, by any means, any person employed in the construction, completion, or repair of public work, to give up any part of the compensation to which he or she is otherwise entitled. Contractor shall include this provision in all contracts between itself and any subcontractors in connection with the services performed under this Contract. Galveston County shall report all suspected or reported violations to the Federal awarding agency.

COST PLUS CONTRACTING PROHIBITED (2 CFR 200.323(D))

Cost-plus-a-percentage-of-cost (CPPC) contracts are prohibited by 2 CFR 200.323(d). The cost plus a percentage of cost and percentage of construction cost methods of contracting must never be used, including in subcontracts and third-party contracts. A cost-plus contract is one that is structured to pay the contractor or subcontractor their actual costs incurred, plus a fixed percent for profit or overhead.

A cost-plus-a-percentage-of-cost (CPPC) contract is a contract containing some element that obligates Galveston County or Contractor to pay a contractor or subcontractor an amount (in the form of either profit or cost), undetermined at the time the contract was made, to be incurred in the future, and based on a percentage of future costs. The inclusion of an overall contract ceiling price does not make these forms of contracts acceptable.
This type of contract is prohibited because there is no incentive for the contractor or subcontractor to keep its incurred costs low. Instead, there is a reverse incentive for the contractor or subcontractor to continue to incur additional costs in order to continue to drive the percentage of cost up. In other words, increased spending by the contractor will yield higher profits. This prohibition applies to all work, regardless of the circumstances, and applies to subcontracts of the contractor cases where the prime contract is a cost-reimbursement type contract or subject to price redetermination.

DAVIS BACON AND RELATED ACTS (2 CFR 200 APPENDIX II (D))

Pursuant to 2 CFR 200 Appendix II (D), for any contract in excess of $2,000, Contractor must comply with the Davis Bacon and Related Acts, and the requirements shall be applicable to any labor or mechanic work completed in connection with this contract which fall under the Davis Bacon Act. Any Contractor awarded under this contract is required to comply with the Davis Bacon Act (40 U.S.C. 3141-3144, and 3146-3148) as supplemented by Department of Labor regulations (29 CFR part 5) and with the Copeland "Anti-Kickback" Act (18 U.S.C. 874; 40 U.S.C. 3145) as supplemented in Department of Labor regulations (29 CFR part 3). In accordance with the statute, Contractors are required to pay wages to laborers and mechanics at a rate not less than the prevailing wages specified in a wage determination made by the Secretary of Labor. In addition, contractors must be required to pay wages not less than once a week.

If Davis Bacon is applicable, Galveston County will provide a copy of the current Davis Bacon Wage Decision with the solicitation. The decision to award a contract or subcontract shall be conditioned upon the acceptance of the wage determination. Contractor shall submit certified payroll of contractor and all subcontractors on a weekly basis in the format required by the County. At County's request, Contractor shall make available and shall require its subcontractors to make available, copies of cancelled checks and check stubs for comparisons by the County or its agents.

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 Part 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 29 CFR Part 5.5(a)(1)(ii)) 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.

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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. The Statement of Compliance can be found on page 2 of the WH-347 form, and/or additional certifications of compliance may be required by Galveston County. Any Statement of Compliance is subject to the penalties provided by 18 U.S.C. § 1001, namely, a fine, possible imprisonment of not more than 5 years, or both. Accordingly, the party signing the statement should have knowledge of the facts represented as true. Contractor must include this provision in all contracts between itself and any subcontractors in connection with the services performed under this Contract. Galveston County shall report all suspected or reported violations to the Federal awarding agency, as applicable.

DEBARMENT / SUSPENSION AND VOLUNTARY EXCLUSION (2 CFR Appendix II to Part 200 (I))
Pursuant to 2 CFR Appendix II to Part 200 (I), a Contract meeting the definition in 2 C.F.R. § 180.220 must not be made to parties listed on the System for Award Management (SAM) Exclusion lists, in accordance with the OMB guidelines at 2 CFR 180 that implement Executive Orders 12549 (3 CFR part 1986 Comp., p. 189) and 12689 (3 CFR part 1989 Comp., p. 235), "Debarment and Suspension." SAM Exclusions contains the names of parties debarred, suspended, or otherwise excluded by agencies, as well as parties declared ineligible under statutory or regulatory authority other than Executive Order 12549.

Pursuant to Executive Orders 12549 and 12689, a contract award shall not be made to parties listed on the government-wide exclusions in the System for Award Management (SAM), in accordance with the OMB guidelines at 2 CFR 180 that implement Executive Orders 12549 (3 CFR part 1986 Comp., p. 189) and 12689 (3 CFR part 1989 Comp., p. 235). SAM Exclusions contains the names of parties debarred, suspended, or otherwise excluded by agencies, as well as parties declared ineligible under statutory or regulatory authority other than Executive Order 12549. A contract award must not be made to parties listed in the SAM Exclusions. SAM exclusions can be accessed at www.sam.gov.

Additionally, no contracts shall be awarded to any Contractor that has been debarred, suspended, or otherwise excluded from or ineligible for participation in any federal programs, including but not limited to the Department of Health and Human Work (DHHS), Office of Inspector General (OIG) - List of Excluded Individuals & Entities (LEIE); U.S. General Services Administration (GSA) – Excluded Parties List System (EPLS); All States (50) Health & Human Work Commission Medicaid OIG Sanction List; Government Terrorist Watch List (OFAC / Patriot Act); Department of Commerce, Bureau of Industry and Security, Denied Persons List; and Department of Homeland Security, Immigration and Customs Enforcement (ICE) Most Wanted.

This contract is a covered transaction for purposes of compliance with Title 2 C.F.R. parts 180 and 3000, and as such the Contractor is required to verify that none of the contractor, its principals (as defined at 2 C.F.R. § 180.995), or its affiliates (as defined at 2 C.F.R. § 180.905) are excluded (as defined at 2 C.F.R. § 180.940) or disqualified (as defined at 2 C.F.R. § 180.935). These regulations restrict awards, subawards, and contracts with certain parties that are debarred, suspended, or otherwise excluded from or ineligible for participation in Federal assistance programs and activities (See 2 C.F.R Part 200, Appendix II). The Contractor must comply with 2 C.F.R. part 180, subpart C and 2 C.F.R. part 3000, subpart C and shall include this requirement and similar certification in all contracts between itself and any subcontractors in connection with the services performed under this Contract.

The Contractor confirms that it is eligible or otherwise not disqualified or prohibited from participation in federal or state assistance programs under Executive Order 12549, Debarment and Suspension. Additionally, the Contractor warrants that it is not debarred, suspended, or otherwise excluded from or ineligible for participation in any federal programs, including but not limited to the following: Department of Health and Human Work (DHHS), Office of Inspector General (OIG) - List of Excluded Individuals & Entities (LEIE); U.S. General Services Administration (GSA) – Excluded Parties List System (EPLS); All States (50) Health & Human Work Commission Medicaid OIG

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Sanction List: Government Terrorist Watch List (OFAC - Patriot Act); Department of Commerce. Bureau of Industry and Security, Denied Persons List; and Department of Homeland Security, Immigration and Customs Enforcement (ICE) Most Wanted. Galveston County reserves the right to verify any contractor's status and document instances of debarment, suspension, or other ineligibility.

Contractor shall verify that all subcontractors performing work under this Contract are not debarred, disqualified, or otherwise prohibited from participation in accordance with the requirements above. The Contractor further must notify Galveston County in writing immediately if Contractor or its subcontractors are not in compliance with Executive Order 12549 during the term of this contract. Contractor shall include this provision in all contracts between itself and any subcontractors in connection with the services performed under this Contract.

If it is found that the Contractor did not comply or is not in compliance with Executive Order 12549 (2 C.F.R. part 180, subpart C and 2 C.F.R. part 3000, subpart C), the Contractor may be subject to available remedies, including but not limited to, refunding Galveston County for any payments made to the Contractor while ineligible, and also acknowledges that the Federal Government may pursue available remedies, including but not limited to suspension and/or debarment.

EQUAL EMPLOYMENT OPPORTUNITY (41 CFR 60-1.4(b) and 2 CFR 200 APPENDIX II (C))
Contractor must comply with, and incorporate or cause to be incorporated into any contract for construction work, or modification thereof, the Equal Employment Opportunity provisions as follows:
During the performance of this contract, the contractor agrees as follows:

1. The contractor will not discriminate against any employee or applicant for employment because of race, color, religion, sex, sexual orientation, gender identity, or national origin. The contractor will take affirmative action to ensure that applicants are employed, and that employees are treated during employment without regard to their race, color, religion, sex, sexual orientation, gender identity, or national origin. Such action shall include, but not be limited to the following:

   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. The contractor agrees to post in conspicuous places, available to employees and applicants for employment, notices to be provided setting forth the provisions of this nondiscrimination clause.

2. The contractor will, in all solicitations or advertisements for employees placed by or on behalf of the contractor, state that all qualified applicants will receive consideration for employment without regard to race, color, religion, sex, sexual orientation, gender identity, or national origin.

3. The contractor will not discharge or in any other manner discriminate against any employee or applicant for employment because such employee or applicant has inquired about, discussed, or disclosed the compensation of the employee or applicant or another employee or applicant. This provision shall not apply to instances in which an employee who has access to the compensation information of other employees or applicants as a part of such employee's essential job functions discloses the compensation of such other employees or applicants to individuals who do not otherwise have access to such information, unless such disclosure is in response to a formal complaint or charge, in furtherance of an investigation, proceeding, hearing, or action, including an investigation conducted by the employer, or is consistent with the contractor's legal duty to furnish information.

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4. The contractor will send to each labor union or representative of workers with which he has a collective bargaining agreement or other contract or understanding, a notice to be provided advising the said labor union or workers' representatives of the contractor's commitments under this section and shall post copies of the notice in conspicuous places available to employees and applicants for employment.

5. The contractor will comply with all provisions of Executive Order 11246 of September 24, 1965, and of the rules, regulations, and relevant orders of the Secretary of Labor.

6. The contractor will furnish all information and reports required by Executive Order 11246 of September 24, 1965. and by rules. regulations. and orders of the Secretary of Labor, or pursuant thereto, and will permit access to his books, records, and accounts by the administering agency and the Secretary of Labor for purposes of investigation to ascertain compliance with such rules, regulations, and orders.

7. In the event of the contractor's noncompliance with the nondiscrimination clauses of this contract or with any of the said rules, regulations, or orders, this contract may be canceled, terminated, or suspended in whole or in part and the contractor may be declared ineligible for further Government contracts or federally assisted construction contracts in accordance with procedures authorized in Executive Order 11246 of September 24, 1965, and such other sanctions may be imposed and remedies invoked as provided in Executive Order 11246 of September 24, 1965, or by rule, regulation, or order of the Secretary of Labor, or as otherwise provided by law.

8. The contractor will include the portion of the sentence immediately preceding paragraph (1) and the provisions of paragraphs (1) through (8) in every subcontract or purchase order unless exempted by rules, regulations, or orders of the Secretary of Labor issued pursuant to section 204 of Executive Order 11246 of September 24, 1965, so that such provisions will be binding upon each subcontractor or vendor. The contractor will take such action with respect to any subcontract or purchase order as the administering agency may direct as a means of enforcing such provisions, including sanctions for noncompliance:

Provided, however, that in the event a contractor becomes involved in, or is threatened with, litigation with a subcontractor or vendor as a result of such direction by the administering agency, the contractor may request the United States to enter into such litigation to protect the interests of the United States.

The Contractor further agrees that it will be bound by the above equal opportunity clause with respect to its own employment practices when it participates in federally assisted construction work: Provided, That if the applicant so participating is a State or local government, the above equal opportunity clause is not applicable to any agency, instrumentality or subdivision of such government which does not participate in work on or under the contract.

The Contractor agrees that it will assist and cooperate actively with the administering agency and the Secretary of Labor in obtaining the compliance of contractors and subcontractors with the equal opportunity clause and the rules, regulations, and relevant orders of the Secretary of Labor, that it will furnish the administering agency and the Secretary of Labor such information as they may require for the supervision of such compliance, and that it will otherwise assist the administering agency in the discharge of the agency's primary responsibility for securing compliance.

The Contractor further agrees that it will refrain from entering into any contract or contract modification subject to Executive Order 11246 of September 24, 1965, with a contractor debarred from, or who has not demonstrated eligibility for, Government contracts and federally assisted construction contracts pursuant to the Executive Order and will carry out such sanctions and penalties for violation of the equal opportunity clause as may be imposed upon

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contractors and subcontractors by the administering agency or the Secretary of Labor pursuant to Part II, Subpart D of the Executive Order. In addition, the Contractor agrees that if it fails or refuses to comply with these undertakings, the administering agency may take any or all of the following actions: Cancel, terminate, or suspend in whole or in part this grant (contract, loan, insurance, guarantee); refrain from extending any further assistance to the Contractor under the program with respect to which the failure or refund occurred until satisfactory assurance of future compliance has been received from such Contractor; and refer the case to the Department of Justice for appropriate legal proceedings. Contractor must include the equal opportunity clause in each of its nonexempt subcontracts, and to require all non-exempt subcontractors to include the equal opportunity clause in each of its nonexempt subcontracts.

EQUAL EMPLOYMENT OPPORTUNITY FOR WORKERS WITH DISABILITIES (48 CFR 52.22236)
During the performance of this contract, the Contractor must comply with required Equal Employment Opportunity for Workers with Disabilities provisions.

Contractor shall include the following equal opportunity clause in each of its covered Government contracts or subcontracts (and modifications, renewals, or extensions thereof if not included in the original contract):

a. Equal opportunity clause. The Contractor shall abide by the requirements of the equal opportunity clause at 41 CFR 60-741.5(a), as of March 24, 2014. This clause prohibits discrimination against qualified individuals on the basis of disability and requires affirmative action by the Contractor to employ and advance in employment qualified individuals with disabilities.

b. Subcontracts. The Contractor shall include the terms of this clause in every subcontract or purchase order in excess of $15,000 unless exempted by rules, regulations, or orders of the Secretary, so that such provisions will be binding upon each subcontractor or vendor. The Contractor shall act as specified by the Director, Office of Federal Contract Compliance Programs of the U.S. Department of Labor, to enforce the terms, including action for noncompliance. Such necessary changes in language may be made as shall be appropriate to identify properly the parties and their undertakings.

EQUAL EMPLOYMENT OPPORTUNITY FOR VEVRAA PROTECTED VETERANS (41 CFR 60.300)
Galveston County is an equal opportunity employer of protected veterans. During the performance of this contract, the Contractor must comply with required Equal Employment Opportunity for VEVRAA Protected Veterans provisions. Contractor shall include the following equal opportunity clause in each of its covered Government contracts or subcontracts (and modifications, renewals, or extensions thereof if not included in the original contract):

a. The definitions set forth in 41 CFR 60-300.2 apply to the terms used throughout this Clause, and they are incorporated herein by reference.

b. The contractor shall not discriminate against any employee or applicant for employment because he or she is a disabled veteran, recently separated veteran, active-duty wartime or campaign badge veteran, or Armed Forces service medal veteran (hereinafter collectively referred to as "protected veteran(s)") in regard to any position for which the employee or applicant for employment is qualified. The contractor agrees to take affirmative action to employ, advance in employment and otherwise treat qualified individuals without discrimination based on their status as a protected veteran in all employment practices, including the following:

    i Recruitment, advertising, and job application procedures.

    ii Hiring, upgrading, promotion, award of tenure, demotion, transfer, layoff, termination, right of return from layoff and rehiring.

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iii Rates of pay or any other form of compensation and changes in compensation.

iv Job assignments, job classifications, organizational structures, position descriptions, lines of progression, and seniority lists.

v Leaves of absence, sick leave, or any other leave.

viFringe benefits available by virtue of employment, whether or not administered by the contractor.

vii Selection and financial support for training, including apprenticeship, and on-the-job training under 38 U.S.C. 3687, professional meetings, conferences, and other related activities, and selection for leaves of absence to pursue training.

viii Activities sponsored by the contractor including social or recreational programs.

ix Any other term, condition, or privilege of employment.

c. The contractor shall immediately list all employment openings which exist at the time of the execution of this contract and those which occur during the performance of this contract, including those not generated by this contract and including those occurring at an establishment of the contractor other than the one where the contract is being performed, but excluding those of independently operated corporate affiliates, with the appropriate employment service delivery system where the opening occurs. Listing employment openings with the state workforce agency job bank or with the local employment service delivery system where the opening occurs will satisfy the requirement to list jobs with the appropriate employment service delivery system. In order to satisfy the listing requirement described herein, contractors must provide information about the job vacancy in any manner and format permitted by the appropriate employment service delivery system which will allow that system to provide priority referral of veterans protected by VEVRAA for that job vacancy. Providing information on employment openings to a privately run job service or exchange will satisfy the contractor's listing obligation if the privately run job service or exchange provides the information to the appropriate employment service delivery system in any manner and format that the employment service delivery system permits which will allow that system to provide priority referral of protected veterans.

d. Listing of employment openings with the appropriate employment service delivery system pursuant to this clause shall be made at least concurrently with the use of any other recruitment source or effort and shall involve the normal obligations which attach to the placing of a bona fide job order, including the acceptance of referrals of veterans and nonveterans. The listing of employment openings does not require the hiring of any particular job applicants or from any particular group of job applicants, and nothing herein is intended to relieve the contractor from any requirements in Executive orders or regulations regarding nondiscrimination in employment.

e. Whenever a contractor, other than a state or local governmental contractor, becomes contractually bound to the listing provisions in paragraphs 2 and 3 of this clause, it shall advise the employment service delivery system in each state where it has establishments that: (a) It is a Federal contractor, so that the employment service delivery systems are able to identify them as such; and (b) it desires priority referrals from the state of protected veterans for job openings at all locations within the state. The contractor shall also

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provide to the employment service delivery system the name and location of each hiring location within the state and the contact information for the contractor official responsible for hiring at each location. The "contractor official" may be a chief hiring official, a Human Resources contact, a senior management contact. or any other manager for the contractor that can verify the information set forth in the job listing and receive priority referrals from employment service delivery systems. In the event that the contractor uses any external job search organizations to assist in its hiring, the contractor shall also provide to the employment service delivery system the contact information for the job search organization(s). The disclosures required by this paragraph shall be made simultaneously with the contractor's first job listing at each employment service delivery system location after the effective date of this final rule. Should any of the information in the disclosures change since it was last reported to the employment service delivery system location, the contractor shall provide updated information simultaneously with its next job listing. As long as the contractor is contractually bound to these provisions and has so advised the employment service delivery system, there is no need to advise the employment service delivery system of subsequent contracts. The contractor may advise the employment service delivery system when it is no longer bound by this contract clause.

f. The provisions of paragraphs 2 and 3 of this clause do not apply to the listing of employment openings which occur and are filled outside of the 50 states, the District of Columbia, the Commonwealth of Puerto Rico, Guam, the Virgin Islands, American Samoa, the Commonwealth of the Northern Mariana Islands, Wake Island, and the Trust Territories of the Pacific Islands.

g. As used in this clause:

i. All employment openings include all positions except executive and senior management, those positions that will be filled from within the contractor's organization, and positions lasting three days or less. This term includes full-time employment, temporary employment of more than three days' duration, and part-time employment.

ii. Executive and senior management means: (1) Any employee (a) compensated on a salary basis at a rate of not less than $455 per week (or $380 per week, if employed in American Samoa by employers other than the Federal Government), exclusive of board, lodging or other facilities; (b) whose primary duty is management of the enterprise in which the employee is employed or of a customarily recognized department or subdivision thereof; (c) who customarily and regularly directs the work of two or more other employees; and (d) who has the authority to hire or fire other employees or whose suggestions and recommendations as to the hiring, firing, advancement, promotion or any other change of status of other employees are given particular weight; or (2) any employee who owns at least a bona fide 20-percent equity interest in the enterprise in which the employee is employed, regardless of whether the business is a corporate or other type of organization, and who is actively engaged in its management.

iii. Positions that will be filled from within the contractor's organization means employment openings for which no consideration will be given to persons outside the contractor's organization (including any affiliates, subsidiaries, and parent companies) and includes any openings which the contractor proposes to fill from regularly established "recall" lists. The exception does not apply to a particular opening once an employer decides to consider applicants outside of his or her own organization.

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h. The contractor shall comply with the rules, regulations, and relevant orders of the Secretary of Labor issued pursuant to the Act.

i. In the event of the contractor's noncompliance with the requirements of this clause, actions for noncompliance may be taken in accordance with the rules, regulations, and relevant orders of the Secretary of Labor issued pursuant to the Act.

j. The contractor agrees to post in conspicuous places, available to employees and applicants for employment, notices in a form to be prescribed by the Director, Office of Federal Contract Compliance Programs, provided by or through the contracting officer. Such notices shall state the rights of applicants and employees as well as the contractor's obligation under the law to take affirmative action to employ and advance in employment qualified employees and applicants who are protected veterans. The contractor must ensure that applicants or employees who are disabled veterans are provided the notice in a form that is accessible and understandable to the disabled veteran (e.g., providing Braille or large print versions of the notice, posting the notice for visual accessibility to persons in wheelchairs, providing the notice electronically or on computer disc, or other versions). With respect to employees who do not work at a physical location of the contractor, a contractor will satisfy its posting obligations by posting such notices in an electronic format, provided that the contractor provides computers that can access the electronic posting to such employees, or the contractor has actual knowledge that such employees otherwise are able to access the electronically posted notices. Electronic notices for employees must be posted in a conspicuous location and format on the company's intranet or sent by electronic mail to employees. An electronic posting must be used by the contractor to notify job applicants of their rights if the contractor utilizes an electronic application process. Such electronic applicant notice must be conspicuously stored with, or as part of, the electronic application.

k. The contractor will notify each labor organization or representative of workers with which it has a collective bargaining agreement or other contract understanding that the contractor is bound by the terms of VEVRAA and is committed to take affirmative action to employ and advance in employment, and shall not discriminate against, protected veterans.

l. The contractor will include the provisions of this clause in every subcontract or purchase order of $100,000 or more, unless exempted by the rules, regulations, or orders of the Secretary issued pursuant to VEVRAA so that such provisions will be binding upon each subcontractor or vendor. The contractor will take such action with respect to any subcontract or purchase order as the Director, Office of Federal Contract Compliance Programs, may direct to enforce such provisions, including action for noncompliance.

m. The contractor must, in all solicitations or advertisements for employees placed by or on behalf of the contractor, state that all qualified applicants will receive consideration for employment without regard to their protected veteran status.

n. The Contractor shall forfeit as a penalty to the County who administers the subject Project receiving Federal assistance, Sixty Dollars ($60.00) for each worker, employed for each calendar day, or a portion thereof, such worker is paid less than the said stipulated rates for any work done under this Project, by him/her or by any contractor under him/her.

o. All contractors shall keep, or cause to be kept, an accurate record showing the names of all workers, also the actual per diem wages paid to each of such workers.

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FAIR LABOR STANDARDS ACT

Contractor must comply the Fair Labor Standards Act of 1938 (29 U.S.C. Section 201 et seq.) as now or hereafter amended, which regulates wage, hour and other employment practices that govern the use of funds provided and the employment of personnel under this contract. The Contractor warrants that it will pay all its workers all monies earned by its workers including, but not limited to regular wages, any overtime compensation, or any additional payments pursuant to the Fair Labor Standards Act, 29 United States Code (U.S.C.) Section 207 9a(1), as amended; the Texas Pay Day Act; the Equal Pay Act; Title VII of the Civil Rights Act of 1964, 42 U.S.C. Section 2000, et al., as amended; or any provisions of the Texas Labor Code Ann., as amended.

FLOOD DISASTER PROTECTION ACT OF 1973 (24 CFR 570.605)

Contractor must comply with the provisions in 24 CFR 570.605, Section 202(a) of the Flood Disaster Protection Act of 1973 (42 U.S.C. 4106), and the regulations in 44 CFR Parts 59-79.

GREEN BUILDING STANDARDS

At a minimum, Contractors and subcontractors must comply with local codes and any applicable national building codes for any work involving rehabilitation or construction, including design. When a contract is funded, in whole or in part, by HUD funding, Contractors must comply with applicable Green Building standards to the maximum extent feasible. Green Building standards may apply to single-family properties, multifamily properties, or both and may include, but are not limited to best practices defined under LEED, Enterprise Green Communities, or NAHB National Green Building Standards and may include specific measures for water conservation, energy efficiency, and indoor air quality. Contractor and subcontractors must comply with the following standards, as applicable:

- 2009 ICC International Energy Conservation Code (IECC)
- ASHRAE 90.1-2007, which sets minimum energy standards for buildings except low-rise residential buildings
- ASHRAE 62.1-2010 and 62.2-2010, which set minimum standards for ventilation for indoor air quality for common areas in mid- and high-rise buildings, and low-rise residential buildings, respectively.
- New or replacement residential housing, when funded by CDBG-DR grants, must adhere to Green Building standards, including Energy Star Certified Homes or Energy Star for Multifamily High Rise and other applicable green building requirements.
- Moderate residential housing rehabilitation, when funded by CDBG-DR grants, must comply with the Community Planning & Development (CPD) Retrofit Checklist and provide Energy Star appliances, Water Sense or FEMP products if replaced.
- New or replacement residential housing, when funded by CDBG-DR grants, must adhere to Green Building standards, including Energy Star Certified Homes or Energy Star for Multifamily High Rise and other applicable green building requirements.

HOLD HARMLESS AGREEMENT

Contractor shall indemnify, defend, and hold harmless Galveston County from all claims for personal injury, death and/or property damage resulting directly or indirectly from contractor's performance. Contractor shall procure and maintain, with respect to the subject matter of this Request for Proposals, appropriate insurance coverage including, at a minimum, public liability and property damage with adequate limits to cover contractor's liability as may arise directly or indirectly from work performed under terms of this Request for Proposals. Certification of such coverage must be provided to the County upon request.

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The Federal Government is not a party to this contract and is not subject to any obligations or liabilities to the non-Federal entity, contractor, or any other party pertaining to any matter resulting from the contract.

LEAD-BASED PAINT (24 CFR 570.608)
Contractor and subcontractors must comply with the provisions found in 24 CFR 570.608, the Lead-Based Paint Poisoning Prevention Act (42 U.S.C. 4821-4846), the Residential Lead Based Paint Hazard Reduction Act of 1992 (U.S.C. 4851-4856, and 24 CFR Part 35, subparts A, B, J, K, and R. This Article 2(f) is to be included in all subcontracts, for work in connection with this Contract. which relate to residential structures.

NON-COLLUSION (The Sherman Act)
Contractor must comply with the requirements of The Sherman Act, which prohibit collusion. Collusion occurs when two persons or representatives of an entity or organization make an agreement to deceive or mislead another. Such agreements are usually secretive and involve fraud or gaining an unfair advantage over a third party, competitors, consumers or others with whom they are negotiating. The collusion, therefore, makes the bargaining process inherently unfair. Collusion can involve promises of future benefits, price or wage fixing, kickbacks, or misrepresenting the independence of the relationship between the colluding parties.

The Sherman Act prohibits any agreement among competitors to fix prices, rig bids, or engage in other anticompetitive activity. Collusion, bid rigging, or other anticompetitive activity is considered a felony. Contractor shall not in any way, directly or indirectly:

a. Collude, conspire, or agree with any other person, firm, corporation, Proposer or potential Proposer to the amount of this Bid or the terms or conditions of this Bid.

b. Pay or agree to pay any other person, firm, corporation Proposer or potential Proposer any money or anything of value in return for assistance in procuring or attempting to procure a contract or in return for establishing the prices in the attached Bid or the Bid of any other Proposer.

c. Assemble in coordination with any other organization in an attempt to fix the price of the work.

Contractors are expected to report any suspected fraud, collusion, or impropriety from the inception of solicitation through the end of the contract term.

NON-SEGREGATED FACILITIES
"Prohibition of Segregated Facilities"

a. Segregated facilities means any waiting rooms, work areas, rest rooms and wash rooms, restaurants and other eating areas, time clocks, locker rooms and other storage or dressing areas, parking lots, drinking fountains, recreation or entertainment areas, transportation, and housing facilities provided for employees, that are segregated by explicit directive or are in fact segregated on the basis of race, color, religion, sex, sexual orientation, gender identity, or national origin because of written or oral policies or employee custom. The term does not include separate or single-user rest rooms or necessary dressing or sleeping areas provided to assure privacy between the sexes.

   Sexual orientation has the meaning given by the Department of Labor's Office of Federal Contract Compliance Programs and is found at www.dol.gov/ofccp/LGBT/LGBT_FAQs.html.

b. The Contractor agrees that it does not and will not maintain or provide for its employees any segregated facilities at any of its establishments, and that it does not and will not permit its employees to perform their services at any

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location under its control where segregated facilities are maintained. The Contractor agrees that a breach of this clause is a violation of the Equal Opportunity clause in this contract.

c. The Contractor shall include this clause in every subcontract and purchase order that is subject to the Equal Opportunity clause of this contract.

PARTICIPATION BY MINORITY & WOMEN-OWNED BUSINESS ENTERPRISES (2 CFR 200.321)
Contractor must comply with the Minority and Women-owned Business Enterprise participation requirements under 2 CFR 200.321. Contractors must take all affirmative steps necessary to subcontract with Minority and Women-owned Business Enterprises (MWBEs) to assure that MWBEs are used when possible. These affirmative steps shall include:

A. Placing qualified small and minority businesses and women's business enterprises on solicitation lists;
B. Assuring that small and minority businesses, and women's business enterprises are solicited whenever they are potential sources;

C. Dividing total requirements, when economically feasible, into smaller tasks or quantities to permit maximum participation by small and minority businesses, and women's business enterprises;

D. Establishing delivery schedules, where the requirement permits, which encourage participation by small and minority businesses, and women's business enterprises; and

E. Using the services and assistance, as appropriate, of such organizations as the Small Business Administration and the Minority Business Development Agency of the Department of Commerce.

The State of Texas maintains a Historically Underutilized Business Program, which identifies any business at least 51 percent owned by an Asian Pacific American, Black American, Hispanic American, Native American, American woman and/or Service-Disabled Veteran, who resides in Texas and actively participate in the control, operations and management of the entity's affairs as a Historically Underutilized Business (also considered MWBE). Contractors who wish to check the status of a firm may visit https://comptroller.texas.gov/purchasing/vendor/hub/.

Contractors and subcontractors are required to facilitate Minority & Women-Owned Business Enterprise participation. Contractors are encouraged to utilize MWBEs / HUB firms as subcontractors, subconsultants, or suppliers in order to comply with the requirements and may check for firms who perform relevant work by searching https://comptroller.texas.gov/purchasing/vendor/hub/.

Contractor and subcontractors must facilitate Minority & Women-Owned Business Enterprise participation and take all affirmative steps to utilize MWBEs / HUB firms as subcontractors, subconsultants, or suppliers throughout the life of the Contract.

POTENTIAL CONFLICTS OF INTEREST
Pursuant to 2 CFR 200.112, Contractor must comply with disclosure requirements in accordance with Texas Local Government Code, Chapter 176. Contractor shall not use funds to directly or indirectly pay any person for influencing or attempting to influence any public employee or official in connection with the awarding of any contract or the extension, continuation, renewal, amendment or modification of any contract. By law, the Conflict of Interest Questionnaire (provided by the Texas Ethics Commission at www.ethics.state.tx.us) must be filed with the records

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administrator of the local governmental entity not later than the 7th business day after the date the Contractor becomes aware of facts that require the statement to be filed.

This law requires persons desiring to do business with the County to disclose any gifts valued in excess of $250 given to any County Official or the County Official's family member, or employment of any County Official or the County Official's family member during the preceding twelve (12) month period. The disclosure questionnaire must be filed with the Galveston County Clerk. Refer to Texas Local Government Code, Chapter 176 for the details of this law.

An outside consultant or contractor is prohibited from submitting a bid for services on a Galveston County project of which the consultant or contractor was a designer or other previous contributor, or was an affiliate, subsidiary, joint venture or was in any other manner associated by ownership to any party that was a designer or other previous contributor. If such a consultant or contractor submits a prohibited bid, that bid shall be disqualified on the basis of conflict of interest, no matter when the conflict is discovered by Galveston County.

PREVAILING WAGES (2 CFR 200 APPENDIX II (D) and TGC 2258)
Pursuant to 2 CFR 200 Appendix II (D), Contractor must comply with Texas Government Code (TGC) 2258, Prevailing Wage Rates. Accordingly, Contractor must submit a certified payroll records as required, and compensate any worker employed on a public works project not less than as applicable. As noted under "Davis Bacon and Related Acts", when required by Federal program legislation, construction contracts in excess of $2,000 awarded by Galveston County shall require compliance with the Davis-Bacon Act (40 U.S.C. 3141-3144, and 3146-3148) as supplemented by Department of Labor regulations (29 CFR Part 5, "Labor Standards Provisions Applicable to Contracts Covering Federally Financed and Assisted Construction"). In accordance with the statute, Contractor must pay wages to laborers and mechanics at a rate not less than the local prevailing wages, or Davis Bacon wages, as applicable. If both Texas prevailing wages and Davis Bacon provide rates for a particular class, Contractors must pay the greater wage rate. In addition, Contractor must pay wages not less than once a week.

In compliance with Section 2258 of the Texas Government Code, Contractor and any subcontractor hired by Contractor for the construction of any project, shall pay not less than the rates set forth in the Schedule of Prevailing Wages attached and incorporated by reference. In submitting a Bid, Contractor warrants that it and its subcontractors shall comply with all requirements and worker ratios per the applicable Schedule of Prevailing Wages and Texas state law.

Contractor must submit certified payroll of contractor and all subcontractors on a weekly basis. At County's request, Contractor must make available and shall require its subcontractors to make available, copies of cancelled checks and check stubs for comparisons by the County or its agents. Regardless of whether Davis Bacon or Texas Prevailing Wages apply, the County reserves the right for its agents to visit the project site and to interview contractor, its subcontractors and employees of each on any date or time, as often as desired during the construction period, without prior notification.

Galveston County will ascertain if proper wage rates are being paid to the employees as required. In the event of a discrepancy between the work performed and the wages paid, the County shall document same and notify Contractor. If, for any length of time and as determined by Galveston County, discrepancies appear between the certified payrolls and the actual wage paid, the County shall require check stubs to be attached to each weekly certified payroll. Pursuant to Texas Government Code Section 2258.051, the County reserves the right to withhold any monies due Contractor until such discrepancy is resolved and the necessary adjustment made. The Contractor shall forfeit as a penalty, in accordance with Texas Government Code Section 2258.023(b), to the County or entity who administers the subject Project receiving Federal assistance, Sixty Dollars ($60.00) for each worker, employed for each calendar day, or a portion thereof, such worker is paid less than the said stipulated rates for any work done under this Project, by him/her or by any contractor/subcontractor under him/her.

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All contractor/subcontractor shall keep, or cause to be kept, an accurate record showing the names of all workers, also the actual per diem wages paid to each of such workers. Contractor shall impose these same obligations upon its Subcontractors. Contractor understands that with weekly or monthly certified payrolls, contractor is responsible for any and all penalties that shall accrue during the month, regardless of the fact that any error could not be discovered by the Contract Compliance Officer until the following certified payroll.

PROCUREMENT OF RECOVERED MATERIALS (2 CFR 200.322)
Pursuant to 2 CFR 200.322, Contractor must comply with Section 6002 of the Solid Waste Disposal Act, Pub. L. No. 89-272 (1965) (codified as amended by the Resource Conservation and Recovery Act at 42 U.S.C. § 6962). As such, any contractors awarded under this contract opportunity is subject to the requirements of Section 6002, which include procuring only items designated in guidelines of the EPA at 40 C.F.R. Part 247 that contain the highest percentage of recovered materials practicable, consistent with maintaining a satisfactory level of competition, where the purchase price of the item exceeds $10,000 or the value of the quantity acquired by the preceding fiscal year exceeded $10,000; procuring solid waste management services in a manner that maximizes energy and resource recovery; and establishing an affirmative procurement program for procurement of recovered materials identified in the EPA guidelines.

PROGRAM FRAUD AND FALSE OR FRAUDULENT STATEMENTS OR RELATED ACTS
Contractor must comply with 31 U.S.C. Chapter 38, Administrative Remedies for False Claims and Statements, which shall apply to the activities and actions of the Contractor and its subcontractors pertaining to any matter resulting from the contract.

RESTRICTIONS ON PUBLIC BUILDINGS AND PUBLIC WORKS PROJECTS CERTIFICATION

b. Definitions. The definitions pertaining to this provision are those that are set forth on the clause entitled "Restrictions on Public Works Projects." (Set out under "Contract Clauses" below.)

c. Certification. Except as provided in paragraph (C) of this provision, by submission of its bid or proposal, Proposer certifies that it:

   i. Is not a Contractor of a foreign country included on the list of countries that discriminate against U.S. firms published by the Office of the United States Trade Representative (USTR) (see paragraph (H) of this provision);
   ii. Has not or will not enter into any subcontract with a subcontractor of a foreign country included on the list of countries that discriminate against U.S. firms published by the USTR, and
   iii. Will not provide any product of a country included on the list of foreign countries that discriminate against the U.S. firms published by the USTR.

d. Inability to certify. A Proposer unable to certify in accordance with paragraph (b) of this provision shall submit with its offer a written explanation fully describing the reasons for its inability to make the certification.

e. Applicability of 18 U.S.C. 1001. This certification is paragraph (B) of this provision concerns a matter within the jurisdiction of an agency of the United States, and the making of a false, fictitious, or fraudulent certification may render the maker subject to prosecution under Title 18 U.S.C. 1001

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f. Notice. Proposer shall provide written notice to the Contracting Officer if, at any time before the contract award, Proposer learns that its certification was erroneous when submitted or has become erroneous by reason of changed circumstances.

g. Restrictions on contract award. Unless a waiver to these restrictions is granted by the Secretary of Housing and Urban Development, no contract will be awarded to a Proposer (1) who is owned or controlled by a citizen or national of a foreign country included on the list of foreign countries that discriminate against U.S. firms published by the USTR, (2) whose subcontractors are owned or controlled by citizens or national of a foreign country on the USTR list or, (3) who incorporates any product of a foreign country on the USTR list in the public works project.

h. USTR List. The USTR published an initial list in the Federal Register on December 30, 1987 (53 FR 49244), which identified one country-Japan. The USTR can add countries to the list, and remove countries from it, in accordance with section 109 (C) of PUB. L. 100-202.

RESTRICTIONS ON PUBLIC BUILDINGS AND PUBLIC WORKS PROJECTS

a. Definitions. "Component", as used in this clause, means those articles, materials, and supplies incorporated directly into the product. "Contractor or subcontractor of a foreign country," as used in this clause, means any Contractor or subcontractor that is a citizen or national of a foreign country or is controlled directly or indirectly by citizens or nationals of a foreign country. A contractor or subcontractor shall be considered to be a citizen or national of a foreign country, or controlled directly or indirectly by citizens or nationals of a foreign country:

i. If 50 percent or more of the Contractor or subcontractor is owned by a citizen or a national of the foreign country;

ii. If the title to 50 percent of more of the stock of the Contractor or subcontractor is held subject to trust or fiduciary obligation in favor of citizens or nationals of the foreign country.

iii. If 50 percent or more of the voting power in the Contractor or subcontractor is vested in or exercisable on behalf of a citizen or national of the foreign country; iv. In the case of a partnership, if any general partner is a citizen of the foreign country;

v. In the case of a corporation. If its presidents or other chief executive officer or the chairman of its board of directors is a citizen of the foreign country or the majority of any number of

its directors necessary to constitute a quorum are citizens of the foreign country or the corporation is organized under the laws of the foreign country or any subdivision, territory, or possession thereof; or

vi. In case of a contractor or subcontractor who is a joint venture, if any participant firm is a citizen or national of a foreign country or meets any of the criteria in subparagraphs (A) 1 through 5 of this clause. "Product", as used in this clause, means construction materials, i.e. articles, materials and supplies brought to the construction site for incorporation into the public works project, including permanently affixed equipment, instruments, utilities, electronic or other devices, but not including

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vehicles or construction equipment. In determining the origin of a product. Galveston County will consider a product as produce in a foreign country id it has been assembled or manufactured in the foreign country, or if the cost of the components mined, produced, or manufactured in the foreign country exceed 50 percent of the cost of all its components.

b. Restrictions. The Contractor shall not (1) knowingly enter into any subcontract under this contract with a subcontractor of a foreign country included on the list of countries that discriminate against U.S. firms published by the United States Trade Representative (see paragraph (C) of this clause, or (2) supply any product under this contract of a country included on the list of foreign countries that discriminate against U.S. firms published by the USTR.

c. USTR List. The USTR published an initial list in the Federal Register on December 30, 1987 (53 FR 49244), which identified one country-Japan. The USTR can add other countries to the list, or remove countries from it, in accordance with section 109 (C) of PUB. L. 100-102.

d. Certification. The Contractor may rely upon the certification of a prospective subcontractor that it is not a subcontractor of a foreign country included on the list of countries that discriminate against U.S. firms published by the USTR and that products supplied by such subcontractor for use on the Federal public works project under this contract are not products of a foreign country included on the list of foreign countries that discriminate against U.S. firms published by the USTR, unless such Contractor has knowledge that the certification is erroneous.

e. Subcontractors. The Contractor shall incorporate this clause, modified only for the purpose of properly identifying the parties, in all subcontracts. This paragraph (E) shall also be incorporated in all subcontracts.

RIGHTS TO INVENTIONS (2 CFR Appendix II to Part 200 (F))
Any discovery or invention that arises during the course of the contract shall be reported to Galveston County. This clause requires the Contractor to disclose promptly inventions to the County (within 2 months) after the inventor discloses it in writing to Contractor personnel responsible for patent matters. The awarding agency shall determine how rights in the invention/discovery shall be allocated consistent with "Government Patent Policy" and Title 37 C.F.R. § 401.

If the Federal award meets the definition of "funding agreement" under 37 C.F.R. §.401.2(a) and the recipient or subrecipient wishes to enter into a contract with a small business firm or nonprofit organization regarding the substitution of parties, assignment or performance of experimental, developmental, or research work under that "funding agreement," the recipient or subrecipient must comply with the requirements of Title 37 C.F.R. § 401, "Rights to Inventions Made by Nonprofit Organizations and Small Business Firms Under Government Grants, Contracts and Cooperative Agreements," and any implementing regulations issued by the awarding agency.

SECTION 109 OF THE HOUSING AND COMMUNITY DEVELOPMENT ACT OF 1974 (24 CFR 570.602)
Section 109 of the Act requires that no person in the United States shall on the grounds of race, color, national origin, religion, or sex be excluded from participation in, be denied the benefits of, or be subjected to discrimination under any program or activity receiving Federal financial assistance made available pursuant to the Act. Section 109 also directs that the prohibitions against discrimination on the basis of age under the Age Discrimination Act and the prohibitions against discrimination on the basis of disability under Section 504 shall apply to programs or activities

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receiving Federal financial assistance under Title I programs. The policies and procedures necessary to ensure enforcement of section 109 are codified in 24 CFR part 6.

TERMINATION FOR CAUSE & CONVENIENCE (2 CFR Appendix II to Part 200 (A) and (B))
Pursuant to 2 CFR Appendix II to Part 200 (A), Contracts for more than the simplified acquisition threshold currently set at $150,000, which is the inflation adjusted amount determined by the Civilian Agency Acquisition Council and the Defense Acquisition Regulations Council (Councils) as authorized by 41 U.S.C. 1908, shall address administrative, contractual, or legal remedies in instances where contractors violate or breach contract terms, and provide for such sanctions and penalties as appropriate.
Pursuant to 2 CFR Appendix II to Part 200 (B), all contracts in excess of $10,000 shall address termination for cause and for convenience by the non-Federal entity including the manner by which it will be affected and the basis for settlement. Galveston County shall have the right to terminate this contract for cause and convenience.

In the event of a failure by Contractor to satisfactorily perform the services specified herein and/or a default by Contractor in abiding by the other terms and conditions of this Contract, Galveston County may terminate the Contract on written notice to Contractor and Contractor shall be liable for all damages, costs, and expenses (including attorney fees) incurred by County related to this default. Such termination is in addition to and not in lieu of any other remedies that Galveston County may have in law or equity. Administrative remedies for nonperformance, violation or breach of contract terms, or termination of contract for default may include suspension and debarment. Galveston County may assess liquidated damages for failure to meet completion deadlines, contract breaches, or performance failures of the Contractor or its Subcontractors.

Contractor shall be provided the opportunity to cure certain performance failures or instances of default as described in the contract documents. The legal dispute resolution process as applicable under the Texas Civil Practice and Remedies Code shall include, but is not limited to, Texas and Civil Practice and Remedies Section 38 – Attorney's Fees, Texas Civil Practice and Remedies Section 41 – Damages, and Texas Civil Practice and Remedies Section 154 – General Provisions. Galveston County and Contractor(s) should attempt to resolve any claim for breach of contract made by Contractor, to the extent it is applicable to the Contract and not preempted by other law. Except as otherwise provided by law, nothing herein is a waiver by the County or the State of Texas of the right to seek redress in a court of law.

Termination provisions are included in the Contract Requirements & Payment, Section VIII, portion of this IFB.

WHISTLEBLOWER PROTECTION ACT
Contractor, subcontractors, and employees working on this Project shall be subject 41 U.S. Code § 4712, which requires that an employee of a contractor, subcontractor, grantee, or subgrantee or personal services contractor may not be discharged, demoted, or otherwise discriminated against as a reprisal for disclosing information that the employee reasonably believes is evidence of gross mismanagement of a Federal contract or grant, a gross waste of Federal funds, an abuse of authority relating to a Federal contract or grant, a substantial and specific danger to public health or safety, or a violation of law, rule, or regulation related to a Federal contract (including the competition for or negotiation of a contract) or grant.

The Contractor shall inform its employees and subcontractors in writing, in the predominant language of the workforce, of employee whistleblower rights and protections under 41 U.S.C. 4712, as described in section 3.908 of the Federal Acquisition Regulation. The Contractor shall insert the substance of this clause, including this paragraph, in all subcontracts providing services for this Project.

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72. NON-EXCLUSIVE LIST OF APPLICABLE LAWS, RULES, AND REGULATIONS – TEXAS GENERAL LAND OFFICE (GLO)

If applicable to the Project, Provider must be in compliance with the following laws, rules, and regulations; and any other state, federal, or local laws, rules, and regulations as may become applicable throughout the term of the Contract, and Provider acknowledges that this list may not include all such applicable laws, rules, and regulations. Provider and is deemed to have read and understands the requirements of each of the following, if applicable to the Project under this Contract:

GENERALLY

The Acts and Regulations specified in this Contract;

Continuing Appropriations Act, 2018 and Supplemental Appropriations for Disaster Relief Requirements Act, 2017 (Public Law 115-56);
The Housing and Community Development Act of 1974 (12 U.S.C. § 5301 et seq.);

The United States Housing Act of 1937, as amended, 42 U.S.C. § 1437f(o)(13) (2016) and related provisions governing Public Housing Authority project-based assistance, and implementing regulations at 24 C.F.R. Part 983 (2016);

Cash Management Improvement Act regulations (31 C.F.R. Part 205);

Community Development Block Grants (24 C.F.R. Part 570);

Uniform Administrative Requirements, Cost Principles, and Audit Requirements for Federal Awards (2 C.F.R. Part 200);

Disaster Recovery Implementation Manual; and State of Texas Plan for Disaster Recovery: Hurricane Harvey – Round 1, dated April 6,2018, as amended.

CIVIL RIGHTS

Title VI of the Civil Rights Act of 1964, (42 U.S.C. § 2000d et seq.); 24 C.F.R. Part l, "Nondiscrimination in Federally Assisted Programs of the Department of Housing and Urban Development - Effectuation of Title VI of the Civil Rights Act of 1964";

Title VII of the Civil Rights Act of 1964, as amended by the Equal Employment Opportunity Act of 1972 (42 U.S.C. § 2000e, et seq.);

Title VIII of the Civil Rights Act of 1968, "The Fair Housing Act of 1968" (42 U.S.C. §3601, et seq.), as amended;

Executive Order 11063, as amended by Executive Order 12259, and 24 C.F.R. Part 107, "Nondiscrimination and Equal Opportunity in Housing under Executive Order 11063"; The failure or refusal of Provider to comply with the requirements of Executive Order 11063 or 24 C.F.R. Part 107 shall be a proper basis for the imposition of sanctions specified in 24 C.F.R. 107.60;

The Age Discrimination Act of 1975 (42 U.S.C. § 6101, et seq.); and

Section 504 of the Rehabilitation Act of 1973 (29 U.S.C. § 794.) and "Nondiscrimination Based on Handicap in Federally-Assisted Programs and Activities of the Department of Housing and Urban Development", 24 C.F.R. Part 8. By signing this Contract, Provider understands and agrees that the activities funded shall be performed in accordance with 24 C.F.R. Part 8; and the Architectural Barriers Act of 1968 (42 U.S.C. § 4151, et seq.),

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including the use of a telecommunications device for deaf persons (TDDs) or equally effective communication system.

LABOR STANDARDS
The Davis-Bacon Act, as amended (originally, 40 U.S.C. §§ 276a-276a-5 and re-codified at 40 U.S.C. §§ 3141-3148): 29 C.F.R. Part 5;

The Copeland "Anti-Kickback" Act (originally, 18 U.S.C. § 874 and re-codified at 40 U.S.C. § 3145): 29 C.F.R. Part 3;

Sections 103 and 107 of the Contract Work Hours and Safety Standards Act (originally, 40 U.S.C. §§ 327A and 330 and re-codified at 40 U.S.C. §§ 3701-3708);

Labor Standards Provisions Applicable to Contracts Covering Federally Financed and Assisted Construction (Also Labor Standards Provisions Applicable to Non-construction Contracts Subject to the Contract Work Hours and Safety Standards Act) (29 C.F.R. Part 5); and
Federal Executive Order 11246, as amended.

EMPLOYMENT OPPORTUNITIES
Section 3 of the Housing and Urban Development Act of 1968 (12 U.S.C. § 1701u): 24 C.F.R. §§ 135.3(a)(2) and (a)(3);

The Vietnam Era Veterans' Readjustment Assistance Act of 1974 (38 U.S.C. § 4212);

Title IX of the Education Amendments of 1972 (20 U.S.C. §§ 1681-1688); and

Federal Executive Order 11246, as amended.

GRANT AND AUDIT STANDARDS
Single Audit Act Amendments of 1996, 31 U.S.C. § 7501;

Uniform Administrative Requirements, Cost Principles, and Audit Requirements for Federal Awards (2 C.F.R. Part 200);

Uniform Grant and Contract Management Act (Texas Government Code Chapter 783) and the Uniform Grant Management Standards, issued by Governor's Office of Budget and Planning; and

Title 1 Texas Administrative Code § 5.167(c).

LEAD-BASED PAINT
Section 302 of the Lead-Based Paint Poisoning Prevention Act (42 U.S.C. § 4831(b)).

HISTORIC PROPERTIES
The National Historic Preservation Act of 1966 as amended (16 U.S.C. § 470, et seq.), particularly sections 106 and 110 (16 U.S.C. §§ 470 and 470h-2), except as provided in §58.17 for Section 17 projects;

Executive Order 11593, Protection and Enhancement of the Cultural Environment, May 13, 1971 (36 FR 8921), 3 C.F.R., 1971-1975 Comp., p. 559, particularly section 2(c);

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Federal historic preservation regulations as follows: 36 C.F.R. Part 800 with respect to HUD programs: and The Reservoir Salvage Act of 1960, as amended by the Archeological and Historic Preservation Act of 1974 (16 U.S.C. § 469, et seq.), particularly section 3 (16 U.S.C. §469a-1).

ENVIRONMENTAL LAW AND AUTHORITIES
Environmental Review Procedures for Recipients assuming HUD Environmental Responsibilities (24 C.F.R. Part 58, as amended);

National Environmental Policy Act of 1969, as amended (42 U.S.C. §§ 4321-4347); and Council for Environmental Quality Regulations for Implementing NEPA (40 C.F.R. Parts 1500-1508).

FLOODPLAIN MANAGEMENT AND WETLAND PROTECTION
Executive Order 11988, Floodplain Management, May 24, 1977 (42 FR 26951), 3 C.F.R., 1977 Comp., p. 117, as interpreted in HUD regulations at 24 C.F.R. Part 55, particularly Section 2(a) of the Order (For an explanation of the relationship between the decision-making process in 24 C.F.R. Part 55 and this part, see § 55.10.); and

Executive Order 11990, Protection of Wetlands, May 24, 1977 (42 FR 26961), 3 C.F.R., 1977 Comp., p. 121 particularly Sections 2 and 5.

COASTAL ZONE MANAGEMENT
The Coastal Zone Management Act of 1972 (16 U.S.C. § 1451, et seq.), as amended, particularly sections 307(c) and (d) (16 U.S.C. § 1456(c) and (d)).

SOLE SOURCE AQUIFERS
The Safe Drinking Water Act of 1974 (42 U.S.C. §§ 201, 300(f), et seq., and 21 U.S.C. §349) as amended; particularly section 1424(e)(42 U.S.C. § 300h-3(e)); and

Sole Source Aquifers (Environmental Protection Agency-40 C.F.R. part 149.).

ENDANGERED SPECIES
The Endangered Species Act of 1973 (16 U.S.C. § 1531, et seq.) as amended, particularly section 7 (16 U.S.C. § 1536).

WILD AND SCENIC RIVERS
The Wild and Scenic Rivers Act of 1968 (16 U.S.C. § 1271, et seq.) as amended, particularly sections 7(b) and (c) (16 U.S.C. § 1278(b) and (c)).

AIR QUALITY
The Clean Air Act (42 U.S.C. § 7401, et seq.) as amended, particularly sections 176(c) and (d) (42 U.S.C. §7506(c) and (d)).

Determining Conformity of Federal Actions to State or Federal Implementation Plans (Environmental Protection Agency-40 C.F.R. Parts 6, 51, and 93).

FARMLAND PROTECTION
Farmland Protection Policy Act of 1981 (7 U.S.C. § 4201, et seq.) particularly sections 1540(b) and 1541 (7 U.S.C. §§ 4201(b) and 4202); and

Farmland Protection Policy (Department of Agriculture-7 C.F.R. part 658).

HUD ENVIRONMENTAL STANDARDS

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Applicable criteria and standards specified in HUD environmental regulations (24 C.F.R. Part 51)(other than the runway clear zone and clear zone notification requirement in 24 C.F.R. § 51.303(a)(3); and

HUD Notice 79-33, Policy Guidance to Address the Problems Posed by Toxic Chemicals and Radioactive Materials, September 10, 1979.

ENVIRONMENTAL JUSTICE
Executive Order 12898 of February 11, 1994—Federal Actions to Address Environmental Justice in Minority Populations and Low-Income Populations, (59 FR 7629), 3 C.F.R., 1994 Comp. p. 859.

SUSPENSION AND DEBARMENT
Use of debarred, suspended, or ineligible contractors or subrecipients (24 C.F.R. §570.609);

General HUD Program Requirements; Waivers (24 C.F.R. Part 5); and

Nonprocurement Suspension and Debarment (2 C.F.R. Part 2424).

OTHER REQUIREMENTS
Environmental Review Procedures for Entities Assuming HUD Environmental Responsibilities (24 C.F.R. Part 58).

ACQUISITION / RELOCATION
The Uniform Relocation Assistance and Real Property Acquisition Policies Act of 1970 (42 U.S.C. § 4601, et seq.), 24 C.F.R. Part 42, and 24 C.F.R. § 570.606.

FAITH-BASED ACTIVITIES
Executive Order 13279 of December 12, 2002 - Equal Protection of the Laws for Faith-Based and Community Organizations, (67 FR 77141).

73. SPECIAL CONDITIONS – TEXAS GENERAL LAND OFFICE (GLO)
If applicable to a Project or Activity, Subrecipient must be in compliance with the following Special Conditions and any other State, Federal, or local laws, rules, and regulations as may be applicable, throughout the term of the Contract, prior to the release of any grant funds for the Projects or Activities anticipated.

Subrecipient is deemed to have read and to understand the requirements of each of the following, if applicable to the Project or any Activity under this Contract:

A. REIMBURSEMENT, GENERALLY
As provided for in Public Law 115-56, the Contract funds may not be used for activities that are eligible to be reimbursed by, or for which funds are made available by, (a) the Federal Emergency Management Agency (FEMA); (b) the Army Corps of Engineers (Corps); (c) any other federal funding source; or (d) covered by insurance, and Subrecipient shall ensure compliance with all such requirements.

B. NATIONAL FLOOD INSURANCE PROGRAM COMPLIANCE
(1) Subrecipient must provide documentation which indicates they have received approval from the Texas Water Development Board (TWDB), the National Flood Insurance Program (NFIP) State Coordinating Agency, that appropriate ordinances or orders necessary for Subrecipient to be eligible to participate in the NFIP have been adopted.

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(2) Where Activities specified in a Performance Statement, involve structures that are located in Special Flood Hazard Areas (SFHA), flood insurance may be required, and Subrecipient shall obtain such insurance, and shall maintain documentation evidencing compliance with such requirements.

(3) Subrecipient acknowledges and agrees that if any property that is the subject of an Activity under this Contract located within a floodplain, that the following terms and conditions shall apply:

a. Under the Flood Disaster Protection Act of 1973, as amended (42 U.S.C. 4001-4128), Federal financial assistance for acquisition and construction purposes (including rehabilitation) may not be used in an area identified by the Federal Emergency Management Agency (FEMA) as having special flood hazards, unless:

i. The community in which the area is situated is participating in the National Flood Insurance Program ("NFIP") (44 CFR parts 59 through 79), or less than one (1) year has passed since the FEMA notification regarding such hazards; and

ii. The community is participating in the NFIP, or that flood insurance protection is to be obtained as a condition of the approval of financial assistance to the property owner.

b. Where the community is participating in the NFIP and the recipient provides financial assistance for acquisition or construction purposes (including rehabilitation) for property located in an area identified by FEMA as having special flood hazards, Subrecipient is responsible for ensuring that flood insurance under the NFIP is obtained and maintained.

c. Under Section 582 of the National Flood Insurance Reform Act of 1994, 42 U.S.C. 515a, HUD disaster assistance that is made available in a special flood hazard area may not be used to make a payment (including any loan assistance payment) to a person for repair, replacement, or restoration for flood damage to any personal, residential, or commercial property if:

i. The person had previously received Federal flood disaster assistance conditioned on obtaining and maintaining flood insurance; and

ii. The person failed to obtain and maintain flood insurance.

d. Subrecipient understands and agrees that it has a responsibility to inform homeowners receiving disaster assistance that triggers the flood insurance purchase requirement of their statutory responsibility to notify any transferee of the requirement to obtain and maintain flood insurance, and that the transferring owner may be liable if he or she fails to do so.

C. PROJECT MAPPING/DESIGN INFORMATION

For construction projects, Subrecipient shall require and maintain copies, in written and/or digital format, of final Project record drawing(s) and engineering schematics, as constructed.

D. WATER SYSTEM IMPROVEMENTS

(1) Prior to the GLO's release of funds for the construction of any water system improvements, Subrecipient shall provide certification to the GLO that plans, specifications, and related documents for the specified water system improvements have been prepared by the engineer selected for such activities, or the engineer's duly authorized representative, and that the review of such plans, specifications, and related documents meet the applicable Texas Commission on Environmental Quality (TCEQ) review requirements described in Title 30 of the Texas Administrative Code.

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(2) Prior to construction, Subrecipient shall provide documentation to the GLO that an approved new or amended Certificate of Convenience and Necessity (CCN), or the equivalent permit or authority for the area to be served, has been issued by the TCEQ.

(3) Prior to Subrecipient submission of the Project Completion Report for any water system improvements described in Attachment A, Subrecipient shall provide a letter from the TCEQ that the constructed well is approved for interim use and may be temporarily placed into service pursuant to 30 Texas Administrative Code, Chapter 290– Rules and Regulations for Public Water Systems.

E. SEWER SYSTEM IMPROVEMENTS

Prior to the construction of any sewer system improvements described, Subrecipient shall provide certification that plans, specifications, and related documents for the specified sewer system improvements have been prepared by the engineer selected for such activities, or the engineer's duly authorized representative, and that the review of such plans, specifications, and related documents meet the Texas Commission on Environmental Quality (TCEQ) review requirements described in 30 Texas Administrative Code, Chapter 217, Subchapter D.

Further, prior to the construction of any sewer lines or additional service connections described in Attachment A, Subrecipient shall provide notification of the start of construction on any sewer treatment plant of other system-related improvements included in this Contract.

F. WASTEWATER TREATMENT CONSTRUCTION

Prior to incurring costs for any wastewater treatment construction in Attachment A, Subrecipient shall provide documentation of an approved permit or amendment(s) to an existing permit for such activities from the TCEQ's Water Quality Division.

In addition, Subrecipient shall provide documentation to the GLO that an approved new or amended Certificate of Convenience and Necessity (CCN), or equivalent permit or authority for the area to be served has been issued by the TCEQ.

G. SEPTIC SYSTEM IMPROVEMENTS

(1) Subrecipient shall provide documentation that final plans, specifications, and installation of its septic system improvements have been reviewed and approved by the City or County Health Department through authority granted by the TCEQ.

(2) Subrecipient shall mitigate all existing septic systems in accordance with 30 Texas Administrative Code Chapter 285, Subchapter D, §285.36(b), which states, "All tanks, borcholes, cesspools, seepage pits, holding tanks, and pump tanks shall have the wastewater removed by a waste transporter, holding a current registration with the executive director. All tanks, boreholes, cesspools, seepage pits, holding tanks, and pump tanks shall be filled to ground level with fill material (less than three inches in diameter), which is free of organic and construction debris."

(3) Prior to the selection of program recipients for proposed On-Site Sewer Facilities (OSSF), Subrecipient shall provide a copy of its proposed program guidelines to for GLO review. All proposed OSSF programs must meet or exceed guidelines set forth in 30 Texas Administrative Code Chapter 285 Subchapter D.

H. BUILDING CONSTRUCTION

Subrecipient shall provide documentation that the construction of a new building and facilities are in compliance with the Texas Accessibility Standards (TAS) of the Architectural Barriers Act, Chapter 469, Texas Government Code, and the Texas Department of Licensing and Regulation (TDLR) Architectural Barriers Administrative Rules, 16 Texas Administrative Code, Part 4, Chapter 68. If estimated construction costs exceed Fifty Thousand Dollars ($50,000.00), Construction Documents must be submitted to the Texas Department of Licensing and Regulation (TDLR) for an accessibility plan review.

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I. BRIDGE CONSTRUCTION/REHABILITATION
Subrecipient shall use the minimum design requirements of the Texas Department of Transportation (TxDOT) for bridge construction/rehabilitation. Final plans and specifications must be submitted to TxDOT for review and approval prior to the start of construction, and documentation of such approval must be provided to the GLO.

J. DISASTER SHELTERS
Subrecipient shall ensure that the primary purpose of the facility, as described in Attachment A, is to serve as a disaster shelter, and shall ensure the facility is operated at all times in a manner that ensures that the priority use is to serve as a disaster shelter regardless of any other scheduled uses or commitments that existed at the time of the disaster or emergency situation. In addition, Subrecipient shall prepare or be incorporated into an approved emergency management plan, as prescribed by the Texas Division of Emergency Management, identifying the shelter as a facility that provides short-term lodging for evacuees during and immediately after an emergency situation. Subrecipient shall submit a copy of Subrecipient's Emergency Management Plan Annex for Shelter and Mass Care to the GLO.

K. DEBRIS REMOVAL
Subrecipient shall ensure that any debris to be removed consists primarily of vegetation, construction and demolition materials from damaged or destroyed structures, and personal property. Only debris identified as the responsibility of the local jurisdiction will be eligible for the reimbursement of cost of removal.

Prior to beginning debris collection operations, Subrecipient shall address all pertinent environmental concerns, adhere to all applicable regulations, and obtain all required permits. Further, Subrecipient shall adhere to the methods described herein for the collection and storage of debris prior to proper disposal.

While construction and demolition debris may be collected and disposed of at an appropriately rated landfill, woody and/or vegetative debris must be stored prior to disposal by use of temporary debris storage and reduction sites (TDSR). Subrecipient will prepare and operate the TDSR sites, or local jurisdictions choosing to conduct their own debris operations may review Chapter 7 of the FEMA Debris Management Guide regarding the use of TDSR sites. This document may be obtained https://www.fema.gov/pdf/government/grant/pa/demagde.pdf.

In order to maintain the life expectancy of landfills, Subrecipients disposing of woody and/or vegetative debris must choose burning, chipping, or grinding as the method of disposal. Any project disposing of woody and/or vegetative debris must be approved in writing by the GLO.

L. USE OF BONDS
Subrecipient must notify the GLO of its issuance and sale of bonds for completion of the project funded under this Contract.

M. PROGRAM GUIDELINES
Prior to the selection of program beneficiaries, Subrecipient shall provide to the GLO, for GLO review and approval, a copy of its proposed guidelines for the program. The guidelines must meet or exceed to requirements in the Federal Registers. The guidelines must include provisions for compliance with the Federal Fire Prevention and Control Act of 1974 (which requires that any housing unit rehabilitated with grant funds be protected by a hard-wired or battery-operated smoke detector) and provisions for compliance with 24 CFR 35 (HUD lead-based paint regulation).

N. AFFORDABILITY PERIODS FOR SINGLE-FAMILY HOUSING REHABILITATION, RECONSTRUCTION, OR NEW CONSTRUCTION ASSISTANCE:

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For single-family non-rental housing assistance provided by Subrecipient. Subrecipient shall implement the following affordability period: for rehabilitation or reconstruction of housing projects, a minimum[1] three-year affordability period guaranteed by an unsecured forgivable promissory note and for new construction housing projects, a minimum[1] five-year affordability period guaranteed by an unsecured forgivable promissory note.

O. UNSECURED FORGIVABLE PROMISSORY NOTE ("NOTE")
An unsecured forgivable promissory note shall be issued at an interest rate of zero-percent (0%). Provided that all terms and conditions contained in the Note continue to be fulfilled, a Note will be forgiven according to the following terms, as applicable, until the applicant fulfills their note requirement (the requirements are defined in the promissory note document): for a three-year Note, at a rate of 33 percent per year, for the first two years, and 34 percent after the third year; and for a five-year Note, at a rate of 20% per year.

(1) If the homeowner occupies the home for the full Note term, the Note expires and no repayment is required, nor will any conditions be imposed relative to the disposition of the property. If any of the terms and conditions under which the assistance was provided are breached or if the property is sold, leased, transferred, or vacated by the homeowner for any consecutive thirty (30) day period during the Note term, the repayment provisions of the promissory note and DOT shall be enforced.

(2) If, during the Note term, the homeowner vacates the unit for any consecutive thirty (30) day period, the locality may forgive, as evidenced by the program director, city council, or commissioner court action, the remaining loan balance. Prior to forgiveness of all or any portion of the assistance provided, the request for forgiveness must be approved by the local governing body and be based on documented and justifiable conditions or circumstances that would result in an unnecessary hardship to the homeowner and the determination that the national objective of benefiting low to moderate-income persons was met.

(3) The national objective will be considered met only when the program director, city council, or county commissioners court determines that a low- to moderate-income person has occupied the rehabilitated or reconstructed home for a time sufficient to meet the national objective. If the national objective was not achieved, Subrecipient is liable for repayment of an amount equal to the difference in the appraised value of the home prior to reconstruction and the sales price when the home is sold during the term of the forgivable Note.

(4) If the property is sold or transferred to a person other than an eligible LMI person, the remaining pro-rated balance of the DPL must be repaid by the Subrecipient from the sales proceeds. Notwithstanding the preceding, Subrecipient shall be held liable for any balance remaining over and above the sales proceeds. In all instances, upon completion of the Note or repayment of the assistance (in full or in part), the Subrecipient shall prepare and record a release of lien document in the land records of the applicable county.

(5) Monitoring of the Note is performed during and after the grant is closed. Subrecipient must utilize non-CDBG-DR funds to fulfill the monitoring obligations for its impacted recovered community.

(6) The subrecipient will maintain a list of homeowners that do not maintain flood insurance as documented in their promissory note. These applicants will not be allowed to received future assistance as outlined in Section B of this document.

P. RENTAL HOUSING REHABILIATION, RECONSTRUCTION, OR NEW CONSTRUCTION ASSISTANCE
The rental housing assistance will provided be provided in the following forms: for rehabilitation or reconstruction of multi-family rental projects with eight or more units, a minimum fifteen (15) year forgivable loan or grant at zero interest; and for new construction multi-family rental projects with five or

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more units. a minimum twenty (20) year forgivable loan or grant at zero interest. Provided all terms and conditions under which the assistance was provided continue to be fulfilled, the note will be forgiven at a rate of 5 percent per year until the applicant fulfills their note requirement (the requirements are defined in the promissory note document).

The purpose of the program is to facilitate the rehabilitation, reconstruction, and/or new construction of affordable rental housing needs within the service area of the disaster event. A minimum of 51% of the multi-family units must be restricted during the affordability period of twenty (20) years for low to moderate income (LMI) persons. The rents, at a minimum, must comply with High HOME Investment Partnership (HOME) Rents and other existing Land Use Restriction Agreement (LURA) restrictions if applicable. HOME rent limits are defined by HUD and must equal the lesser of fair market rents or 30% of the adjusted income for people earning 65% of the AMFI.

Q. COASTAL MANAGEMENT
Subrecipient acknowledges and agrees that any Project that may impact a Coastal Natural Resource Area must be consistent with the goals and policies of the Texas Coastal Management Program as described in 31 Texas Administrative Code, Part 16, Chapter 501.

74. ENERGY EFFICIENCY (42 U.S.C. 6201 and 2 CFR 200 APPENDIX II (H))
Contractor must comply with the mandatory standards and policies relating to energy efficiency, which are contained in the state energy conservation plan issued in compliance with the Energy Policy and Conservation Act (42 U.S.C. 6201). Contractor must include this provision in all contracts between itself and any subcontractors in connection with the services performed under this Contract.

75. LEAD AND ASBESTOS
If this request for Proposal involves remediation, demolition, reconstruction, rehabilitation, repair, or construction, or other applicable activities, the Contractor shall be responsible for performing investigations of lead and asbestos containing materials, and any required lead and asbestos abatement in compliance with Federal, State, and local laws, rules, regulations, ordinances and orders, relating to lead abatement and asbestos abatement as applicable, including but not limited to the Texas Asbestos Health Protection Act, codified as Chapter 1954 of the Occupations Code; the Texas Asbestos Health Protection Regulations, located at Title 25, Part 1, Chapter 295, Subchapter C of the Texas Administrative Code; Chapter 1955 of the Texas Occupations Code (lead-based paint abatement); the Texas Environmental Lead Reduction regulations, located at Title 25, Part 1, Chapter 295, Subchapter I of the Texas Administrative Code; the federal National Emission Standards for Asbestos regulations, located at Title 40, Part 61, Subpart M of the Code of Federal Regulations, and the National Emission Standards for Hazardous Air Pollutants. Contractor shall perform such inspections, encapsulation, remediation, or other actions as required by federal, State, or local requirements in accordance with the federal Environmental Protection Agency (EPA), Texas Department of State Health Services (TXDSHS), and Texas Commission on Environmental Quality (TCEQ) requirements.

76. USE OF DHS SEAL, LOGO, AND FLAGS PROHIBITED WITHOUT PRIOR APROVAL
Contractor must obtain permission from the U.S. Department of Homeland Security financial assistance office (DHS FAO) **prior** to using DHS seals(s), logos, crests, or reproductions of flags or likenesses of DHS agency officials, including use of the United States Coast Guard seal, logo, crests or reproductions of flags or likenesses of Coast Guard Officials.

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77. FEDERAL GOVERNMENT NOT A PARTY
Contractor acknowledges that the Federal Government is not a party to the contract and is not subject to any obligations or liabilities to Galveston County, contractor, or any other party pertaining to any matter resulting from the contract.

78. PROGRAM FRAUD AND FALSE OR FRAUDULENT STATEMENTS OR RELATED ACTS
In contracts funded through Federal grants, Contractor acknowledges that 31 U.S.C. Chapter 38, Administrative Remedies for False Claims and Statements (31 U.S.C. § 3801, et seq.) and the implementing regulations thereunder, 49 C.F.R. Part 79, apply to Contractors actions pertaining to the contract.

79. ACKNOWLEDGMENT OF GOVERNMENT RECORD
Proposer acknowledges that its submission in this Request for Proposals, including its Proposal, certifications, affidavits, Vendor Forms (i.e., PEID, W-9, CIQ, etc.) constitutes government records under Chapter 37 of the Texas Penal Code.

80. COMPLIANCE WITH GALVESTON COUNTY PURCHASING POLICIES AND PROCEDURES
Proposer acknowledges, by its submission in this request for Proposals, that it shall comply with the Galveston County Purchasing Policies & Procedures Manual approved by Order of the Galveston County Commissioners' Court on March 7, 2018.

81. ENTIRETY OF AGREEMENT AND MODIFICATION
This contract contains the entire agreement between the parties. Any prior agreement, promise, negotiation, or representation not expressly set forth in this contract has no force or effect. Any subsequent modification to this contract must be in writing, signed by both parties.

An official representative, employee, or agent of the County does not have the authority to modify or amend this contract except pursuant to specific authority to do so granted by the Galveston County Commissioners' Court.

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82. NOTICE

All notices or other communications required or permitted under this contract shall be in writing and shall be deemed to have been duly given if delivered personally in hand, transmitted by facsimile, or mailed certified mail, return receipt requested with proper postage affixed and addressed to the appropriate party at the following address or at such other address as may have been previously given in writing to the parties (Proposer shall provide its notice information with its Proposal submission). If mailed, the notice shall be deemed delivered when actually received, or if earlier, on the third day following deposit in a United States Postal Service post office or receptacle, duly certified, return receipt requested, with proper postage affixed. If delivered in person, notice shall be deemed delivered when receipted for by, or actually received by the receiving Party. If transmitted by facsimile, notice shall be deemed delivered when receipt of such transmission is acknowledged.

To the County at:

Hon. Mark Henry,
County Judge of Galveston County
722 Moody (21st Street), Second (2nd) Floor
Galveston, Texas 77550
Fax: (409) 765-2653

With copies to:

Rufus Crowder, CPPO CPPB,
Galveston County Purchasing Agent
722 Moody (21st Street), Fifth (5th) Floor
Galveston, Texas 77550
Fax: (409) 621-7997

To the Contractor at:

End of General Provisions

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The General Provisions and the Special Provisions of this Request for Proposal and the Exhibits attached hereto are made a part of this agreement between the Parties. In the event of a conflict between the General Provisions and the Special Provisions, the terms of the Special Provisions shall control.

******The Galveston County Purchasing Department utilizes Bonfire Interactive to distribute and receive bids and proposals in an electronic format via an online portal. Potential Bidders must register through the online portal to participate electronically.**

"Walk-in" or "mailed-in" proposal submittals are still allowed, however, Bidders are strongly encouraged to submit their proposals online via Galveston County's e-Procurement Portal located at https://galvestoncountytx.bonfirehub.com/. Please see Item F, SUBMISSION INSTRUCTIONS, for further details.

A. PURPOSE

Galveston County is seeking bids from construction companies for the Highway 3 Boat Ramp and Parking Lot Reconstruction project. This is a grant-funded project on Dickinson Bayou within the city limits of Dickinson, Texas.

Construction activities include demolition of current parking lot and concrete boat ramp; removal of two overhead lighting and service poles. Construction includes concrete parking lot, curbs and sidewalk; concrete boat ramp; underground power line and installation of service poles and light fixtures; and minor repairs to timber bulkhead.

Galveston County has contracted with an engineering firm to complete engineer-design work that is available within this RFP. A Pre-Proposal Conference will be held at the boat ramp location to aid in providing clarity for the project. The assigned engineer and County staff will be available for questions and discussion.

B. EXCEPTIONS

Any exceptions to these solicitation conditions should be listed on a separate sheet of paper, attached to respondent's submittal, and submitted with response at the specified date and time of the solicitation opening.

C. INTENT STATEMENT

Galveston County intends to contract with one company to handle all aspects of the construction project, including, boat ramp reconstruction in Dickinson Bayou, parking lot reconstruction, electrical and greenspace amenities.

D. PROCUREMENT TIMELINE

A timeline for this solicitation and initial process is included below. Galveston County reserves the right to change these dates and will notify Respondents of any changes:

Advertise Solicitation (first date of publication)	Wednesday, February 12, 2025
Advertise Solicitation (second date of publication)	Wednesday, February 19, 2025
Non-Mandatory Pre-Proposal Conference & On-Site Visit	**Wednesday, February 26, 2025 at 10 AM CST**
Deadline for Questions & Inquiries	**Thursday, March 06, 2025, by 5:00 PM CST**
Submission Deadline / RFP Opening	**Thursday, March 20, 2025, at 2:00 PM CST**

Interested parties may attend the Thursday, March 20, 2025, 2:00 PM CST bid opening virtually by using the following link:
https://galvestoncountytx.webex.com/galvestoncountytx/j.php?MTID=m7b8408eda477df4ca563e7395752225d

SPECIAL PROVISIONS

REQUEST FOR PROPOSAL
HIGHWAY 3 BOAT RAMP AND PARKING LOT RECONSTRUCTION PROJECT
GALVESTON COUNTY, TEXAS

Join by meeting number
Meeting number (access code): 2480 374 6265
Meeting password: 25-035 (250035 when dialing from a video system)

Tap to join from a mobile device (attendees only)
+1-415-655-0001,,24803746265## US Toll

Join by phone
+1-415-655-0001 US Toll
Global call-in numbers

Join from a video system or application
Dial 24803746265@galvestoncountytx.webex.com

You can also dial 173.243.2.68 and enter your meeting number.

E. NON-MANDATORY PRE-PROPOSAL CONFERENCE & ON-SITE VISIT
Interested parties may attend the Wednesday, February 26, 2025, 10 AM CST Non-Mandatory Pre-Proposal conference and On-Site Visit in person. This will be located at:

Highway 3 Boat Ramp
2907 48th Street
Dickinson, TX 77539

F. SUBMISSION INSTRUCTIONS:
Galveston County Purchasing Department utilizes Bonfire Interactive to distribute and receive bids and proposals in an electronic format via an online portal. **Only one (1) submittal is required in Bonfire.** Potential Bidders must register through the online portal to participate electronically. "Walk-in" or "mailed-in" proposal submittals are still allowed, however, **Bidders are strongly encouraged to submit their proposals online via Galveston County's e-Procurement Portal located at https://galvestoncountytx.bonfirehub.com/**

Registration is currently open and free to the public. Once registered, suppliers will receive automatic email notifications of project opportunities based on the NIGP commodity codes selected by the vendor. Potential Bidders should visit the link below and click on the New Vendor Registration tab to register your business:
https://vendorsupport.gobonfire.com/hc/en-us/articles/15646869029783-Vendor-Registration

There is no cost to register as a vendor.

INSTRUCTIONS FOR "WALK-IN" SUBMITTALS ONLY
One (1) unbound original proposal and two (2) proposal copies must be submitted no later than **2:00 PM CST**, on **Thursday, March 20, 2025**:

Rufus G. Crowder, CPPO CPPB
Purchasing Agent
County of Galveston
722 Moody Avenue (21st Street), Fifth (5th) Floor
Galveston, TX 77550

SPECIAL PROVISIONS

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The time stamp clock located in the Purchasing Agent's office shall serve as the official time keeping piece for this solicitation process. Any proposals received after **2:00 PM CST** on the specified date will be returned unopened.

Proposal Specifications can be obtained at the office of the Galveston County Purchasing Agent, located in the Galveston County Courthouse, 722 Moody, (21st Street), Floor 5, Purchasing, Galveston, Texas 77550, or by visiting the Galveston County website @
https://www.galvestoncountytx.gov/county-offices/purchasing

Rufus G. Crowder, CPPO CPPB
Purchasing Agent
County of Galveston
722 Moody Avenue (21st Street), Fifth (5th) Floor
Galveston, TX 77550

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E. PROPOSAL SURETY
A 5% surety/bid bond ***is a requirement*** of this solicitation.

F. PERFORMANCE AND PAYMENT BONDS
Performance and Payment Bonds ***are requirements*** of this solicitation.

G. BEST AND FINAL OFFERS (BAFO)
The Best and Final Offer process ***is applicable*** to this solicitation.

H. DAVIS-BACON WAGE RATES
Davis-Bacon Wage Rates ***are requirements*** for this bid.
Attention is called to the fact that not less than, the federally determined prevailing (Davis-Bacon and Related Acts) wage rates are required to be paid to laborers and mechanics. When required by Federal program legislation, all prime construction contracts in excess of $2,000 must include a provision for compliance with the Davis-Bacon Act as supplemented by the Department of Labor regulations (29 C.F.R. Part 5, "Labor Standards Provisions Applicable to Contracts Covering Federally Financed and Assisted Construction"). In accordance with the statute, contractor must be required to pay wages to laborers and mechanics at a rate not less than the prevailing wages specified in a wage determination made by the Secretary of Labor. The decision to award a contract or subcontract must be conditioned upon the acceptance of the wage determination. In addition, contractors must be required to pay wages not less than once a week. In addition, the successful bidder must ensure that employees and applicants for employment are not discriminated against because of race, color, religion, sex, age, or national origin. Please reference the General Provisions, item 69, Procurement Laws, sub-item 3, **Davis-Bacon Act as amended (40 U.S.C. 3141-3148)**.

SPECIAL PROVISIONS

REQUEST FOR PROPOSAL
HIGHWAY 3 BOAT RAMP AND PARKING LOT RECONSTRUCTION PROJECT
GALVESTON COUNTY, TEXAS

I. PERSONNEL TO CONTACT

Respondents desiring an explanation or interpretation relative to this solicitation must request it in writing. Oral explanations or instructions will not be binding. Any information given to a Respondent, which in the opinion of the County affects all Respondents or would be prejudicial to other Respondents if not communicated, shall be furnished to all Respondents as an addendum to the solicitation. Respondents **must** direct all inquiries to the following:

Rufus G. Crowder, CPPO CPPB
Purchasing Agent
722 21st Street (Moody)
Galveston, Texas 77550
e-mail: purchasing.bids@co.galveston.tx.us

Respondents must e-mail their requests (with the subject line **"Highway 3 Boat Ramp and Parking Lot Reconstruction Project – RFP 25-035, Questions"**) for additional information and/or clarification to the address listed above. The request must include the Responder's name and the solicitation number and title.

Any request for additional information or clarification must be received in writing no later than ten (10) calendar days prior to the solicitation due date. Late requests or those not delivered to the proper address may not receive a reply. Respondents shall not attempt to contact the County by any other means. The Purchasing Agent shall post the answers on the County website from the procurement web page and via addendum.

The County will issue responses to inquiries and any other corrections or amendments, it deems necessary, in the form of a written addendum, issued prior to the solicitation Submission Deadline / Solicitation Opening date. The County, at its sole discretion, may not issue a response to an RFI submittal. Respondents should not rely on any oral or written representations, statements, or explanations, other than those made in this solicitation or in any written addendum to this solicitation. Where there appears to be conflict between the solicitation and any issued addenda, the last addendum issued will prevail.

Addenda will be posted and made available on the County's procurement web page. **It is the Responder's sole responsibility to ensure receipt of all addenda prior to submitting its response**. All Respondents should check the County's procurement web page for all addenda prior to submitting a response.
The County's procurement web page is located at **http://www.galvestoncountytx.gov/county-offices/purchasing**

The Respondent must acknowledge the receipt of all addenda on the forms provided. In the event a Responder fails to acknowledge receipt of such addenda, the County may, at its sole discretion, determines that such failure to acknowledge any or all addenda does not materially affect the solicitation and waive the acknowledgment of one or more addenda.

Respondents who submit inquiries *after* the deadline date for receipt of questions indicated on the Procurement Timeline, risk that its response in the procurement will not be responsive or competitive because the County is not able to respond before the solicitation receipt date or in sufficient time for the Responder to prepare a responsive or competitive submittal.

All questions and responses as posted on the County website pertaining to this solicitation are considered an addendum to, and part of, this solicitation. Each Responder shall be responsible to monitor the County website for new or revised solicitation information. The County shall not be bound by any verbal information, nor shall it be bound by any written information that is not either contained within the solicitation or formally issued as an addendum by the Purchasing Agent.

SPECIAL PROVISIONS

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J. PROGRAM ADMINISTRATION & CONTRACT MANAGEMENT

The Program Administrator/Contract Manager that will manage the work to be performed under the resultant contract for the purpose of this solicitation is:

Julie Walker
Director of Parks & Cultural Services
4102 Main St.
La Marque, TX 77568

The Galveston County Commissioners' Court, and/or authorized designees will be responsible for negotiating with the successful Vendor the scope of work, the standards of performance, the specific technology provided, and the support services required for the proposed projects. All contractual amendments will be processed in accordance with Galveston County Purchasing Policies. Amendments will also be brought to Galveston County Commissioners Court for approval as deemed necessary. The approval process serves to ensure the project technology and/or service is within the scope of the resultant contract, that pricing meets the agreed-upon pricing methodology as specified in the contract, and that funds are available.

K. REQUIREMENTS OF REQUEST FOR PROPOSAL

Respondent shall provide one (1) single-sided original and two (2) single-sided hard copies of its response to the Purchasing Agent on or before the submission deadline specified herein. Font size is limited to no smaller than font size 11, except that organizational charts, other graphics, and footers may be as small as font size 9.

Respondents shall clearly indicate which project or projects are being submitted for consideration in their cover letter.

L. INSURANCE

Responder must submit, with its response, a current certificate of insurance evidencing coverage in the amounts specified below or greater. In lieu of submitting a certificate of insurance, Respondents may submit a notarized statement from an insurance company authorized to conduct business in the State of Texas guaranteeing that Respondent has such insurance. Provided however, that successful Respondent(s) shall be required to provide a current certificate of insurance to the Galveston County Purchasing Agent's Office before Respondent commences any work hereunder. **Insurance shall be placed with insurers having an A.M. Best's rating of no less than A**. Such insurance must be issued by a casualty company authorized to do business in the State of Texas, and in standard form approved by the Board of Insurance Commissioners of the State of Texas, with coverage provisions ensuring the public from loss or damage that may arise to any person or property by reason of services rendered by Contractor.

Galveston County shall be listed as an additional insured on each policy and all certificates of insurance and Contractor shall provide Galveston County with no less than thirty (30) calendar days prior notice of any changes to the policy during the contractual period.

Certificates of Insurance, fully executed by a licensed representative of the insurance company written or countersigned by an authorized Texas state agency, shall be filed with the County Purchasing Agent within ten (10) calendar days of the execution of this Agreement as written proof of such insurance and further provided that Contractor shall not commence work under this Agreement until Contractor has obtained all insurance required herein, provided written proof as required herein, and received written notice to proceed issued from the County Purchasing Agent. **Failure to provide such evidence of insurance within the ten (10) calendar day period shall constitute an event of default.**

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Workers' Compensation Insurance. Respondent shall carry in full force Workers' Compensation Insurance Policy(ies), if there is more than one employee, for all its employees, including but not limited to full time, part time, and emergency employees employed by the Contractor.

Commercial General Liability. Respondent shall carry in full force commercial general liability insurance with a limit of not less than $1,000,000 each occurrence and $2,000,000 in the aggregate. The Policy shall, minimally, cover liability for bodily injury, personal injury, and property damage.

Business Automobile Liability. Respondent shall carry in full force business automobile liability coverage with a combined bodily injury/property damage limit of not less than $1,000,000 each accident. The policy shall cover liability arising from the operation of licensed vehicles by policyholder.

Subrogation Waiver. Contractor and Contractor's insurance carrier shall waive any and all rights to subrogation against Galveston County in regard to any suit or claim arising out of personal injury or property damage resulting from Contractor's performance under this Agreement.

M. COST

Any unit prices submitted by the proposer shall include all costs to the County, including the material, delivery, current freight rate, state tax, or any other cost.

N. INVOICES:

Invoices must be itemized indicating all materials and supplies used. Invoices must be submitted to:

Galveston County Auditor's Office
Attn: Accounts Payable
P.O. Box 1418
Galveston, Texas 77553

Failure to submit invoices to the above address or failure to include the Purchase Order Number will result in delay in payment.

Contractor must accept purchase order numbers for specified supplies, equipment, and/or services. Contractor shall not perform any work or release any supplies and/or equipment to any authorized representative of the County of Galveston unless a valid purchase order number issued by the office of the Galveston County Purchasing Agent accompanies the order or if vendor can comply with the provision as stated in the General Provisions, page 3, item 11, Procurement Card Program.

Payment for any items issued without prior receipt of a valid purchase order number may become the sole responsibility of the successful contractor.

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O. EVALUATION AND SELECTION PROCESS

The award(s) will be made to the responsible proposer(s) whose proposal is determined to be the best-evaluated offer demonstrating the best ability to fulfill the requirements set forth in this Request for Proposal. In awarding the contract, the Evaluation Committee may take into consideration the proposer's skill, capacity, experience, support capabilities, previous work record, costs, the necessity of prompt and efficient completion of work described in the proposal documents, or other factors considered relevant.

The requested services will be awarded primarily based on the evaluation criteria listed below as well as complying with the provisions as stated in the General Provisions, Item 18, Award of Proposals – Evaluation Criteria and Factors.

The County will evaluate qualifications according to factors which include, but may not be limited to the following:

- **Tab #1: Cost** **25 points**
- **Tab #2: Experience, Past Performance** **30 points**
- **Tab #3: Methodology and Safety Plan** **30 Points**
- **Tab #4 References** **15 Points**

The remainder of this page intentionally left blank

SPECIAL PROVISIONS

REQUEST FOR PROPOSAL
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GALVESTON COUNTY, TEXAS

P. REQUIRED DOCUMENTS CHECKLIST

By signing here, the firm does hereby attest that it has fully read the instructions, conditions, and general and special provisions and understands them. **Proposer shall return this checklist with completed submittal.**

THE COMPANY OF: Lucas Construction Company, Inc.

ADDRESS: 551 W. League City Parkway, Suite C,
League City, TX 77573

FEIN (TAX ID): 76-0252959

The following documents shall be returned or confirmed with an "X" with solicitation submittals. Failure to do so may be ample cause for rejection of qualification submittal as non-responsive. It is the responsibility of the Proposer to ensure that Respondent has received all addenda.

Items:	Confirmed (X):
1. Required Documents Checklist (this page)	✓
2. Addenda Acknowledgement (if any)	#1 ✓ #2 ___ #3 ___ #4 ___
3. One (1) original, two (2) copies of submittal,	✓
4. ATTACHMENT A - Vendor Qualification Packet	✓
5. ATTACHMENT B - Certification Reg. Debarment, Suspension, and Other Ineligibility	✓
6. ATTACHMENT C - Certification Regarding Lobbying Form	✓
7. ATTACHMENT D - Non-Collusion Affidavit	✓
8. ATTACHMENT E - Prohibition on Contracts with Companies Boycotting Israel	✓
9. ATTACHMENT F - Prohibition on Contracts with Certain Companies	✓
8. ATTACHMENT G - Information for Notice	✓
10. ATTACHMENT H - References	✓
11. Bid Proposal Sheet	✓
12. Contract	✓

Person to contact regarding this qualification: Willis Lucas

Title: President Phone: 281-316-9990 Fax: 281-316-6087

E-mail address: lucasconstruction@comcast.net

Name of person authorized to bind the Firm: Willis Lucas

Signature: Willis Lucas Date: 03/27/2025

Title: President Phone: 281-316-9990 Fax: 281-316-6087

E-mail address: lucasconstruction@comcast.net

ATTACHMENT E
Prohibition on Contracts with Companies Boycotting Israel

Prohibition on contracts with companies boycotting Israel per Government Code 2271.001 Definitions:

(1) **"Boycott Israel"** has the meaning assigned by Section 808.001.

(2) **"Company"** has the meaning assigned by Section 808.001; except that the term does not include a sole proprietorship.

(2) **"Governmental entity"** has the meaning assigned by Government Code, Section 2251.001

PROVISION REQUIRED IN CONTRACT. (a) This section applies only to a contract that:

(1) is between a governmental entity and a company with 10 or more full-time employees; and

(2) has a value of $100,000 or more that is to be paid wholly or partly from public funds of the governmental entity.

(b) A governmental entity may not enter into a contract with a company for goods or services unless the contract contains a written verification from the company that it:
(1) does not boycott Israel; and
(2) will not boycott Israel during the term of the contract.

As required by GOVERNMENT CODE, CHAPTER 2271, CONTRACTOR hereby verifies that it does not boycott Israel and will not boycott Israel throughout the term of this Agreement. For the purposes of this verification, "Boycott Israel" means refusing to deal with, terminating business activities, or otherwise taking any action that is intended to penalize, inflict economic harm on, or limit commercial relations specifically with Israel, or a person or entity doing business in Israel or in an Israeli-controlled territory, but does not include an action made for ordinary business purposes.

Individual by oath swears that the following statements are factual and true:

1. Individual is authorized by the Contractor to make this statement for the Contractor.
2. Individual has read and is fully aware of the facts stated in this statement.
3. Individual can read and comprehend the English language.
4. In accordance with Texas Government Code Section 2271.002, this company does not boycott Israel and will not boycott Israel during the term of this contract/agreement.

Date: 03/27/2025

Business Name of Contractor: Lucas Construction Company, Inc.

Company Address: 551 W. League City Parkway, Suite C, League City, TX 77573

County of Contractor: Galveston

Individual: Willis Lucas

Signature of Individual: Willis Lucas

ATTACHMENT F
Prohibition on Contracts with Certain Companies

Prohibition on contracts with certain companies per Government Code 2252.151 Definitions:

(1)"Company" has the meaning assigned by Section 806.001.

(2)"Foreign terrorist organization" means an organization designated as a foreign terrorist organization by the United States secretary of state as authorized by 8 U.S.C. Section 1189.

(3)"Governmental contract" means a contract awarded by a governmental entity for general construction, an improvement, a service, or a public works project for a purchase of supplies, materials, or equipment. The term includes a contract to obtain a professional or consulting service subject to Government Code, Chapter 2254.

(4)"Governmental entity" has the meaning assigned by Government Code, Section 2252.001.

Section 2252.152 – CONTRACTS WITH COMPANIES ENGAGED IN BUSINESS WITH IRAN, SUDAN, OR FOREIGN TERRORIST ORGANIZATION PROHIBITED. A governmental entity may not enter into a governmental contract with a company that is identified on a list prepared and maintained under Section 806.051, 807.051, or 2252.153.

Section 2252.153 -- Listed Companies. The comptroller shall prepare and maintain, and make available to each governmental entity, a list of companies known to have contracts with or provide supplies o services to a foreign terrorist organization.

Pursuant to Chapter 2252, Texas Government Code, VENDOR represents and certifies that, at the time of execution of this Agreement, neither Vendor, nor any wholly owned subsidiary, majority-owned subsidiary, parent company or affiliate of the same (i) engages in business with Iran, Sudan, or any foreign terrorist organization as described in Chapters 806 or 807 of the Texas Government Code, or Subchapter F of Chapter 2252 of the Texas Government Code, or (ii) is a company listed by the Texas Comptroller of Public Accounts under Sections 806.051, 807.051, or 2252.153 of the Texas Government Code. The term "foreign terrorist organization" in this paragraph has the meaning assigned to such term in Section 2252.151 of the Texas Government Code.

Individual by oath swears that the following statements are factual and true:

1. Individual is authorized by the Contractor to make this statement for the Contractor.
2. Individual has read and is fully aware of the facts stated in this statement.
3. Individual can read and comprehend the English language.
4. As required by GOVERNMENT CODE, CHAPTER 2252.152, CONTRACTOR hereby verifies that it is not identified on a list prepared and maintained under Section 806.051, 807.051, or 2252.153, or contracting with a company doing business with Iran, Sudan, or any foreign terrorist organizations.

Date: 03/27/2025

Business Name of Contractor: Lucas Construction Company, Inc.

Company Address: 551 W. League City Parkway, Suite C, League City, TX 77573

County of Contractor: Galveston

Name of Individual: Willis Lucas

Signature of Individual: Willis Lucas

ATTACHMENT C

CERTIFICATION REGARDING LOBBYING
(31 U.S.C.A. § 1352)
This Certification must be completed, signed, dated and returned to the Galveston County Purchasing Agent

Procurement Number and Description:
RFP 25-035 HIGHWAY 3 BOAT RAMP AND PARKING LOT RECONSTRUCTION PROJECT

Proposer **CERTIFIES**, to the best of its knowledge and belief, that:

1. No Federal appropriated funds have been paid or will be paid, by or on behalf of the proposer, to any person for influencing or attempting to influence an officer or employee of an 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.

2. 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 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 proposer shall complete and submit **Standard Form LLL**, "Disclosure Form to Report Lobbying", in accordance with its instructions.

3. Proposer shall require that the language of this certification be included in the award documents for all subawards at all tiers (including subcontracts, subgrants, and contracts under grants, loans, and cooperative agreements) and that all subrecipients shall certify and disclose accordingly.

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 Section 1352, Title 31, U.S. Code. 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.

Name of Organization/Corporation: Lucas Construction Company, Inc.

Address: 551 W. League City Parkway, Suite C,

City: League City State: TX Zip Code: 77573

Signature of Authorized Signatory for Proposer: Willis Lucas Date Signed: 03/27/2025

Title of Authorized Signatory of Proposer: President

ATTTACHMENT D

State of Texas §
§
County of Galveston §

NON-COLLUSION AFFIDAVIT

Before me, the undersigned notary, on this day personally appeared Willis Lucas (Affiant), whom being first duly sworn, deposes and certifies that:

- Affiant is the President of Lucas Construction Company, Inc. that
(Individual, Partner, Corporate Officer) (Name of Qualifier)
submitted the attached Qualification in **RFP 25-035 HIGHWAY 3 BOAT RAMP AND PARKING LOT RECONSTRUCTION PROJECT**

- Affiant is a duly authorized representative of Qualifier and is authorized to make this Non-Collusion Affidavit;
- The attached Qualification is genuine and is not a collusive or sham Qualification;
- The attached Qualification has been independently arrived at without collusion with any other qualifier, bidder, proposer, person, firm, competitor, or potential competitor;
- Qualifier has not colluded, conspired, connived or agreed, directly or indirectly, with any other qualifier, bidder, proposer, person, firm, competitor, or potential competitor, to submit a collusive or sham qualification or that such other qualifier, bidder, proposer, person, firm, competitor, or potential competitor shall refrain from qualifying;
- Qualifier has not in any manner, directly or indirectly, sought by agreement or collusion or communication or conference with any other qualifier, bidder, proposer, person, firm, competitor, or potential competitor to fix the price or prices in the attached Qualification or of the qualification any other qualifier;
- Qualifier has not in any manner, directly or indirectly, sought by agreement or collusion or communication or conference with any other qualifier bidder, proposer, person, firm, competitor, or potential competitor to fix the overhead, profit or cost element of the Qualification price or prices of any other qualifier, or to secure through any collusion, conspiracy, connivance, or unlawful agreement any advantage against Galveston County or any person interested in the proposed contract;
- Affiant has not in any manner, directly or indirectly, sought by agreement or collusion or communication or conference with any other qualifier, bidder, proposer, person, firm, competitor, or potential competitor, paid or agreed to pay any other qualifier, bidder, proposer, person, firm, competitor, or potential competitor any money or anything of value in return for assistance in procuring or attempting to procure a contract or in return for establishing the price or prices in the attached Qualification or the qualification of any other Qualifier; and
- Affiant certifies that Affiant is fully informed regarding the accuracy of the statements contained herein, and under penalties of perjury, certifies and affirms the truth of the statements herein, such penalties being applicable to the Qualifier as well as to Affiant signing on its behalf.

Willis Lucas
Signature of Affiant

SWORN TO and SUBSCRIBED before me this 27th day of March, 2025.

Notary Public

DESIREE MATA
Notary Public, State of Texas
My Commission Expires
March 30, 2029
NOTARY ID 139005905

My Commission Expires. March 30, 2029

ATTACHMENT B

County of Galveston

ACKNOWLEDGMENT AND CERTIFICATION REGARDING DEBARMENT, SUSPENSION, AND OTHER INELGIBILITY

Executive Orders 12549 & 12689 Certification. Debarment and Suspension

Solicitation Number: **RFP 25-035**

Solicitation Title: **HIGHWAY 3 BOAT RAMP AND PARKING LOT RECONSTRUCTION PROJECT**

Contractor hereby CERTIFIES that:

Contractor, and all of its principals, is not presently debarred, suspended, proposed for debarment, proposed for suspension, or declared ineligible under Executive Order 12549 or Executive Order 12689, Debarment and Suspension, and is not in any other way ineligible for participation in Federal or State assistance programs;

Contractor, and all of its principals, were not and have not been debarred, suspended, proposed for debarment, proposed for suspension, or declared ineligible under Executive Order 12549 or Executive Order 12689, Debarment and Suspension, and were not and have not been in any other way ineligible for participation in Federal or State assistance programs at the time its' proposal was submitted in the procurement identified herein and at any time since submission of its' proposal;

Contractor has included, and shall continue to include, this certification in all contracts between itself and any sub-contractors in connection with services performed under this contract; and

Contractor shall notify Galveston County in writing immediately, through written notification to the Galveston County Purchasing Agent, if Contractor is not in compliance with Executive Order 12549 or 12689 during the term of its contract with Galveston County.

Contractor **Represents** and **Warrants** that the individual executing this Acknowledgment and Certification on its behalf has the full power and authority to do so and can legally bind the Contractor hereto

Lucas Construction Company, Inc. — Name of Business

03/27/2025 — Date

By: Willis Lucas — Signature

Willis Lucas - President — Printed Name & Title

County of Galveston
Purchasing Department
Vendor Qualification Packet - ATTACHMENT A

(rev. 1.4, September 28, 2017)

All interested parties seeking consideration for qualified vendor status with the County of Galveston **should complete and return only the following forms to:**

Galveston County Purchasing Department
722 Moody Avenue, (21st Street), 5th Floor
Galveston, Texas 77550
(409) 770-5371 *office*
(409) 621-7987 *fax*

PEID Form: **Person /Entity Information Data**

W -9 Form: Request for Taxpayer Identification Number and Certification
(please note that the included form may not be the latest revised form issued by the Internal Revenue Service. Please check the IRS website at http://www.irs.gov/pubfirs-pdf/fw9.pdf for the latest revision of this form.)

CIQ Form: **Conflict of Interest Questionnaire**
(please note that the included form may not be the latest revised form issued by the State of Texas Ethics Commission. Please check the Texas Ethics Commission website at http://www.ethics.state.tx.us/whatsnew/conflict_forms.htm for the latest revision of this form. Please note that Galveston County Purchasing Agent is not responsible for the filing of this form with the Galveston County Clerk per instructions of the State of Texas Ethics Commission).

Debarment: **CERTIFICATION REGARDING DEBARMENT, SUSPENSION, PROPOSED DEBARMENT, AND OTHER RESPONSIBILITY MATTERS & REQUIREMENT TO REGISTER IN SAM**
*Vendors/contractor certifies that neither it, nor any of its Principals, are presently debarred, suspended, proposed for debarment, disqualified, excluded, or in any way declared ineligible for the award of contracts by any Federal agency. Vendor agrees that it shall refund Galveston County for any payments made to Contractor while ineligible. Vendor acknowledges that Contractor's uncured failure to perform under any agreement with the County of Galveston, if such should occur, may result in Contractor being debarred from performing additional work for the County, the respecting State Agency administering the grant funding the contract, if applicable, the State, FEMA or HUD (as applicable), and other Federal and State entities. Further, Vendor has executed the Certification Regarding Debarment, Suspension, Proposed Debarment, and Other Responsibility Matters and returned the fully completed and executed original certification with the submission of this Vendor Qualification Packet. **The truthful and fully completed and executed original of the Certification Regarding Debarment, Suspension, Proposed Debarment, and Other Responsibility Matters must be included with the submission of this Vendor Qualification Packet and is a mandatory requirement to become a vendor of Galveston County. Vendor's failure to include the fully completed and executed original of this Certification shall be considered non-compliant with the requirements of this vendor qualification request and grounds for the rejection of vendor's request.** Vendor shall immediately notify the County Purchasing Agent if it becomes debarred or suspended, placed on*

the Consolidated List of Debarred Contractors, or in any other way becomes ineligible for award of contract by any Federal agency. This Certification is a material fact relied upon by Galveston County; i fit is later determined that the vendor did not comply with 2 C. F. R. Part 180 and 2 C.F.R. Part 3000, in additional to the remedies available to Galveston County and the State agency administering a grant, the Federal Government may pursue available remedies, including but not limited to suspension and/or debarment of contractor. If the contract to be awarded pursuant to a Galveston County procurement effort involves the use of Federal funds, then vendor must also be registered in the Federal Contractor Registry through the System for Award Management (SAM) to be eligible for award of contract pursuant to the procurement.

Information regarding the SAM is available at:

or at

No contract involving the use of Federal funds may be awarded to any vendor unless and until such registration is current and in good standing under SAM Successful vendors must maintain SAM registration throughout the entire term of any contractual agreement with the County. If a contract involves the use of Federal funds, then vendor must enclose proof of such SAM registration within its response, which is also a mandatory requirement of County procurement policy; failure to enclose such proof shall be considered non-compliant with the requirements of any procurement effort and grounds for the rejection of vendor's response to any procurement efforts (i.e., bid, proposal, or qualifications statement, as applicable).

Direct Deposit: Direct Deposit Authorization Form Temporarily suspended until further notice

Certificate(s) of Insurance: If the person or entity seeking qualified vendor status with the County will be performing work at or on any County owned facility and/or property, Certificate(s) of Insurance are required to be submitted prior to performing any work.

Insurance requirements are as follows:

Public Liability and Property Damage Insurance:

Successful vendor agrees to keep in full force and effect, a policy of public liability and property damage insurance issued by a casualty company authorized to do business in the State of Texas, and in standard form approved by the Board of Insurance Commissioners of the State of Texas, with coverage provisions insuring the public from any loss or damage that may arise to any person or property by reason of services rendered by vendor. Vendor shall at its own expense be required to carry the following minimum insurance coverages:

1. For damages arising out of bodily injury to or death of one person in anyone occurrence - one hundred thousand and no/100 dollars ($100,000.00);
2. For damages arising out of bodily injury to or death of two or more persons in anyone occurrence - three hundred thousand and no/100 dollars ($300,000.00); and
3. For injury to or destruction of property in anyone occurrence - one hundred thousand and no/100 dollars ($100,000.00).

This insurance shall be either on an occurrence basis or on a claims made basis. Provided however, that if the coverage is on a claims made basis, then the vendor shall be required to purchase, at the termination of this agreement, tail coverage for the County for the period of the County's relationship with the vendor under this agreement. Such coverage shall be in the amounts set forth in subparagraphs (1), (2), and (3) above.

Worker's Compensation Insurance:

Successful vendor shall also carry in full force Workers' Compensation Insurance policy(ies), if there is more than one employee, for all employees, including but not limited to full time, part time, and emergency employees employed by the vendor. Current insurance certificates certifying that such policies as specified above are in full force and effect shall be furnished by the vendor to the County.

The County of Galveston shall be named as additional insured on policies listed in subparagraphs above and shall be notified of any changes to the policy(ies) during the contractual period. Insurance is to be placed with insurers having a Best rating of no less than A. The vendor shall furnish the County with certificates of insurance and original endorsements affecting coverage required by these insurance clauses. The certificates and endorsements for each insurance policy are to be signed by a person authorized by the insurer to bind coverage on its behalf. The vendor shall be required to submit annual renewals for the term of any contractual agreement, purchase order or term contract, with Galveston County prior to expiration of any policy.

In addition to the remedies stated herein, the County has the right to pursue other remedies permitted by law or in equity.

The County agrees to provide vendor with reasonable and timely notice of any claim, demand, or cause of action made or brought against the County arising out of or related to utilization of the property. Vendor shall have the right to defend any such claim, demand, or cause of action at its sole cost and expense and within its sole and exclusive discretion. The County agrees not to compromise or settle any claim or cause of action arising out of or related to the utilization of the property without the prior written consent of the vendor.

In no event shall the County be liable for any damage to or destruction of any property belonging to the vendor unless specified in writing and agreed upon by both parties.

Procurement Policy - Special Note:

Understand that it is, according to Texas Local Government Code, Section 262.011, Purchasing Agents, subsections (d), (e), and (0, the sole responsibility of the Purchasing Agent to supervise all procurement transactions.

Therefore, be advised that all procurement transactions require proper authorization in the form of a Galveston County purchase order from the Purchasing Agent's office prior to commitment to deliver supplies, materials, equipment, including contracts for repair, service, and maintenance agreements. Any commitments made without proper authorization from the Purchasing Agent's office, pending Commissioners' Court approval, may become the sole responsibility of the individual making the commitment including the obligation of payment.

Code of Ethics - Statement of Purchasing Policy:

Public employment is a public trust. It is the policy of Galveston County to promote and balance the objective of protecting the County's integrity and the objective of facilitating the recruitment and retention of personnel needed by Galveston County. Such policy is implemented by prescribing essential standards of ethical conduct without creating unnecessary obstacles to entering public office.

Public employees must discharge their duties impartially so as to assure fair competitive access to governmental procurement by responsible contractors. Moreover, they should conduct themselves in such a manner as to foster public confidence in the integrity of the Galveston County procurement organization.

To achieve the purpose of these instructions, it is essential that those doing business with Galveston County also observe the ethical standards prescribed here.

General Ethical Standards: It shall be a breach of ethics to attempt to realize personal gain through public employment with Galveston County by any conduct inconsistent with the proper discharge of the employee's duties.

It shall be a breach of ethics to attempt to influence any public employee of Galveston County to breach the standards of ethical conduct set forth in this code.

It shall be a breach of ethics for any employee of Galveston County to participate directly or indirectly in procurement when the employee knows that:

- The employee or any member of the employee's immediate family has a financial interest pertaining to the procurement.
- A business or organization in which the employee, or any member of the employee's immediate family, has a financial interest pertaining to the procurement.
- Any other person, business or organization with which the employee or any member of the employee's immediate family is negotiating or has an arrangement concerning prospective employment is involved in the procurement.

Gratuities: It shall be a breach of ethics to offer, give or agree to give any employee of Galveston County, or for any employee or former employee of Galveston County to solicit, demand, accept or agree to accept from another person, a gratuity or an offer of employment in connection with any decision, approval, disapproval, recommendation, preparation of any part of a program requirement or purchase request, influencing the content of any specification or procurement standard, rendering of advice, investigation, auditing, or in any other advisory capacity in any program requirement or a contract or subcontract, or to any solicitation or proposal therefore pending before this government.

Kickbacks: It shall be a breach of ethics for any payment, gratuity or offer of employment to be made by or on behalf of a subcontractor under a contract to the prime contractor or higher tier subcontractor for any contract for Galveston County, or any person associated therewith, as an inducement for the award of a subcontract or order.

Contract Clause: The prohibition against gratuities and kickbacks prescribed above shall be conspicuously set forth in every contract and solicitation by Galveston County.

Confidential Information: It shall be a breach of ethics for any employee or former employee of Galveston County to knowingly use confidential information for actual or anticipated personal gain, or for the actual or anticipated gain of any person.

Questions/Concerns:
If you have any questions or concerns regarding the information or instructions contained within this packet, please contact any member of the Purchasing Department staff at **(409) 770-5371.**

CONFLICT OF INTEREST DISCLOSURE REPORTING

Proposer may be required under Chapter 176 of the Texas Local Government Code to complete and file a conflict of interest questionnaire (CIQ Form). If so, the completed CIQ Form must be filed with the County Clerk of Galveston County, Texas.

If Proposer has an employment or other business relationship with an officer of Galveston County or with a family member of an officer of Galveston County that results in the officer or family member of the officer receiving taxable income that exceeds $2,500.00 during the preceding 12-month period, then Proposer **MUST** complete a CIQ Form and file the original of the CIQ Form with the County Clerk of Galveston County

If Proposer has given an officer of Galveston County or a family member of an officer of Galveston County one or more gifts with an aggregate value of more than $250.00 during the preceding 12-months, then Proposer MUST complete a CIQ Form and file the original of the CIQ Form with the County Clerk of Galveston County

The Galveston County Clerk has offices at the following locations:

Galveston County Clerk
Galveston County Justice Center, Suite 2001
600 59th Street
Galveston, Texas 77551

Galveston County Clerk
North County Annex, 1st Floor
174 Calder Road
League City, Texas 77573

Again, if Proposer is required to file a CIQ Form, the original completed form is filed with the Galveston County Clerk (not the Purchasing Agent).

For Proposer's convenience, a blank CIQ Form is enclosed with this proposal. Blank CIQ Forms may also be obtained by visiting the Galveston County Clerk's website and/or the Purchasing Agent's website - both of these web sites are linked to the Galveston County homepage at http://www.galvestoncountytx.gov

As well, blank CIQ Forms may be obtained by visiting the Texas Ethics Commission website, specifically at http://www.ethics.state.tx.us/whatsnew/pdf/ciqforms.htm

Chapter 176 specifies deadlines for the filing of CIQ Forms (both initial filings and updated filings).

It is Proposer's sole responsibility to file a true and complete CIQ Form with the Galveston County Clerk if Proposer is required to file by the requirements of Chapter 176. Proposer is advised that it is an offense to fail to comply with the disclosure reporting requirements dictated under Chapter 176 of the Texas Local Government Code.

If you have questions about compliance with Chapter 176, please consult your own legal counsel. Compliance is the individual responsibility of each person, business, and agent who is subject to Chapter 176 of the Texas Local Government Code.

COUNTY of GALVESTON
Purchasing Department
rev. 1.3, March 29, 2010

FORM PEID: **Request for Person-Entity Identification Data**

Instructions: Please type or print clearly when completing sections 1 thru 4 and return completed form to:

Galveston County Purchasing Agent
722 Moody Avenue (21 st. Street), 5th Floor
Galveston, Texas 77550
(409) 770-5371
prodoc@co.galveston.tx.us

1. Business Name: Lucas Construction Company, Inc.
   Attention Line: Willis Lucas
2. Physical Address: 551 W. League City Parkway, Suite C,
   City: League City State: TX Zip+4: 77573
3. Billing / Remit Address: Same as above
   City: State: Zip+4
4. Main Contact Person: Willis Lucas
   Main Phone Number: 281-316-9990
   Fax Number: 281-316-6087
   E-mail Address: lucasconstruction@comcast.net

Areas below are for County use only.

Requested By: Phone / Ext. #
Department: Date:

Action Requested - Check One: IFAS PEID Vendor Number:

( ) Add New	( ) Change Data	( ) Re-activate
( ) Inactivate	( ) Employee	( ) Attorney
( ) Landlord	( ) Foster Parent	( ) Refund
( ) OneTime	( ) Foster Child	

Form W-9
(Rev. March 2024)
Department of the Treasury
Internal Revenue Service

Request for Taxpayer Identification Number and Certification

Go to *www.irs.gov/FormW9* for instructions and the latest information.

Give form to the requester. Do not send to the IRS.

Before you begin. For guidance related to the purpose of Form W-9, see *Purpose of Form*, below.

1 Name of entity/individual. An entry is required. (For a sole proprietor or disregarded entity, enter the owner's name on line 1, and enter the business/disregarded entity's name on line 2.)

Lucas Construction Company, Inc.

2 Business name/disregarded entity name, if different from above.

3a Check the appropriate box for federal tax classification of the entity/individual whose name is entered on line 1. Check only one of the following seven boxes.

☐ Individual/sole proprietor ☐ C corporation ☒ S corporation ☐ Partnership ☐ Trust/estate

☐ LLC. Enter the tax classification (C = C corporation, S = S corporation, P = Partnership)

Note: Check the "LLC" box above and, in the entry space, enter the appropriate code (C, S, or P) for the tax classification of the LLC, unless it is a disregarded entity. A disregarded entity should instead check the appropriate box for the tax classification of its owner.

☐ Other (see instructions)

3b If on line 3a you checked "Partnership" or "Trust/estate," or checked "LLC" and entered "P" as its tax classification, and you are providing this form to a partnership, trust, or estate in which you have an ownership interest, check this box if you have any foreign partners, owners, or beneficiaries. See instructions ☐

4 Exemptions (codes apply only to certain entities, not individuals; see instructions on page 3):

Exempt payee code (if any)

Exemption from Foreign Account Tax Compliance Act (FATCA) reporting code (if any)

(Applies to accounts maintained outside the United States.)

5 Address (number, street, and apt. or suite no.). See instructions.

551 W. League City Parkway, Suite C,

Requester's name and address (optional)

6 City, state, and ZIP code

League City, TX 77573

7 List account number(s) here (optional)

See Specific Instructions on page 3.

Print or type.

Taxpayer Identification Number (TIN)

Enter your TIN in the appropriate box. The TIN provided must match the name given on line 1 to avoid backup withholding. For individuals, this is generally your social security number (SSN). However, for a resident alien, sole proprietor, or disregarded entity, see the instructions for Part I, later. For other entities, it is your employer identification number (EIN). If you do not have a number, see *How to get a TIN*, later.

Social security number

[ ][ ][ ] - [ ][ ] - [ ][ ][ ][ ]

or

Employer identification number

76 - 0252959

Note: If the account is in more than one name, see the instructions for line 1. See also *What Name and Number To Give the Requester* for guidelines on whose number to enter.

Part II Certification

Under penalties of perjury, I certify that:

1. The number shown on this form is my correct taxpayer identification number (or I am waiting for a number to be issued to me); and
2. I am not subject to backup withholding because (a) I am exempt from backup withholding, or (b) I have not been notified by the Internal Revenue Service (IRS) that I am subject to backup withholding as a result of a failure to report all interest or dividends, or (c) the IRS has notified me that I am no longer subject to backup withholding; and
3. I am a U.S. citizen or other U.S. person (defined below); and
4. The FATCA code(s) entered on this form (if any) indicating that I am exempt from FATCA reporting is correct.

Certification instructions. You must cross out item 2 above if you have been notified by the IRS that you are currently subject to backup withholding because you have failed to report all interest and dividends on your tax return. For real estate transactions, item 2 does not apply. For mortgage interest paid, acquisition or abandonment of secured property, cancellation of debt, contributions to an individual retirement arrangement (IRA), and, generally, payments other than interest and dividends, you are not required to sign the certification, but you must provide your correct TIN. See the instructions for Part II, later.

Sign Here Signature of U.S. person Willis Lucas Date 03/27/2025

General Instructions

Section references are to the Internal Revenue Code unless otherwise noted.

Future developments. For the latest information about developments related to Form W-9 and its instructions, such as legislation enacted after they were published, go to *www.irs.gov/FormW9*.

What's New

Line 3a has been modified to clarify how a disregarded entity completes this line. An LLC that is a disregarded entity should check the appropriate box for the tax classification of its owner. Otherwise, it should check the "LLC" box and enter its appropriate tax classification.

New line 3b has been added to this form. A flow-through entity is required to complete this line to indicate that it has direct or indirect foreign partners, owners, or beneficiaries when it provides the Form W-9 to another flow-through entity in which it has an ownership interest. This change is intended to provide a flow-through entity with information regarding the status of its indirect foreign partners, owners, or beneficiaries, so that it can satisfy any applicable reporting requirements. For example, a partnership that has any indirect foreign partners may be required to complete Schedules K-2 and K-3. See the Partnership Instructions for Schedules K-2 and K-3 (Form 1065).

Purpose of Form

An individual or entity (Form W-9 requester) who is required to file an information return with the IRS is giving you this form because they

CONFLICT OF INTEREST QUESTIONNAIRE

FORM CIQ

For vendor or other person doing business with local governmental entity

OFFICE USE ONLY
Date Received

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

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

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

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

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

Not Applicable

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

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

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

Not Applicable

Name of Officer

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

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

☐ Yes ☐ NO

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

☐ Yes ☐ NO

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

☐ Yes ☐ NO

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

Lucas Construction has no employment or business relationship with any local gov't officer.

[4]

Willis Lucas Not Applicable 03/27/2025

Signature of person doing business with the governmental entity Date

Adopted 05/23/2007

CERTIFICATE OF LIABILITY INSURANCE

DATE (MM/DD/YYYY): 7/26/2024

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

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

PRODUCER Hotchkiss Insurance Agency, LLC - Houston 13430 NW Freeway, Suite 600 Houston TX 77040	**CONTACT NAME:** Certificates Houston **PHONE (A/C, No, Ext):** 713-956-9800 **FAX (A/C, No):** 713-956-0331 **E-MAIL ADDRESS:** certs@hiallc.com
INSURED LUCACON-01 Lucas Construction Company R W Lucas Construction LLC 551 League City Pkwy, #C League City TX 77573-5429	**INSURER(S) AFFORDING COVERAGE** / **NAIC #** INSURER A : Texas Mutual Insurance Company — 524210 INSURER B : Travelers Lloyds Insurance Company — 41262 INSURER C : Travelers Property Casualty Co of Amer — 25674 INSURER D : Phoenix Insurance Company — 25623 INSURER E : Travelers Indemnity Company — 25658 INSURER F :

COVERAGES **CERTIFICATE NUMBER:** 1956389863 **REVISION NUMBER:**

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

INSR LTR	TYPE OF INSURANCE	ADDL INSD	SUBR WVD	POLICY NUMBER	POLICY EFF (MM/DD/YYYY)	POLICY EXP (MM/DD/YYYY)	LIMITS	
D	X COMMERCIAL GENERAL LIABILITY CLAIMS-MADE [X] OCCUR GEN'L AGGREGATE LIMIT APPLIES PER: POLICY [X] PRO-JECT [ ] LOC OTHER:			DT-CO-0L261407-PHX-24	7/31/2024	7/31/2025	EACH OCCURRENCE DAMAGE TO RENTED PREMISES (Ea occurrence) MED EXP (Any one person) PERSONAL & ADV INJURY GENERAL AGGREGATE PRODUCTS - COMP/OP AGG $	$ 1,000,000 $ 300,000 $ 5,000 $ 1,000,000 $ 2,000,000 $ 2,000,000 $
E	AUTOMOBILE LIABILITY X ANY AUTO OWNED AUTOS ONLY / SCHEDULED AUTOS X HIRED AUTOS ONLY / X NON-OWNED AUTOS ONLY			8109K375991-24-26-G	7/31/2024	7/31/2025	COMBINED SINGLE LIMIT (Ea accident) BODILY INJURY (Per person) BODILY INJURY (Per accident) PROPERTY DAMAGE (Per accident) $	$ 1,000,000 $ $ $ $
C	X UMBRELLA LIAB [X] OCCUR EXCESS LIAB [ ] CLAIMS-MADE DED [X] RETENTION $ 10,000			CUP-0L264502-24-26	7/31/2024	7/31/2025	EACH OCCURRENCE AGGREGATE $	$ 8,000,000 $ 8,000,000 $
A	WORKERS COMPENSATION AND EMPLOYERS' LIABILITY Y/N ANYPROPRIETOR/PARTNER/EXECUTIVE OFFICER/MEMBER EXCLUDED? [ ] N/A (Mandatory in NH) If yes, describe under DESCRIPTION OF OPERATIONS below			0001182104	7/31/2024	7/31/2025	X PER STATUTE [ ] OTH-ER E.L. EACH ACCIDENT E.L. DISEASE - EA EMPLOYEE E.L. DISEASE - POLICY LIMIT	 $ 1,000,000 $ 1,000,000 $ 1,000,000
B	Equipment Floater Special inc Theft			QT-660-8J919392-TLC-24	7/31/2024	7/31/2025	Leased/Rented Scheduled Equipment Deductible	400,000 7,088,011 1,000

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

The general liability policy includes a blanket additional insured endorsement (Per GL Form CGD604 08/13) that provides Additional insured status when required by written contract. The auto policy includes a blanket additional insured endorsement (Per Form CAT353 02/15) that provides Additional insured status when required by written contract. The general liability, auto and workers compensation policies includes a blanket waiver of subrogation endorsement when required by written contract. The certificate holder is named as loss payee with regards to the equipment floater policy as their interest may appear. The general liability policy includes a special endorsement with Primary and Noncontributory wording (Per GL Form CGD604 08/13). The auto policy includes a special endorsement with Primary and Noncontributory wording (CAT499 02/16).The umbrella/excess will follow the underlying liability coverage forms, subject to the policy terms and conditions.

See Attached...

CERTIFICATE HOLDER

Insured's Copy
XXXXXXXXXXXXXX
XXXXXXX XX XXXXX

CANCELLATION

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

AUTHORIZED REPRESENTATIVE

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AGENCY CUSTOMER ID: LUCACON-01

LOC #:

ADDITIONAL REMARKS SCHEDULE

AGENCY	NAMED INSURED
Hotchkiss Insurance Agency, LLC - Houston	Lucas Construction Company R W Lucas Construction LLC 551 League City Pkwy, #C League City TX 77573-5429
POLICY NUMBER	
CARRIER / NAIC CODE	EFFECTIVE DATE:

ADDITIONAL REMARKS

THIS ADDITIONAL REMARKS FORM IS A SCHEDULE TO ACORD FORM,

FORM NUMBER: 25 FORM TITLE: CERTIFICATE OF LIABILITY INSURANCE

The auto policy includes a special endorsement with Primary and Noncontributory wording, [insert form # and edition date].

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SPECIAL PROVISIONS FOR CONSTRUCTION

1. Contract and Contract Documents

The Plans, Specifications and Addenda, General Provisions shall form part of this contract and the provisions thereof shall be as binding upon the parties hereto as if they were herein fully set forth.

2. Definitions

Whenever used in any of the contract Documents, the following meanings shall be given to the terms here in defined:

(a) The term "Contract" means the Contract executed between the County of Galveston, hereinafter called the Owner, and Ucas Construction Company, Inc., hereinafter called Contractor, of which these GENERAL CONDITIONS, form a part.

(b) The term "Project Area" means the area within which are the specified Contract limits of the Improvements contemplated to be constructed in whole or in part under this contract.

(c) The term "Engineer" means _LJA Engineering_____, Engineer in charge, serving the Owner with architectural or engineering services, his successor, or any other person or persons, employed by the Owner for the purpose of directing or having in charge the work embraced in this Contract.

(d) The term "Contract Documents" means and shall include the following: Invitation to Bid, Signed Copy of Bid, General Conditions, Special Provisions For Construction, Acknowledgement and Certification Regarding Debarment, Non-Collusion Affidavit, Vendor Qualification Packet, Payment and Performance Bonds, Contract Award, Addenda (if any), Technical Specifications, and Drawings (as listed in the Schedule of Drawings).

(e) The term "Substantially Complete" shall mean that the work is fully completed with the exception of minor miscellaneous work and adjustments.

3. Supervision By Contractor

(a) Except where the Contractor is an individual and gives his personal supervision to the work, the Contractor shall provide a competent superintendent, satisfactory to the Local Public Agency and the Engineer, on the work at all times during working hours with full authority to act for him. The Contractor shall also provide an adequate staff for the proper coordination and expediting of his work.

(b) The Contractor shall lay out his own work and he shall be responsible for all work executed by him under the Contract. He shall verify all figures and elevations before proceeding with the work and will be held responsible for any error resulting from his failure to do so.

4. Subcontracts

(a) The Contractor shall not execute an agreement with any subcontractor or permit any subcontractor to perform any work included in this contract until he has verified the subcontractor as eligible to participate in federally funded contracts.

(b) No proposed subcontractor shall be disapproved by the city/county except for cause.

(c) The Contractor shall be as fully responsible to the city/county for the acts and omissions of his subcontractors, and of persons either directly or indirectly employed by them.

SPECIAL PROVISIONS FOR CONSTRUCTION

1. Contract and Contract Documents

The Plans, Specifications and Addenda, General Provisions shall form part of this contract and the provisions thereof shall be as binding upon the parties hereto as if they were herein fully set forth.

2. Definitions

Whenever used in any of the contract Documents, the following meanings shall be given to the terms here in defined:

(a) The term "Contract" means the Contract executed between the County of Galveston, hereinafter called the Owner, and Lucas Construction, LLC, hereinafter called Contractor, of which these GENERAL CONDITIONS, form a part.

(b) The term "Project Area" means the area within which are the specified Contract limits of the Improvements contemplated to be constructed in whole or in part under this contract.

(c) The term "Engineer" means _LJA Engineering_____ _____, Engineer in charge, serving the Owner with architectural or engineering services, his successor, or any other person or persons, employed by the Owner for the purpose of directing or having in charge the work embraced in this Contract.

(d) The term "Contract Documents" means and shall include the following: Invitation to Bid, Signed Copy of Bid, General Conditions, Special Provisions For Construction, Acknowledgement and Certification Regarding Debarment, Non-Collusion Affidavit, Vendor Qualification Packet, Payment and Performance Bonds, Contract Award, Addenda (if any), Technical Specifications, and Drawings (as listed in the Schedule of Drawings).

(e) The term "Substantially Complete" shall mean that the work is fully completed with the exception of minor miscellaneous work and adjustments.

3. Supervision By Contractor

(a) Except where the Contractor is an individual and gives his personal supervision to the work, the Contractor shall provide a competent superintendent. satisfactory to the Local Public Agency and the Engineer, on the work at all times during working hours with full authority to act for him. The Contractor shall also provide an adequate staff for the proper coordination and expediting of his work.

(b) The Contractor shall lay out his own work and he shall be responsible for all work executed by him under the Contract. He shall verify all figures and elevations before proceeding with the work and will be held responsible for any error resulting from his failure to do so.

4. Subcontracts

(a) The Contractor shall not execute an agreement with any subcontractor or permit any subcontractor to perform any work included in this contract until he has verified the subcontractor as eligible to participate in federally funded contracts.

(b) No proposed subcontractor shall be disapproved by the city/county except for cause.

(c) The Contractor shall be as fully responsible to the city/county for the acts and omissions of his subcontractors, and of persons either directly or indirectly employed by them.

(d) The Contractor shall cause appropriate provisions to be inserted in all subcontracts relative to the work and required compliance by each subcontractor with the applicable provisions of the Contract.

(e) Nothing contained in the Contract shall create any contractual relation between any subcontractor and the Owner.

5. Fitting and Coordination of Work

The Contractor shall be responsible for the proper fitting of all work and for the coordination of the operations of all trades, subcontractors, or material suppliers engaged upon this Contract.

6. Payments to Contractor

(a) Partial Payments

1) The Contractor shall prepare his requisition for partial payment as of the last day of the month and submit it, with the required number of copies, to the Engineer for his approval. The amount of the payment due the Contractor shall be determined by adding to the total value of work completed to date, the value of materials properly stored on the site and deducting (1) Five percent (5%) of the total amount, to be retained until final payment and (2) the amount of all previous payments. The total value of work completed to date shall be based on the estimated quantities of work completed and on the unit prices contained in the agreement. The value of materials properly stored on the site shall be based upon the estimated quantities of such materials and the invoice prices. Copies of all invoices shall be available for inspection of the Engineer.

2) Monthly or partial payments made by the Owner to the Contractor are moneys advanced for the purpose of assisting the contractor to expedite the work of construction. The Contractor shall be responsible for the care and protection of all materials and work upon which payments have been made until final acceptance of such work and materials by the Owner. Such payments shall not constitute a waiver of the right of the Owner to require the fulfillment of all terms of the Contract and the delivery of all improvements embraced in this Contract complete and satisfactory to the Owner in all details.

(b) Final Payment

1) After final inspection and acceptance by the Owner of all work under the Contract, the Contractor shall prepare his requisition for final payment which shall be based upon the careful inspection of each item of work at the applicable unit prices stipulated in the Agreement. The total amount of the final payment due the Contractor under this contract shall be the amount computed as described above less all previous payments.

2) The Owner before paying the final estimate, shall require the Contractor to furnish releases or receipts from all subcontractors having performed any work and all persons having supplied materials, equipment (installed on the Project) and services to the Contractor, if the Owner deems it necessary in order to protect its interest. The Owner may, if it deems such action advisable, make payment in part or in full to the Contractor without requiring the furnishing of such releases or receipts and any payments made shall in no way impair the obligations of any surety or sureties furnished under this Contract.

3) Any amount due the Owner under Liquidated Damages shall be deducted from the final payment due the contractor.

(c) Payments Subject to Submission of Certificates

Each payment to the Contractor by the Owner shall be made subject to submission by the Contractor of all written certifications required of him and his subcontractors.

(d) Withholding Payments

The Owner may withhold from any payment due the Contractor whatever is deemed necessary to protect the Owner, and if so elects, may also withhold any amounts due from the Contractor to any subcontractors or material dealers, for work performed or material furnished by them. The foregoing provisions shall be construed solely for the benefit of the Owner and will not require the Owner to determine or adjust any claims or disputes between the Contractor and his subcontractors or material dealers, or to withhold any moneys for their protection unless the Owner elects to do so. The failure or refusal of the Owner to withhold any moneys from the Contractor shall in no way impair the obligations of any surety or sureties under any bond or bonds furnished under this Contract.

7. Changes in the Work

(a) The Owner may make changes in the scope of work required to be performed by the Contractor under the Contract without relieving or releasing the Contractor from any of his obligations under the Contract or any guarantee given by him pursuant to the Contract provisions, and without affecting the validity of the guaranty bonds, and without relieving or releasing the surety or sureties of said bonds. All such work shall be executed under the terms of the original Contract unless it is expressly provided otherwise.

(b) Except for the purpose of affording protection against any emergency endangering health, life, limb or property, the Contractor shall make no change in the materials used or in the specified manner of constructing and/or installing the improvements or supply additional labor, services or materials beyond that actually required for the execution of the Contract, unless in pursuance of a written order from the Owner authorizing the Contractor to proceed with the change. No claim for an adjustment of the Contract Price will be valid unless so ordered.

(c) If applicable unit prices are contained in the Agreement, the Owner may order the Contractor to proceed with desired unit prices specified in the Contract; provided that in case of a unit price contract the net value of all changes does not increase the original total amount of the agreement by more than twenty-five percent (25%) or decrease the original the total amount by eighteen percent (18%).

(d) Each change order shall include in its final form:

1) A detailed description of the change in the work.

2) The Contractor's proposal (if any) or a confirmed copy thereof.

3) A definite statement as to the resulting change in the contract price and/or time.

4) The statement that all work involved in the change shall be performed in accordance with contract requirements except as modified by the change order.

5) The procedures as outlined in this Section for a unit price contract also apply in any lump sum contract.

8. Estimated Quantities

This Contract, including the specifications, plans and estimates, is intended to show clearly all the work to be done and material to be furnished hereunder. The estimated quantities of the various classes of work to be done and material to be furnished under this contract are approximate and are to be used 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 the basis for payment under this contract shall be the plan quantity or actual amount of such work done whichever is specified. It is further understood that the County does not guarantee any minimum amount of work under this Contract.

Contractor agrees that it 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 proposals.

9. Claims for Extra Cost

(a) If the Contractor claims that any instructions by Drawings or otherwise involve extra cost or extension of time, he shall, within ten days after the receipt of such instructions, and in any event before proceeding to execute the work, submit his protest thereto in writing to the Owner, stating clearly and in detail the basis of his objections. No such claim will be considered unless so made.

(b) Claims for additional compensation for extra work, due to alleged errors in ground elevations, contour lines, or bench marks, will not be recognized unless accompanied by certified survey data, made prior to the time the original ground was disturbed, clearly showing that errors exist which resulted, or would result, in handling more material, or performing more work, than would be reasonably estimated from the Drawings and maps issued.

(c) Any discrepancies which may be discovered between actual conditions and those represented by the Drawings and maps shall be reported at once to the Owner and work shall not proceed except at the Contractor's risk, until written instructions have been received by him from the Owner.

(d) If, on the basis of the available evidence, the Owner determines that an adjustment of the Contract Price and/or time is justifiable, a change order shall be executed.

10. Time

The Contractor is advised that time for completion will consist of the number of calendar days set out in the Contract Award. The time for completion will begin to run on the day after the issuance of a notice to proceed by the County. The Contractor is required to start work no later than ten (10) working days after the issuance of the written notice to proceed. Failure to timely commence operations may be deemed by the County to be a default. The Contractor will complete the work at that site within the time period specified. If there is more than one site listed on the notice to proceed, work for all sites must be completed not later than is specified for each site.

11. Termination, Delays, and Liquidated Damages

(a) Right of the Owner to Terminate Contract.

In the event that any of the provisions of this contract are violated by the Contractor, or by any of his subcontractors, the Owner may serve written notice upon the Contractor and the Surety of its intention to terminate the contract. The notices shall contain the reasons for such intention to terminate the contract, and unless such violation or delay shall cease and satisfactory arrangement of correction be made within ten days, the contract shall, upon the expiration of said ten (10) days, cease and terminate. In the event of any such termination, the Owner shall immediately serve notice thereof upon the Surety and the Contractor. The Surety shall have the right to take over and perform the contract. Provided, however, that if the Surety does not commence performance thereof within ten (10) days from the date of the mailing to such Surety of notice of termination, the Owner may take over the work and complete the project by bid/contract or by force account at the expense of the Contractor and his Surety shall be liable to the Owner for any excess cost incurred. In such event the Owner may take possession of and utilize in completing the work, such materials, appliances, and plant as may be on the site of the work and necessary therefore.

(b) Liquidated Damages for Delays.

Contractor agrees that time is of the essence of this contract and that for each day of a delay of a day beyond the number of working days or calendar days herein agreed upon the completion of the work herein

specified and contracted for (after due allowance for such extension of time as is provided for under Extension of Time hereinabove) County may withhold permanently from Contractor's total compensation the sum of $1,000.00 for each calendar day of delay, until the work is completed, as liquidated damages for such delay. The Contractor and his sureties shall be liable to the Owner for the amount thereof.

(c) Excusable Delays.

1) The right of the Contractor to proceed shall not be terminated nor shall the Contractor be charged with liquidated damages for any delays in the completion of the work due to:

a. Any acts of the Government, including controls or restrictions upon or requisitioning of materials, equipment, tools, or labor by reason of war, national defense, or any other national emergency;

b. Any acts of the Owner;

c. Causes not reasonably foreseeable by the parties to this Contract at the time of the execution of the Contract which are beyond the control and without the fault or negligence of the Contractor, including, but not restricted to, acts of God or of the public enemy, acts of another Contractor in the performance of some other contract with the Owner, fires, floods, epidemics, quarantine, restrictions, strikes, freight embargoes, and weather of unusual severity such as hurricanes, tornadoes, cyclones and other extreme weather conditions.

2) Provided, however, that the Contractor promptly notifies the Owner within ten (10) days in writing of the cause of the delay. Upon receipt of such notification, the Owner shall ascertain the facts and the cause and extent of delay. If, upon the basis of the facts and the terms of this contract, the delay is properly excusable, the Owner shall extend the time for completing the work for a period of time commensurate with the period of excusable delay.

12. Assignment or Novation

The Contractor shall not assign or transfer, whether by an assignment or novation, any of its rights, duties, benefits, obligations, liabilities, or responsibilities under this Contract without the written consent of the Owner; provided, however, that assignments to banks or other financial institutions may be made without the consent of the Owner. No assignment or novation of this Contract shall be valid unless the assignment or novation expressly provides that the assignment of any of the Contractor's rights or benefits under the Contract is subject to a prior lien for labor performed, services rendered, and materials, tools, and equipment supplied for the performance of the work under this Contract in favor of all persons, firms, or corporations rendering such labor or services or supplying such materials, tools, or equipment.

13. Disputes

(a) All disputes arising under this Contract or its interpretation except those disputes covered by FEDERAL LABOR STANDARDS PROVISIONS whether involving law or fact or both, or extra work, and all claims for alleged breach of contract shall, within ten (10) days of commencement of the dispute, be presented by the Contractor to the Owner for decision. Any claim not presented within the time limit specified in this paragraph shall be deemed to have been waived, except that if the claim is of a continuing character and notice of the claim is not given within ten (10) days of its commencement, the claim will be considered only for a period commencing ten (10) days prior to the receipt of the Owner.

(b) The Contractor shall submit in detail his claim and his proof thereof.

(c) If the Contractor does not agree with any decision of the Owner, he shall in no case allow the dispute to delay the work but shall notify the Owner promptly that he is proceeding with the work under protest.

14. Technical Specifications and Drawings

Anything mentioned in the Technical Specifications and not shown on the Drawings, or vice versa, shall be of like effect as if shown on or mentioned in both. In case of difference between Drawings and Technical Specifications, the Technical Specifications shall govern. In case of any discrepancy in Drawings, or Technical Specifications, the matter shall be immediately submitted to the Owner, without whose decision, said discrepancy shall not be adjusted by the Contractor, save only at his own risk and expense.

15. Shop Drawings

(a) All required shop drawings, machinery details, layout drawings, etc. shall be submitted to the Engineer in copies for approval sufficiently in advance of requirements to afford ample time for checking, including time for correcting, resubmitting and rechecking if necessary. The Contractor may proceed, only at his own risk, with manufacture or installation of any equipment or work covered by said shop drawings, etc. until they are approved and no claim, by the Contractor, for extension of the contract time shall be granted by reason of his failure in this respect.

(b) Any drawings submitted without the Contractor's stamp of approval will not be considered and will be returned to him for proper resubmission. If any drawings show variations from the requirements of the Contract because of standard shop practice or other reason, the Contractor shall make specific mention of such variation in his letter of transmittal in order that, if acceptable, suitable action may be taken for proper adjustment of contract price and/or time, otherwise the Contractor will not be relieved of the responsibility for executing the work in accordance with the Contract even though the drawings have been approved.

(c) If a shop drawing is in accordance with the contract or involves only a minor adjustment in the interest of the owner not involving a change in contract price or time; the engineer may approve the drawing. The approval shall not relieve the Contractor from his responsibility for adherence to the contract or for any error in the drawing.

16. Requests for Supplementary Information

It shall be the responsibility of the Contractor to make timely requests of the Owner for any additional information not already in his possession which should be furnished by the Owner under the terms of this Contract, and which he will require in the planning and execution of the work. Such requests may be submitted from time to time as the need approaches, but each shall be filed in ample time to permit appropriate action to be taken by all parties involved so as to avoid delay. Each request shall be in writing, and list the various items and the latest date by which each will be required by the Contractor. The first list shall be submitted within two weeks after Contract award and shall be as complete as possible at that time. The Contractor shall, if requested, furnish promptly any assistance and information the Engineer may require in responding to these requests of the Contractor. The Contractor shall be fully responsible for any delay in his work or to others arising from his failure to comply fully with the provision of this section.

17. Materials and Workmanship

(a) Unless otherwise specifically provided for in the technical specifications, all workmanship, equipment, materials and articles incorporated in the work shall be new and the best grade of the respective kinds for the purpose. Where equipment, materials, articles or workmanship are referred to in the technical specifications as "equal to" any particular standard, the Engineer shall decide the question of equality.

(b) The Contractor shall furnish to the Owner for approval the manufacturer's detailed specifications for all machinery, mechanical and other special equipment, which he contemplates installing together with full information as to type, performance characteristics, and all other pertinent information as required, and shall likewise submit for approval full information concerning all other materials or articles which he proposes to incorporate.

(c) Machinery, mechanical and other equipment, materials or articles installed or used without such prior approval shall be at the risk of subsequent rejection.

(d) Materials specified by reference to the number or symbol of a specific standard, shall comply with requirements in the latest revision thereof and any amendment or supplement thereto in effect on the date of the Invitation for Bids, except as limited to type, class or grade, or modified in the technical specifications shall have full force and effect as though printed therein.

(e) The Owner may require the Contractor to dismiss from the work such employee or employees as the Owner or the Engineer may deem incompetent, or careless, or insubordinate.

18. Samples, Certificates and Tests

(a) The Contractor shall submit all material or equipment samples, certificates, affidavits, etc., as called for in the contract documents or required by the Engineer, promptly after award of the contract and acceptance of the Contractor's bond. No such material or equipment shall be manufactured or delivered to the site, except at the Contractor's own risk, until the required samples or certificates have been approved in writing by the Engineer. Any delay in the work caused by late or improper submission of samples or certificates for approval shall not be considered just cause for an extension of the contract time.

(b) Each sample submitted by the Contractor shall carry a label giving the name of the Contractor, the project for which it is intended, and the name of the producer. The accompanying certificate or letter from the Contractor shall state that the sample complies with contract requirements, shall give the name and brand of the product, its place of origin, the name and address of the producer and all specifications or other detailed information which will assist the Engineer in making a prompt decision regarding the acceptability of the sample. It shall also include the statement that all materials or equipment furnished for use in the project will comply with the samples and/or certified statements.

(c) Approval of any materials shall be general only and shall not constitute a waiver of the Owner's right to demand full compliance with Contract requirements. After actual deliveries, the Engineer will have such check tests made as he deems necessary in each instance and may reject materials and equipment and accessories for cause, even though such materials and articles have been given general approval. If materials, equipment or accessories which fail to meet check tests have been incorporated in the work, the Engineer will have the right to cause their removal and replacement by proper materials or to demand and secure such reparation by the Contractor as is equitable.

(d) Except as otherwise specifically stated in the Contract, the costs of sampling and testing will be divided as follows:

1) The Contractor shall furnish without extra cost, including packing and delivery charges, all samples required for testing purposes, except those samples taken on the project by the Engineer;

2) The Contractor shall assume all costs of re-testing materials which fail to meet contract requirements;

3) The Contractor shall assume all costs of testing materials offered in substitution for those found deficient;

4) The Owner will pay all other expenses.

19. Permits and Codes

(a) The Contractor shall give all notices required by and comply with all applicable laws, ordinances, and codes of the Local Government. All construction work and/or utility installations shall comply with all applicable ordinances, and codes including all written waivers. Before installing any work, the Contractor shall examine the drawings and technical specifications for compliance with applicable ordinances and codes and shall immediately report any discrepancy to the Owner. Where the requirements of the drawings

and technical specifications fail to comply with such applicable ordinances or codes, the Owner will adjust the Contract by Change Order to conform to such ordinances or codes (unless waivers in writing covering the difference have been granted by the governing body or department) and make appropriate adjustment in the Contract Price or stipulated unit prices.

(b) Should the Contractor fail to observe the foregoing provisions and proceed with the construction and/or install any utility at variance with any applicable ordinance or code, including any written waivers (notwithstanding the fact that such installation is in compliance with the drawings and technical specifications), the Contractor shall remove such work without cost to the Owner.

(c) The Contractor shall at his own expense, secure and pay for all permits for street pavement, sidewalks, shed, removal of abandoned water taps, sealing of house connection drains, pavement cuts, buildings, electrical, plumbing, water, gas and sewer permits required by the local regulatory body or any of its agencies.

(d) The Contractor shall comply with applicable local laws and ordinances governing the disposal of surplus excavation, materials, debris and rubbish on or off the Project Area and commit no trespass on any public or private property in any operation due to or connected with the Improvements contained in this Contract.

(e) The Contractor will be required to make arrangements for and pay the water. electrical power, or any other utilities required during construction.

(f) During construction of this project, the Contractor shall use every means possible to control the amount of dust created by construction. Prior to the close of a day's work, the Contractor, if directed by the Owner, shall moisten the bank and surrounding area to prevent a dusty condition.

20. Care of Work

(a) The Contractor shall be responsible for all damages to person or property that occur as a result of his fault or negligence in connection with the prosecution of the work and shall be responsible for the proper care and protection of all materials delivered and work performed until completion and final acceptance.

(b) The Contractor shall provide sufficient competent watchmen, both day and night, including Saturdays, Sundays, and holidays, from the time the work is commenced until final completion and acceptance.

(c) In an emergency affecting the safety of life, limb or property, including adjoining property, the Contractor, without special instructions or authorization from the Owner is authorized to act at his discretion to prevent such threatened loss or injury, and he shall so act. He shall likewise act if instructed to do so by the Owner.

(d) The Contractor shall avoid damage as a result of his operations to existing sidewalks, streets, curbs, pavements, utilities (except those which are to be replaced or removed), adjoining property, etc., and he shall at his own expense completely repair any damage thereto caused by his operations.

(e) The Contractor shall shore up, brace, underpin, secure, and protect as maybe necessary, all foundations and other parts of existing structures adjacent to, adjoining, and in the vicinity of the site, which may be in any way affected by the excavations or other operations connected with the construction of the improvements included in this Contract. The Contractor shall be responsible for the giving of any and all required notices to any adjoining or adjacent property owner or other party before the commencement of any work. The Contractor shall indemnify and save harmless the Owner from any damages on account of settlements or the loss of lateral support of adjoining property and from all loss or expense and all damages for which the Owner may become liable in consequence of such injury or damage to adjoining and adjacent structures and their premises.

21. Accident Prevention

(a) No laborer or mechanic employed in the performance of this Contract shall be required to work in surroundings or under working conditions which are unsanitary, hazardous, or dangerous to his health or safety as determined under construction safety and health standards promulgated by the Secretary of Labor.

(b) The Contractor shall exercise proper precaution at all times for the protection of persons and property and shall be responsible for all damages to persons or property, either on or off the site, which occur as a result of his prosecution of the work.

(c) The Contractor shall maintain an accurate record of all cases of death, occupational disease, or injury requiring medical attention or causing loss of time from work, arising out of and in the course of employment on work under the Contract. The Contractor shall promptly furnish the Owner with reports concerning these matters.

(d) The Contractor shall indemnify and save harmless the Owner from any claims for damages resulting from property damage, personal injury and/or death suffered or alleged to have been suffered by any person as a result of any work conducted under this contract.

(e) The Contractor shall provide trench safety for all excavations more than five feet deep prior to excavation. All OSHA Standards for trench safety must be adhered to by the Contractor.

(f) The contractor shall at all times conduct his work in such a manner as to insure the least possible inconvenience to vehicular and pedestrian traffic. At the close of the work each day, all streets where possible in the opinion of the Owner, shall be opened to the public in order that persons living in the area may have access to their homes or businesses by the use of the streets. Barricades, warning signs, and necessary lighting shall be provided to the satisfaction of the Owner at the expense of the Contractor.

22. Sanitary Facilities

The Contractor shall furnish, install and maintain ample sanitary facilities for the workmen. As the needs arise, a sufficient number of enclosed temporary toilets shall be conveniently placed as required. Drinking water shall be provided from an approved source, so piped or transported as to keep it safe and fresh and served from single service containers or satisfactory types of sanitary drinking stands or fountains. All such facilities and services shall be furnished in strict accordance with existing and governing health regulations.

23. Use of Premises

(a) The Contractor shall confine his equipment, storage of materials, and construction operations to the contract limits as shown on the drawings and as prescribed by ordinances or permits, or as may be desired by the Owner, and shall not unreasonably encumber the site or public rights of way with his materials and construction equipment.

(b) The Contractor shall comply with all reasonable instructions of the Owner and all existing state and local regulations regarding signs, advertising, traffic, fires, explosives, danger signals, and barricades.

24. Removal of Debris, Cleaning, Etc.

The Contractor shall, periodically or as directed during the progress of the work, remove and legally dispose of all surplus excavated material and debris, and keep the Project Area and public rights of way reasonably clear. Upon completion of the work, he shall remove all temporary construction facilities, debris and unused materials provided for work, and put the whole site of the work and public rights of way in a neat and clean condition.

25. Inspection

(a) All materials and workmanship shall be subject to inspection, examination, or test by the Owner and Engineer at any and all times during manufacture or construction and at any and all places where such manufacture or construction occurs. The Owner shall have the right to reject defective material and workmanship or require its correction. Unacceptable workmanship shall be satisfactorily corrected. Rejected material shall be promptly segregated and removed from the Project Area and replaced with material of specified quality without charge. If the Contractor fails to proceed at once with the correction of rejected workmanship or defective material, the Owner may by contract or otherwise have the defects remedied or rejected materials removed from the Project Area and charge the cost of the same against any Monies which may be due the Contractor, without prejudice to any other rights or remedies of the Owner.

(b) The Contractor shall furnish promptly all materials reasonably necessary for any tests which may be required. All tests by the Owner will be performed in such manner as not to delay the work unnecessarily and will be made in accordance with the provisions of the technical specifications.

(c) The Contractor shall notify the Owner sufficiently in advance of back filling or concealing any facilities to permit proper inspection. If any facilities are concealed without approval or consent of the Owner, the Contractor shall uncover for inspection and recover such facilities at his own expense, when so requested by the Owner.

(d) Should it be considered necessary or advisable by the Owner at any time before final acceptance of the entire work to make an examination of work already completed by uncovering the same, the Contractor shall on request promptly furnish all necessary facilities, labor, and material. If such work is found to be defective in any important or essential respect, due to fault of the Contractor or his subcontractors, the Contractor shall defray all the expenses of such examination and of satisfactory reconstruction. If, however, such work is found to meet the requirements of the Contract, the actual cost of labor and material necessarily involved in the examination and replacement, shall be allowed the Contractor and he shall, in addition, if completion of the work of the entire Contract has been delayed thereby, be granted a suitable extension of time on account of the additional work involved.

(e) Inspection of materials and appurtenances to be incorporated in the improvements included in this Contract may be made at the place of production, manufacture or shipment, whenever the quantity justifies it, and such inspection and acceptance, unless otherwise stated in the technical specifications, shall be final, except as regards (1) latent defects, (2) departures from specific requirements of the Contract, (3) damage or loss in transit, or (4) fraud or such gross mistakes as amount to fraud. Subject to the requirements contained in the preceding sentence, the inspection of materials as a whole or in part will be made at the Project Site.

(f) Neither inspection, testing, approval nor acceptance of the work in whole or in part, by the Owner or its agents shall relieve the Contractor or his sureties of full responsibility for materials furnished or work performed not in strict accordance with the Contract.

26. Review by Owner

The Owner and its authorized representatives and agents shall have access to and be permitted to observe and review all work, materials, equipment, payrolls, personnel records, employment conditions, material invoices, and other relevant data and records pertaining to this Contract, provided, however that all instructions and approval with respect to the work will be given to the Contractor only by the Owner through its authorized representatives or agents.

27. Final Inspection

When the Improvements included in this Contract are substantially completed, the Contractor shall notify the Owner in writing that the work will be ready for final inspection on a definite date which shall be stated in the notice. The Owner will make the arrangements necessary to have final inspection commenced on the date stated in the notice, or as soon thereafter as is practicable.

28. Deduction for Uncorrected Work

If the Owner deems it not expedient to require the Contractor to correct work not done in accordance with the Contract Documents, an equitable deduction from the Contract Price will be made by agreement between the Contractor and the Owner and subject to settlement, in case of dispute, as herein provided.

29. Warranty of Title

No material, supplies, or equipment to be installed or furnished under this Contract shall be purchased subject to any chattel mortgage or under a conditional sale, lease-purchase or other agreement by which an interest is retained by the seller or supplier. The Contractor shall warrant good title to all materials, supplies, and equipment installed or incorporated in the work and upon completion of all work, shall deliver the same together with all improvements and appurtenances constructed or placed by him to the Owner free from any claims, liens, or charges. Neither the Contractor nor any person, firm, or corporation furnishing any material or labor for any work covered by this Contract shall have any right to a lien upon any improvement or appurtenance. Nothing contained in this paragraph, however, shall defeat or impair the right of persons furnishing materials or labor to recover under any law permitting such persons to look to funds due the Contractor in the hands of the Owner. The provisions of this paragraph shall be inserted in all subcontracts and material contracts and notice of its provisions shall be given to all persons furnishing materials for the work when no formal contract is entered into for such materials.

30. Warranty of Workmanship and Materials

Neither the final certificate of payment nor any provision in the Contract nor partial or entire use of the improvements included in this Contract by the Owner or the public shall constitute an acceptance of work not done in accordance with the Contract or relieve the Contractor of liability in respect to any express warranties or responsibility for faulty materials or workmanship. The Contractor shall promptly remedy any defects in the work and pay for any damage to other work resulting therefrom which shall appear within a period of 12 months from the date of final acceptance of the work.

31. Job Offices

(a) The Contractor and his subcontractors may maintain such office and storage facilities on the site as are necessary for the proper conduct of the work. These shall be located so as to cause no interference to any work to be performed on the site. The Owner shall be consulted with regard to locations.

(b) Upon completion of the improvements, or as directed by the Owner, the Contractors shall remove all such temporary structures and facilities from the site, and leave the site of the work in the condition required by the contract.

32. Partial Use of Site Improvements

The Owner may give notice to the Contractor and place in use those sections of the improvements which have been completed, inspected and can be accepted as complying with the technical specifications and if in its opinion, each such section is reasonably safe, fit, and convenient for the use and accommodation for which it was intended, provided:

(a) The use of such sections of the Improvements shall in no way impede the completion of the remainder of the work by the Contractor.

(b) The Contractor shall not be responsible for any damages or maintenance costs due directly to the use of such sections.

(c) The period of guarantee stipulated in the Section 29 hereof shall not begin to run until the date of the final acceptance of all work which the Contractor is required to construct under this Contract.

33. Contract Period

The work to be performed under this contract shall commence within the time stipulated by the Owner in the Notice to Proceed, and shall be fully completed within 150 calendar days thereafter.

34. Keeping Of Plans And Specifications Accessible

The Contractor shall keep one (1) copy of all Plans and Specifications constantly accessible at the work site and available for inspection at all times.

35. Utilities

Contractor shall be responsible for any charges which may be made by any city or utility companies for the work to be performed by Contractor.

36. Parking

Contractor shall be responsible for the expense of parking the Contractor's vehicle(s) in a legal manner and at no expense or inconvenience to the County.

37. Fire And Safety

Contractor is completely responsible for fire protection at the job site as well as the safety of its own employees as well as those entering onto the job site.

38. Contractor's Buildings

The building of structures for housing men, or the erection of tents or other forms of protection will be permitted only at such places as the County shall permit, and the sanitary conditions of the grounds in or about such structures shall at all times be maintained in the manner satisfactory to the County.

39. Worksite Security

Contractor shall maintain the security of the worksite.

Contractor shall provide adequate protection to persons on the worksite, adjacent properties, and utilities as is necessary to keep each free of damage or injury. Contractor shall furnish all barricades, warning lights and other safety devices necessary for the safety and protection of the public and shall remove them upon completion of the work performed on those premises under the terms of this contract.

Contractor will have complete control over the work site and shall be fully responsible for any loss of or damage to any County property from any cause and will reimburse County in the event of any loss or damage to County's property from any cause.

Contractor shall take proper means to protect adjacent or adjoining properties which might be injured or seriously affected by construction undertaken under this Agreement from any damage or injury by reason of said process of construction. Contractor shall be liable for any and all claims for such damage on account of its failure to fully protect all adjoining properties.

40. Final Grading

If grading is required, when work is complete, Contractor shall grade the site to fill in holes and make a presentable appearance without disturbing trees and add fill dirt if needed. Contractor may not leave voids in the grading and compaction of the property. The land shall have a smooth appearance without concrete, bricks, building materials, and other debris on the surface.

41. Changes And Alterations

Contractor further agrees that County may make such changes and alterations as County 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 contract construction, without affecting the validity of this Contract and the accompanying 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. If they increase the amount of the work, and the increased 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 established for such work under this contract; otherwise such additional work shall be paid for as provided under the paragraph entitled "EXTRA WORK". In case the County shall make such changes or alterations as shall make useless any work already done or material already furnished or used in said work, then County shall recompense 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.

42. Extra Work

The term "Extra Work" as used in this contract shall be understood to mean and include all work that may be required by the County to be done by Contractor to accomplish any change, alteration or addition to the work shown in the plans and specifications.

It is agreed that Contractor shall perform all Extra Work under the direction of the County when presented with a Written Work Order signed by the County. It is also agreed that the compensation to be paid Contractor for performing said Extra Work shall be determined by one or more of the following methods:

Method (a) - By agreed unit prices; or
Method (b) - By agreed lump sum: or
Method (c) - If Neither Method (a) nor Method (b) can be agreed upon before the Extra Work is commenced, then Contractor shall be paid the "Actual field cost" of the work plus fifteen (15) percent.

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 of all workmen, such as foremen, timekeepers, merchants, and laborers, and materials, supplies, teams, trucks, rentals on machinery and equipment for time actually employed or used on such Extra Work plus actual transportation charges necessarily incurred, if the kind of equipment or machinery is not already on the job, 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, Old Age Benefits and other payroll taxes, and a ratable proportion of premiums on Construction and Maintenance Bonds, Public Liability and Property Damage and Workmen's Compensation, and all other insurance as may be required by any law or ordinance. The County may direct the form in which accounts of the "actual field cost" shall be kept and 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 Contractor. Unless otherwise agreed upon, the prices for the use of machinery and equipment shall be determined by using the one hundred (100) percent of the actual hourly or daily rate (for the time used plus time in moving to and from Job) of the latest schedule of Equipment Ownership Expense adopted by the Association 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 (15) percent of the "Actual Field Cost" to be paid Contractor shall cover and compensate him for his 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, save that 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 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 County. In case any orders or instructions, either oral or written appear to Contractor to involve extra work for which he should

receive compensation, it shall make written request to the County for written order authorizing Extra Work. Should a difference of opinion arise as to what does or does not constitute extra work, or as to the payment therefor, and the County insists upon its performance, Contractor shall proceed with the work after making written order and shall keep an accurate account of the "actual field cost" thereof, as provided under Method (c) and by this action Contractor will thereby preserve the right to submit the matter of payment to litigation.

43. Salvage

Any materials, equipment and fixtures specifically ordered to be salvaged under these specifications shall remain the property of County and will be delivered to the site designated by the County. All other items shall be disposed of by Contractor in compliance with all applicable laws and regulations.

44. Compliance With Codes

Contractor shall comply with all city, county, and state codes, laws, and ordinances in force at the time of award of contract and applicable to such work. Contractor shall obtain, at Contractor's own expense such permits, certificates, and licenses as may be required in the performance of the specified work.

45. Laws And Ordinances

Contractor shall at all times observe and comply with all Federal, State and Local Laws, ordinances and regulations which in any manner effect the contract or the work, and shall indemnify and save harmless the County against any claim arising from the violation of any such laws and ordinances, whether by Contractor or its employees.

46. Permits And Licenses

Contractor shall be responsible for obtaining and furnishing all necessary permits and licenses, City, County, State or Federal as are required for the performance of this contract.

47. Lines And Grades

The Engineer will furnish points for horizontal and vertical control. Any additional stakes required by the Contractor shall be set at his expense. Whenever necessary, work shall be suspended to permit this work, but such suspension will be as brief as practicable and the Contractor shall be allowed no extra compensation therefor. The Contractor shall give the Engineer ample notice of the time and place where control lines and bench marks will be needed. All control stakes, marks, etc. shall be carefully preserved by the Contractor, and in case of careless destruction or removal by him or his employees, such control stakes, marks, etc. shall be replaced by the Engineer at the Contractor's expense.

48. Excess, Waste Material And Debris

All excess material, waste material and debris shall become the property of the Contractor and shall be properly disposed of off-site. No separate payment shall be made for same.

49. Material Hauling

Hauling of materials will not be paid for directly, but shall be considered as subsidiary work pertaining to the respective bid items. Haul routes for full and empty loads shall be restricted to State Highways. Hauling of equipment is also restricted to State Highways.

50. Abatement And Mitigation Of Excessive Or Unnecessary Construction Noise

Throughout all phases of the construction of this project, including the moving, unloading, operating and handling of construction equipment prior to commencement of work, during the project and after the work is complete, the contractor shall make every reasonable effort to minimize the noise imposed upon the immediate

neighborhood surrounding the area of construction. Particular and special efforts shall be exercised by the Contractor to avoid the creation of unnecessary noise impacts on adjacent sensitive receptors in the placement of non-mobile equipment such as air compressors, generators, pumps, etc. The placement of temporary parked mobile equipment with the engine running shall be such as to cause the least disruption of normal adjacent activities not associated with the work to be performed by the contractor.

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

51. Working Hours

Work shall not be commenced by the contractor before sunrise and shall be so conducted that all equipment is off the road and safely stored by sunset. Specific permission shall be obtained by the contractor from the Engineer for work during those hours between 7:00 P.M. and 6:00 A.M. of the following day.

52. Pipeline, Utility Locations And Contractor Responsibility

An effort to determine all pipelines and utilities which may impact the project has been made. All known pipelines and utilities have been approximately located and shown on the plans. The Contractor shall notify all utility and pipeline owners before beginning the work. Additional unknown utilities and pipelines may be found. Adjustments of these utilities or pipelines shall be done by others at no expense to the contractor. However, the Contractor shall cooperate and coordinate his work with the adjustment

The Contractor will anticipate this in making his bid. The contractor will not be allowed claims for damages or delays for these adjustments should they be necessary. However, additional time will be considered for the contract period.

This action, however, shall in no way be interpreted as relieving the Contractor of his responsibilities under the terms of the contract as set out in the plans and specifications. The Contractor shall repair any damage to the facilities caused by his operations at the Contractor's expense and shall restore facilities to service in a timely manner.

53. Incidentals

All items of work required under this contract not specifically called for in the proposal as pay items shall be considered incidental to the various bid items and no separate payment shall be made for same.

54. Flagmen

During certain phases of construction flagmen will be required to direct and control traffic. This work will not be paid for directly, but shall be considered incidental the various bid items and no separate payment shall be made for same.

55. Field Office

For this project the Contractor will not have to provide a field office.

56. Wage Rates:

The attached schedule of wages per hour for this Contract follows.

BID PROPOSAL

Date: 03/27/2025

Bid of Lucas Construction Company, Inc.
(Legal Name of Bidder – Company)

[ ] an individual proprietorship

[X] a corporation organized and existing under the laws of Texas

[ ] a partnership consisting of _____

_____

[ ] a joint venture

[ ] other _____

FOR:

CONSTRUCTION OF THE
HIGWAY 3 BOAT RAMP RENOVATIONS
GALVESTON COUNTY, TEXAS
LJA JOB NO. B841-1006

TO: c/o <<BID RETURN ADDRESS>>

Willis Lucas

Lucas Construction Company, Inc.

551 W. League City Parkway, Suite C, League City, TX 77573

COPY

ITEM NO.	ITEM DESCRIPTION	UNIT	QTY	UNIT PRICE	TOTAL PRICE
	DEMOLITION				
1	BREAK, REMOVE AND DISPOSE OF EXISTING ASPHALT PAVEMENT AND BASE MATERIALS	CY	940	$ 50.00	$ 47,000.00
2	BREAK, REMOVE AND DISPOSE OF EXISTING CONCRETE BOAT RAMP	SY	183	$ 21.00	$ 3,843.00
3	REMOVE AND DISPOSE OF OVERHAD LAMP, WIRING, AND TIMBER SERVICE POLE	EA	2	$ 1,000.00	$ 2,000.00
	PARKING LOT				
1	CONSTRUCT PARKING LOT. INCLUDES CONCRETE PAVEMENT (3500 PSI, 8 IN THICK), TEMPORARY REMOVAL AND REPLACEMENT OF EXISTING STRUCTURES, MATERIALS, EQUIPMENT, LABOR, TOOLS, AND INCIDENTALS. COMPLETE IN PLACE.	SY	2,692	$ 95.00	$ 255,740.00
2	PAINTING STRIPING AND DIRECTIONAL MARKERS, MATERIALS, EQUIPMENT, LABOR, TOOLS, AND INCIDENTALS. COMPLETE IN PLACE.	EA	1	8,000.00	8,000.00
3	WHEEL STOPS, 6' LENGTH X 9" WIDTH, REINFORCED, WITH TWO #5, 10" PINS, COMPLETE IN PLACE	EA	16	100.00	1,600.00
4	LIME-STABILIZED AGGREGATE BASE FOR PARKING LOT, COMPACTED TO 24" DEEP.	SY	2,692	$ 18.00	$ 48,456.00
5	CONSTRUCT TYPE I CURB, 4 IN HEIGHT. INCLUDES SURFACE PREPARATION OF CURB FOUNDATION, EQUIPMENT, LABOR, MATERIALS, TOOLS, AND INCIDENTALS. COMPLETE IN PLACE.	LF	73	$ 10.00	$ 730.00
6	CONSTRUCT TYPE II CURB, 5 IN HEIGHT. INCLUDES SURFACE PREPARATION OF CURB FOUNDATION, EQUIPMENT, LABOR, MATERIALS, TOOLS, AND INCIDENTALS. COMPLETE IN PLACE.	LF	80	$ 10.00	$ 800.00
7	CONSTRUCT SIDEWALK , 4 IN THICK, BRROM FINISH, INCLUDES MATERIALS, EQUIPMENT, LABOR, TOOLS, AND INCIDENTALS. COMPLETE IN PLACE.	SY	17	$ 95.00	$ 1,615.00
8	CRUSHED 3/4 IN STONE BASE FOR SIDEWALK, 4 IN THICK	SY	17	$ 49.00	$ 833.00
9	ADA PARKING SIGN, INCLUDES FURNISHING AND INSTALLING NEW SIGNS AND HARDWARE, ASSEMBLING AND ERECTING THE SIGNS, ALL MATERIALS, COMPLETE IN PLACE.	EA	1	$ 1,200.00	$ 1,200.00
	BOAT RAMP				
1	EXCAVATE SEDIMENT TO TOE OF EXISTING BOAT RAMP, INCLUDES LOADING, HAULING, AND DISPOSING.	CY	25	$ 100.00	$ 2,500.00

2	CONSTRUCT AND REMOVE TEMPORARY COFFERDAM (NON-PILE DRIVEN) FOR THE CONSTRUCTION OF BOAT RAMP. INCLUDES DEWATERING AND ALL APPURTENANCES (AS DIRECTED BY ENGINEER). COMPLETE IN PLACE.	EA	1	$	5,000.00	$ 5,000.00
3	CONSTRUCT CONCRETE BOAT RAMP, 4000 PSI, 6 IN THICK. INCLUDES DEWATERING, TEMPORARY REMOVAL AND REPLACEMENT OF EXISTING STRUCTURES, MATERIALS, EQUIPMENT, LABOR, TOOLS, AND INCIDENTALS. COMPLETE IN PLACE.	SY	226	$	120.00	$ 27,120.00
4	RIP RAP, 12" PROTECTION STONE, DELIVERED TO SITE, COMPLETE IN PLACE.	CY	22	$	120.00	$ 2,640.00
5	LIME-STABILIZED AGGREGATE BASE FOR BOAT RAMP, COMPACTED TO 8" DEEP.	SY	93		30.00	2,790.00
6	CRUSHED 3/4" STONE BASE FOR BOAT RAMP, COMPACTED TO 24" DEEP.	SY	229	$	135.00	$ 30,915.00
	ELECTRICAL					
1	UNDERGROUND CONDUIT BANKS, COMPLETE IN PLACE	LF	160	$	100.00	$ 16,000.00
2	LIGHT POLES AND LIGHT FIXTURES, COMPLETE IN PLACE.	EA	2	$	6,000.00	$ 12,000.00
3	PROVIDE AND INSTALL ELECTRICAL SERVICE EQUIPMENT. INCLUDES ALL METERING, PANELBOARDS, CONTROLS ADAPTERS, FITTINGS, OFFSETS, CONDUITS, WIRE, AND GROUNDING AND CONNECTORS, GROUNDING TESTING, AND ACCESS PLATFORM, COMPLETE IN PLACE.	EA	1	$	15,000.00	$ 15,000.00
4	CONNECTION TO ELECTRICAL SERVICE AND ALL NECESSARY WIRE, CONDUIT AND DUCT BANK WITH APPURTENANCES AS DIRECTED BY TEXAS NEW MEXICO POWER, COMPLETE IN PLACE.	EA	1	$	5,000.00	$ 5,000.00
5	PROTECTIVE PIPE BOLLARDS	EA	2	$	1,000.00	$ 2,000.00
	MISCELLANEOUS					
1	REPAIR OF BULKHEAD GROUNDWATER LEAKAGE, INCLUDES EXCAVATION, FILTER FABRIC, BACKFILL, AND COMPACTION.	EA	2	$	5,000.00	$ 10,000.00
2	GRADING AND SEEDING, INCLUDES MATERIALS, SEEDING MIX,WATER FOR HYDRO-SEEDING AND HYDRO-MULCHING OPERATIONS, MOWING, TACKING, LABOR, EQUIPMENT, TOOLS, SUPPLIES, AND INCIDENTALS, COMPLETE IN PLACE.	SY	670	$	10.00	$ 6,700.00
3	TEMPORARY PROJECT IDENTIFICATION SIGN, INCLUDES LETTERING AND GRAPHICS, MATERIALS, TOOLS, SUPPLIES, AND INCIDENTALS, COMPLETE IN PLACE.	EA	1	$	2,000.00	$ 2,000.00

4	STORM WATER POLLUTION PROTECTION PLAN COMPLIANCE, INCLUDES GENERAL SOURCE CONTROLS AND ALL ITEMS NOT SPECIFICALLY LISTED IN THE BID PROPOSAL	EA	1	$	2,000.00	$ 2,000.00
5	INSTALL, MAINTAIN, AND REMOVE REINFORCED FILTER FABRIC FENCE (SILT BARRIER FENCING) TO BE USED AS DIRECTED BY ENGINEER, COMPLETE IN PLACE.	LF	400	$	5.00	$ 2,000.00
6	INSTALL, MAINTAIN, AND REMOVE FLOATING TURBIDITY BARRIER, TO BE USED AS DIRECTED BY ENGINEER, COMPLETE IN PLACE.	LF	320	$	30.00	$ 9,600.00
			TOTAL BID PRICE	$	525,082.00	

Note: Lucas Construction bid item 4 on parking lot to lime stabilize 8" of existing soil as shown on page C.07 in the plans and as described in the Geotech report

1) Alternate Bid: In lieu of electrical items shown in plans, Lucas Construction proposes 2 - 20' tall poles on 24" concrete footings 5 ft above finished grade with two solar powered LED light fixtures manufactured by EnGoPlanet. Poles meet windstorm requirements.

Deduct: ($30,000)

2) Alternate Bid: Change pavement reinforcement from continuously reinforced concrete described in the plans to #4 rebar @ 18" o.c. both ways

Deduct: ($15,000)

THE AMERICAN INSTITUTE OF ARCHITECTS

AIA Document A310

Bid Bond

KNOW ALL MEN BY THESE PRESENTS, that we **Lucas Construction Company, Inc.** as Principal, hereinafter called the Principal, and **Travelers Casualty and Surety Company of America** a corporation duly organized under the laws of the State of **Connecticut** as Surety, hereinafter called the Surety, are held and firmly bound unto

Galveston County, Texas.

as Obligee, hereinafter called the Obligee, in the sum of **Five Percent of the Greatest Amount Bid**

Dollars(**$5% of G.A.B.**),
for the payment of which sum well and truly to be made, the said Principal and the said Surety, bind ourselves, our heirs, executors, administrators, successors and assigns, jointly and severally, firmly by these presents.

WHEREAS, the Principal has submitted a bid for

HWY 3 Boat Ramp and Parking Lot Reconstruction RFP#25-035

NOW, THEREFORE, if the Obligee shall accept the bid of the Principal and the Principal shall enter into a Contract with the Obligee in accordance with the terms of such bid, and give such bond or bonds as may be specified in the bidding or Contract Documents with good and sufficient surety for the faithful performance of such Contract and for the prompt payment of labor and material furnished in the prosecution thereof, or in the event of the failure of the Principal to enter such Contract and give such bond or bonds, if the Principal shall pay to the Obligee the difference not to exceed the penalty hereof between the amount specified in said bid and such larger amount for which the Obligee may in good faith contract with another party to perform the Work covered by said bid, then this obligation shall be null and void, otherwise to remain in full force and effect.

Signed and sealed this **27th** day of **March, 2025.**

Lucas Construction Company, Inc.
(Principal) *(Seal)*

Witness

Authorized Agent

Travelers Casualty and Surety Company of America
(Surety) *(Seal)*

Derick Harrison, *Account Manager* *(Witness)*

Kelly J. Brooks, *Attorney-In-Fact*

TRAVELERS

Travelers Casualty and Surety Company of America
Travelers Casualty and Surety Company
St. Paul Fire and Marine Insurance Company

POWER OF ATTORNEY

KNOW ALL MEN BY THESE PRESENTS: That Travelers Casualty and Surety Company of America, Travelers Casualty and Surety Company, and St. Paul Fire and Marine Insurance Company are corporations duly organized under the laws of the State of Connecticut (herein collectively called the "Companies"), and that the Companies do hereby make, constitute and appoint **Kelly J. Brooks** of **CYPRESS**, **Texas**, their true and lawful Attorney(s)-in-Fact to sign, execute, seal and acknowledge any and all bonds, recognizances, conditional undertakings and other writings obligatory in the nature thereof on behalf of the Companies in their business of guaranteeing the fidelity of persons, guaranteeing the performance of contracts and executing or guaranteeing bonds and undertakings required or permitted in any actions or proceedings allowed by law.

IN WITNESS WHEREOF, the Companies have caused this instrument to be signed, and their corporate seals to be hereto affixed, this **21st** day of **April**, **2021**.

SEAL SEAL SEAL

State of Connecticut

By: _____
Robert L. Raney, Senior Vice President

City of Hartford ss.

On this the **21st** day of **April**, **2021**, before me personally appeared **Robert L. Raney**, who acknowledged himself to be the Senior Vice President of each of the Companies, and that he, as such, being authorized so to do, executed the foregoing instrument for the purposes therein contained by signing on behalf of said Companies by himself as a duly authorized officer.

IN WITNESS WHEREOF, I hereunto set my hand and official seal.

My Commission expires the **30th** day of **June**, **2026**

ANNA P NOWIK NOTARY PUBLIC CONNECTICUT

_____
Anna P. Nowik, Notary Public

This Power of Attorney is granted under and by the authority of the following resolutions adopted by the Boards of Directors of each of the Companies, which resolutions are now in full force and effect, reading as follows:

RESOLVED, that the Chairman, the President, any Vice Chairman, any Executive Vice President, any Senior Vice President, any Vice President, any Second Vice President, the Treasurer, any Assistant Treasurer, the Corporate Secretary or any Assistant Secretary may appoint Attorneys-in-Fact and Agents to act for and on behalf of the Company and may give such appointee such authority as his or her certificate of authority may prescribe to sign with the Company's name and seal with the Company's seal bonds, recognizances, contracts of indemnity, and other writings obligatory in the nature of a bond, recognizance, or conditional undertaking, and any of said officers or the Board of Directors at any time may remove any such appointee and revoke the power given him or her; and it is

FURTHER RESOLVED, that the Chairman, the President, any Vice Chairman, any Executive Vice President, any Senior Vice President or any Vice President may delegate all or any part of the foregoing authority to one or more officers or employees of this Company, provided that each such delegation is in writing and a copy thereof is filed in the office of the Secretary; and it is

FURTHER RESOLVED, that any bond, recognizance, contract of indemnity, or writing obligatory in the nature of a bond, recognizance, or conditional undertaking shall be valid and binding upon the Company when (a) signed by the President, any Vice Chairman, any Executive Vice President, any Senior Vice President or any Vice President, any Second Vice President, the Treasurer, any Assistant Treasurer, the Corporate Secretary or any Assistant Secretary and duly attested and sealed with the Company's seal by a Secretary or Assistant Secretary; or (b) duly executed (under seal, if required) by one or more Attorneys-in-Fact and Agents pursuant to the power prescribed in his or her certificate or their certificates of authority or by one or more Company officers pursuant to a written delegation of authority; and it is

FURTHER RESOLVED, that the signature of each of the following officers: President, any Executive Vice President, any Senior Vice President, any Vice President, any Assistant Vice President, any Secretary, any Assistant Secretary, and the seal of the Company may be affixed by facsimile to any Power of Attorney or to any certificate relating thereto appointing Resident Vice Presidents, Resident Assistant Secretaries or Attorneys-in-Fact for purposes only of executing and attesting bonds and undertakings and other writings obligatory in the nature thereof, and any such Power of Attorney or certificate bearing such facsimile signature or facsimile seal shall be valid and binding upon the Company and any such power so executed and certified by such facsimile signature and facsimile seal shall be valid and binding on the Company in the future with respect to any bond or understanding to which it is attached.

I, **Kevin E. Hughes**, the undersigned, Assistant Secretary of each of the Companies, do hereby certify that the above and foregoing is a true and correct copy of the Power of Attorney executed by said Companies, which remains in full force and effect.

Dated this 27th day of March, 2026.

SEAL SEAL SEAL

_____
Kevin E. Hughes, Assistant Secretary

To verifythe authenticity of this Power of Attorney, please call us at 1-800-421-3880.
Please refer to the above-named Attorney(s)-in-Fact and the details of the bond to which this Power of Attorney is attached.

Travelers

IMPORTANT NOTICE

TO OBTAIN INFORMATION OR MAKE A COMPLAINT:

You may contact Travelers Casualty & Surety Company of America, Travelers Casualty & Surety Company, Travelers Indemnity Company, Standard Fire Insurance Company and/or Farmington Casualty Company for information or to make a complaint at:

Travelers Bond
Attn: Claims
1500 Market Street
West Tower, Suite 2900
Philadelphia, PA 19102

(267) 675-3000
(267) 675-3102 Fax

You may contact the Texas Department of Insurance to obtain the information on companies, coverages, rights or complaints at:

Texas Department of Insurance
P.O. Box 149104
Austin, TX 78714-9104

(800) 252-3439

ATTACH THIS NOTICE TO YOUR BOND. This notice is for information only and does not become a part or a condition of the attached document and is given to comply with Section 2253-021, Government Code, and Section 53.202, Property Code, effective September 1, 2001.

ATTACHMENT G
INFORMATION FOR NOTICE

Solicitation Number: RFP 25-035

Solicitation Title: HIGHWAY 3 BOAT RAMP AND PARKING LOT RECONSTRUCTION PROJECT

Respondent shall use this form to provide the information for notice.

1. Contact information for notice:

   Name: Willis Lucas Lucas Construction Company, Inc.

   Address: 551 W. League City Parkway, Suite C,
   League City, TX 77573

   Telephone Number: 281-316-9990 Facsimile number: 281-316-6087

2. If a copy of notice is requested, please complete below.

   Name:

   Address:

   Telephone Number: Facsimile number:

3. If second or more copies are requested for notice, please supplement this form, and clearly mark the supplement as "Supplementary Notice Information."

ATTACHMENT H
REFERENCES

Solicitation Number: RFP 25-035

Solicitation Title: HIGHWAY 3 BOAT RAMP AND PARKING LOT RECONSTRUCTION PROJECT

Respondent shall use this form to provide three (3) references who can attest to the Respondent's capability to carry out the requirements set forth in this qualification request. If Respondent wishes to provide more than the minimum, Respondent should supplement this form and should clearly mark the supplement as "Supplementary Reference Information."

1. Business Name of Organization: Kelso Concrete

Name of Person: John Kelso

Title of Individual within Organization, if applicable: Owner/President

Business address: P.O. Box 2110
Galveston, TX 77554

Telephone Number: 281-559-4200 Facsimile number:

2. Business Name of Organization: CMC Shepler's

Name of Person: Levi Miller

Title of Individual within Organization, if applicable: Sales Manager

Business address: 3430 1st Ave S,
Texas City, TX 77590

Telephone Number: 409-945-3443 Facsimile number:

3. Business Name of Organization: FSC SUPPLY

Name of Person: Stan Fletcher

Title of Individual within Organization, if applicable: Owner/President

Business address: 200 Lexington Ct.
Conroe, TX 77385

Telephone Number: (936) 266-0662 Facsimile number:

Lucas Construction Company, Inc.
Qualification Statement
Owner References
Supplementary Reference Information

NAME/TITLE	OWNER	PHONE	EMAIL
Sheryl Rozier, CTA/Project Manager	Galveston Island Park Board of Trustees	409-797-5138	srozier@galvestonparkboard.org
Dudley Anderson/City Architect	City of Galveston	409-797-3557	DAnderson@GalvestonTX.Gov
Michael Shannon/Engineer	Galveston County	713-408-3445	Michael.Shannon@co.galveston.tx.us
Madhu Kilambi/Engineer	ARKK Engineers	713-400-2755	madhu.kilambi@arkkengineers.com
Donald Pursley/Director of Facilities and Planning	Texas City Independent School District	409-916-0036	DPursley@tcisd.org
Rudy Santos/Project Manager	Alvin Independent School District	281-245-2555	rsantos@alvinisd.net
Travis Sellers/Engineer	IDS Engineering	832-590-7196	TSellers@idseg.com
Ed Figueroa Engineer	Shelmark Engineering	409-935-9986	efigueroa@shelmark.net
Paul Lopez	City of Nassau Bay	(281) 333-4211 EXT 6299	Paul.lopez@nassaubay.com

Lucas Construction Company, Inc.
Qualification Statement
Owner References
Supplementary Reference Information

NAME/TITLE	OWNER	PHONE	EMAIL
Lance Petter	City of Freeport	979-709-5700	lpetty@freeport.tx.us

THE COUNTY OF GALVESTON

RUFUS G. CROWDER, CPPO CPPB
PURCHASING AGENT

COUNTY COURTHOUSE
722 Moody (21st Street)
Fifth (5th) Floor, Purchasing
GALVESTON, TEXAS 77550
(409) 770-5371

ERIN S. QUIROGA, MBA, CPPB
ASST. PURCHASING AGENT

March 18, 2025

PROJECT NAME: **Highway 3 Boat Ramp and Parking Lot Reconstruction Project**

SOLICITATION NO: **RFP #25-035**

RE: **ADDENDUM #1**

To All Prospective Proposers:

The following information is being provided to aid in preparation of your bid proposal(s):

Revised Bid Opening:
The Proposal Opening for RFP 25-035 Highway 3 Boat Ramp and Parking Lot Reconstruction Project, designated to be Thursday, March 20, 2025 at 2 PM CST has been revised.

The new Proposal Opening date is listed below:

- **Request for Proposal (RFP) Opening** **Thursday, March 27, 2025**
  Time: 2:00 PM CST

Question #1: ***Detail 2 on sheet E05 has a note saying "Light pole, description and type see luminaire schedule on the site plan…" however if we go to the electrical site plan sheet E01 there is no luminaire schedule. There is also no luminaire schedule on the other site plan sheet C06. Could you please provide details or specifications for the type of fixtures and poles?***

Response: The poles: Precast concrete and manufactured by Lonestar Precast, Bellville, TX. The floodlights should be Holophane PLLED fixture equipped for tenon mounting. The fixtures shall be equipped with a PCLL solid-state long-life photocell, have P1 LED performance (52,000 lumens), FAO controller, MVOLT voltage range, GYSDP gray paint and rated for marine installations with PLLEDFV GYSDP full visor gray paint.

If you have any further questions regarding this solicitation, please address them to the representative listen in the proposal document or contact the Purchasing Department at (409) 770-5371 for assistance:

Please excuse us for any inconvenience that this may have caused.

Sincerely,

Rufus [illegible]der, CPPO CPPB
Purchasing Agent
Galveston County

CERTIFICATE OF INTERESTED PARTIES

FORM 1295

Complete Nos. 1 - 4 and 6 if there are interested parties.
Complete Nos. 1, 2, 3, 5, and 6 if there are no interested parties.

OFFICE USE ONLY
CERTIFICATION OF FILING

Certificate Number:
2025-1286514

Date Filed:
03/25/2025

Date Acknowledged:

1 Name of business entity filing form, and the city, state and country of the business entity's place of business.
Lucas Construction
LEAGUE CITY, TX United States

2 Name of governmental entity or state agency that is a party to the contract for which the form is being filed.
Galveston County

3 Provide the identification number used by the governmental entity or state agency to track or identify the contract, and provide a description of the services, goods, or other property to be provided under the contract.
RFP# 25-035
Highway 3 Boat Ramp and Parking Lot Reconstruction Project

4 Name of Interested Party	City, State, Country (place of business)	Nature of interest (check applicable)	
		Controlling	Intermediary
Lucas, Willis	LEAGUE CITY, TX United States	X	

5 Check only if there is NO Interested Party. ☐

6 UNSWORN DECLARATION

My name is Willis Lucas, and my date of birth is 01/26/1950.

My address is 3006 Sea Pines Place (street), League City (city), TX (state), 77573 (zip code), USA (country).

I declare under penalty of perjury that the foregoing is true and correct.

Executed in Galveston County, State of TX, on the 27th day of March (month), 2025 (year).

Willis Lucas

Signature of authorized agent of contracting business entity
(Declarant)

Lucas Construction Company, Inc.
Statement of Bidder's Qualifications
Work In Progress

LCCI JOB #	PROJECT NAME & ADDRESS	OWNER	ARCHITECT	GENERAL CONTRACTOR	Percent Complete
3414	$887,298 TSCI - City of League City Hwy 3 & 96	City of League City 300 W. Walker League City Texas 77573 281-554-1400	iGetServices LLC 10039 Bissonet #336 Houston, Texas 77036 832-834-3430	Lucas Construction	95%
3418	$6,543,467 City of Galveston - Sandhill Crane Complex	City of Galveston 823 Rosenberg, Galveston, Texas 77550 409-797-3575	Clark Condon 10401 Stella Link Road Houston, Texas 77025 713-871-1414	Lucas Construction	95%
3423	$884,097 City of League City - W. Walker Phase 3	City of League City 300 W. Walker League City Texas 77573 281-554-1400	J. Morales 3425 Federal Street Houston, TX 77504 713-947-6606	Traffic Systems Inc 520 FM 517 Dickinson, Texas 77539 281-337-1926	80%
3427	$323,800 Garlock - Courtside Fitness League City	EAI Commercial Properties, Inc 2925 Gulf Fwy Suite B #383 League City, Texas 77573 832-498-3017	Shelmark Engineering, LLC 921 FM 517 Rd E, Dickinson, TX 77539 (409) 935-9986	Garlock Construction	98%
3428	$2,233,097 MainLane TXDot Galveston Hike and Bike	TxDOT 6230 East Stassney Lane Austin, TX 78744 512-416-2466	Jenes/Carter 4350 Lockhill Selma Suite 100 San Antonio, Texas 78249 210-494-5511	Mainlane Industries 14115 Luthe Road, Suite 100 Houston, TX 77039 346-229-5302	95%
3431	$1,458,954 City of Galveston - 37th Street Overlay	City of Galveston 823 Rosenberg, Galveston, Texas 77550 409-797-3575	City of Galveston Engineering Department 3015 MARKET ST. GALVESTON, TX 77553 409.797.3630	Lucas Construction	90%
3432	$158,815 City of Galveston - Stewart Beach Pavilion Demo	City of Galveston 823 Rosenberg, Galveston, Texas 77550 409-797-3575	City of Galveston Engineering Department 3015 MARKET ST. GALVESTON, TX 77553 409.797.3630	Lucas Construction	90%
3436	$481,839 City of La Marque - Mahan Park	City of La Marque 1111 Bayou Road Street La Marque, Texas 409-938-9200	Adico Consulting and Engineering 2114 El Dorado Boulevard Friendswood, TX 77546 832-895-1093	Lucas Construction	75%
3437	$1,863,708 City of League City -	City of League City 300 W. Walker League City Texas 77573 281-554-1400	HRGreen 11011 Richmond Ave, Suite 200 Houston, Texas 77042 713-965-9996	Lucas Construction	85%
3438	$918,000 CITY OF DEER PARK - GLENWOOD PARK	City of Deer Park 710 E. San Augustine, Deer Park, TX 77536 281-479-2394	MHS Planning and Design 212 W. 9th St Tyler, Texas 75701 (903) 597-6606	Lucas Construction	75%
3439	$6,962,347 GREEN EAST REALTY, LLC - ROSEATE BEACH DEVELOPMENT	Green East Realty LLC 3257 Huntingdon Place Houston, Texas 77019	Shelmark Engineering, LLC 921 FM 517 Rd E, Dickinson, TX 77539 (409) 935-9986	Lucas Construction	2%
3440	$909,484 GALVESTON I.S.D. - WEIS MIDDLE SCHOOL	G.I.S.D. 3904 Ave T, Galveston, Texas 77550 409-765-5100	PBK Architects 11 Greenway Plaza, 22nd Floor Houston, TX 77046 713-965-0608	Lucas Construction	50%

Lucas Construction Company, Inc.
Statement of Bidder's Qualifications
Work In Progress

LCCI JOB #	PROJECT NAME & ADDRESS	OWNER	ARCHITECT	GENERAL CONTRACTOR	Percent Complete
3441	$982,360 MAINLANE - TXDOT F.M. 2004 SIDEWALKS	TxDOT 6230 East Stassney Lane Austin, TX 78744 512-416-2466	Agha Engineering LLC 1080 Eldridge Pkwy Suite 200, Houston, TX 77077 (713) 331-9464	Mainlane Industries 14115 Luthe Road, Suite 100 Houston, TX 77039 346-229-5302	0%
3442	$1,294,887 BRENTWOOD MARINA AND BOAT STORAGE	Brentwood Boat Storage and Marina 6923 Broadway St Galveston, TX 77554	Shelmark Engineering, LLC 921 FM 517 Rd E, Dickinson, TX 77539 (409) 935-9986	Lucas Construction	26%
3443	$190,925 CITY OF NASSAU BAY - 36" STORM SEWER REPLACEMENT	City of Nassau Bay 1800 Space Park Dr Suite 200 Nassau Bay, TX 77058	ARKK Engineers 7322 Southwest Fwy Suite 1040 Houston, TX 77074 (713) 400-2755	Lucas Construction	0%
3444	$730,000 MAINLANE - MOSLEY ROAD (GULFGATE REDEVELOPMENT AUTHORITY)	Gulfgate Redevelopment Authority / TIRZ 8 c/o Hawes Hill & Associates LLP PO Box 22167 Houston, TX 77227	Lockwood, Andrews & Newnam 3700 W Sam Houston Pkwy S #400, Houston, TX 77042 (713) 266-6900	Mainlane Industries 14115 Luthe Road, Suite 100 Houston, TX 77039 346-229-5302	16%
3445	CITY OF DEER PARK - SPENCERVIEW	City of Deer Park 710 E. San Augustine, Deer Park, TX 77536 281-479-2394	Cobb Fendley Jason Eldridge, P.E. 13430 Northwest Freeway, Suite 1100 Houston, TX 77040 817-769-1690	Lucas Construction	0%
3446	$1,698,700 GALVESTON COUNTY - ARPA BACLIFF DRAINAGE IMPROVEMENTS	Galveston County 722 Moody, 5th Floor Galveston, TX 77550 409-762-8621	DE Corp. 3100 West Alabama, Houston, TX 77098 (713) 520-9570	Lucas Construction	0%
3447	MAINLANE - CITY OF GALVESTON SOUTHSHORE DRAINAGE	City of Galveston 823 Rosenberg, Galveston, Texas 77550 409-797-3575	Stantec Consulting Services Inc. 910 Louisiana Street Suite 2600 Houston, TX 77002 (713) 548-5700	Mainlane Industries 14115 Luthe Road, Suite 100 Houston, TX 77039 346-229-5302	0%
3448	$399,148 CITY OF LA MARQUE - CITYWIDE ASPHALT MILLING	City of La Marque 1111 Bayou Road Street La Marque, Texas	Adico Consulting and Engineering 2114 El Dorado Boulevard Friendswood, TX 77546 832-895-1093	Lucas Construction	0%
3449	$881,897.85 CITY OF LA MARQUE - ARPA ROAD IMPROVEMENT PROJECT	City of La Marque 1111 Bayou Road Street La Marque, Texas	Adico Consulting and Engineering 2114 El Dorado Boulevard Friendswood, TX 77546 832-895-1093	Lucas Construction	0%
3450	$225,000 PALISADE PALMS - RICHARD ANDERSON	Richard Anderson RAnderson@FalconGroup.com 713.335.9580	Stanley, Spurling, & Hamilton, Inc. 3301 Edloe St #200, Houston, TX 77027 (713) 776-9433	Lucas Construction	0%
3452	$1,768,234 CITY OF LEAGUE CITY - HISTORIC DISTRICT DRAINAGE IMP	City of League City 300 W. Walker League City Texas 77573 281-554-1400	Gauge Engineering 11750 Katy Freeway Suite 400 Houston, TX 77079 (832)-318-8800	lucas Construction	0%
3453	$1,587,470 BAYWAY HOMES - SEABROOK LAKE MIJA	Bayway Homes 1606 Friendship Park Circle Seabrook, TX 77586	Shelmark Engineering, LLC 921 FM 517 Rd E, Dickinson, TX 77539 (409) 935-9986	Lucas Construction	0%

Lucas Construction Company, Inc.
Statement of Bidder's Qualifications
Work In Progress

LCCI JOB #	PROJECT NAME & ADDRESS	OWNER	ARCHITECT	GENERAL CONTRACTOR	Percent Complete
3454	$6,124,742.20 CITY OF LEAGUE CITY PHASE 2 RECONSTRUCTION OF TURNER STREET AND BUTLER ROAD PROJECT	City of League City 300 W. Walker League City Texas 77573 281-554-1400	Freese and Nichols 11200 Broadway, Suite 200 Pearland, TX 77584 832-456-4700	Lucas Construction	0%

Lucas Construction Company, Inc.
Statement of Qualifications
Representative Projects Completed

LCCI JOB #	PROJECT NAME & ADDRESS	OWNER	ARCHITECT	GENERAL CONTRACTOR
3319	$253,500.00 Gulfgate Dodge Parking Lot	Gulfgate Dodge 7250 Gulf Freeway Houston, TX 77017 713-946-1962		Wycoff Construction 651 FM 1266, Ste. A League City, TX 77565 281-334-4472
3320	$2,540,363.00 43rd Street	City of Galveston 823 Rosenberg Galveston, TX 77553 409-797-3650	IDS Engineering Group 13333 N.W. Freeway Suite 300 Houston, TX 77040 713-462-3178	Mainlane Industires 6902 Flintlock Rd. Houston, TX 77040 713-896-3141
3321	$138,274.00 Jamaica Beach City Hall Parking Lot	City of Jamaica Beach 16628 Termini San Luis Pass Rd. Jamaica Beach, TX 77554 409-737-1142	McDaniel Designs 1423 23rd Street Galveston, TX 77550 409-762-6772	Lucas Construction 551 C League City Pkwy League City, TX 77573 281-316-9990
3322	$202,000.00 City of Jamaica Beach Pool Parking Lot	City of Jamaica Beach 16628 Termini San Luis Pass Rd. Jamaica Beach, TX 77554 409-737-1142	McDaniel Designs 1423 23rd Street Galveston, TX 77550 409-762-6772	Lucas Construction 551 C League City Pkwy League City, TX 77573 281-316-9990
3323	$1,066,279.00 Clear Lake MOB	Clear Lake Medical Center 500 W. Medical Center Blvd. Webster, TX 77598 281-332-2511	Shelmark Engineering 921 FM 517 Road E Dickinson, TX 77539 409-935-9986	Pepper Lawson 3160 Bee Cave, #301 Austin, TX 78746 512-493-4570
3324	$1,587,450.00 Grand Beach Reserve	230 East Beach 1406 Camp Craft Road Austin, TX 78746 512-329-8782	Jone and Carter 1701 Directors Blvd., Ste. 400 Austin, TX 78744 512-685-5131	Lucas Construction 551 C League City Pkwy League City, TX 77573 281-316-9990
3325	$422,546.00 Hitchcock ISD	Hitchcock ISD 7801 Nevillle Road, Bldg. B Hitchcock, TX 77563 409-316-6545	Joiner Architects 700 Rockmead Suite 265 Kingwood, TX 77339 281-359-6401	Lucas Construction 551 C League City Pkwy League City, TX 77573 281-316-9990
3326	$226,616.00 Whataburger	Whataburger Resturants LLC 911 Central Pkwy. N. Ste. 425 San Antonio, TX 78232 210-494-0088	Jacobs Engineering 911 Central Pkwy. N. San Antonio, TX 78232 281-494-0088	Atkinson & Associates Builders 307 E. Houston St. Edna, TX 77957 361-782-6027
3327	In Progress Pomona Recreational Center	MC 288, LLC 3090 Olive Street, Ste. 300 Dallas, TX 75219	LJA Engineering 2929 Briarpark Drive, Ste. 600 Houston, TX 77042 713-953-5200	Patak Construction 1927 Highway 146 Kemah, TX 281-334-9833 281-334-9814 fax

Lucas Construction Company, Inc.
Statement of Qualifications
Representative Projects Completed

LCCI JOB #	PROJECT NAME & ADDRESS	OWNER	ARCHITECT	GENERAL CONTRACTOR
3328	$4,019,425 Hughes Road	City of Houston 900 Bagby, 2nd Floor Houston, TX 77002 713-837-0311	Othon, Inc. 11111 Wilcrest Green Dr., Ste. 128 Houston, TX 77042 713-975-8555	Mainlane Industires 6902 Flintlock Rd. Houston, TX 77040 713-896-3141
3329	$61,438.00 Allen Parkway Improvements	City of Houston 900 Bagby, 2nd Floor Houston, TX 77002 713-837-0311	Walter P. Moore 1301 McKinney St. # 1100 Houston, TX 77010 713-630-7300	Mainlane Industires 6902 Flintlock Rd. Houston, TX 77040 713-896-3141
3330	$1,881,805.00 Jack Brooks Park Road Reconstruction	Galveston County 722 Moody, 5th Floor Galveston, TX 77550 Bruce Hughes	McDonough Civil Engineers 5625 Schumacher Lane Houston, TX 77057 713-975-9990	Lucas Construction 551 C League City Pkwy League City, TX 77573 281-316-9990
3331	$708,057.00 Hometown Heroes Parking Lot Expansion	City of League City 300 W. Walker St. League City, TX 77573 281-554-1400	R.G. Miller Engineering 16340 Park Ten Place, Ste. 350 Houston, TX 77084 713-461-9600	Lucas Construction 551 C League City Pkwy League City, TX 77573 281-316-9990
3332	$1,246,925.64 Galveston Seawall Repairs	Galveston County 722 Moody, 5th Floor Galveston, TX 77550 409-762-8621	LJA Engineering 2929 Briarpark Drive, Ste. 600 Houston, TX 77042 713-953-5200	Lucas Construction 551 C League City Pkwy League City, TX 77573 281-316-9990
3334	$131,330.00 Marine Max Parking Lot	Marine Max 3001 Nasa Parkway Seabrook, TX 77586 281-326-4224	Shelmark Engineering 118214 East Frwy., Ste. 360 Houston, TX 77029 Mark Harvan 713-450-1300	Lucas Construction 551 C League City Pkwy League City, TX 77573 281-316-9990
3335	$1,304,607.00 Stella Mare RV Park	Eron Smith 131 St. Cloud Friendswood, TX 77586 281-996-1507	Ibis Engineering P.O. Box 55171 Galveston, TX 77555 409-621-6740	Fichera Builders 16511 FM 3005 Galveston, TX 77554 409-737-2500
3336	$186,600.00 Galveston College Parking	Galveston College Purchasing Department 4015 Avenue Q Galveston, TX 77550	Shelmark Engineering 8419 E.F. Lowry Expway Suite 120 Texas City, TX 77591 Randall Liska 409-935-9986	Lucas Construction 551 C League City Pkwy League City, TX 77573 281-316-9990

Lucas Construction Company, Inc.
Statement of Qualifications
Representative Projects Completed

LCCI JOB #	PROJECT NAME & ADDRESS	OWNER	ARCHITECT	GENERAL CONTRACTOR
3337	$5,871,241 Freddiesville Area Water Line Replacement & Paving Improvements	Galveston County 722 Moody, 5th Floor Galveston, TX 77550 409-762-8621	HDR Engineering, Inc. 4828 Loop Central Drive, Suite 800, Houston, Texas 77081 713-622-9264	Lucas Construction 551 C League City Pkwy League City, TX 77573 281-316-9990
3338	$892,211 Cloverleaf RV Park	Eron Smith 131 St. Cloud Friendswood, TX 77586 281-996-1507	Daniel Scott Engineering, LLC P.O. Box 1549 Alvin, TX 77511 281-519-8530	Fichera Buillders 16511 FM 3005 Galveston, TX 77554 409-737-2500
3339	$61,908 69th Street Repairs	City of Galveston 823 Rosenberg Galveston, TX 77553 409-797-3650	Binkley & Barfield 1710 Seamist Drive Houston, TX 77008 713-869-3433	Triple B Services 820 Old Atascocita Rd. Huffman, TX 77336
3340	$539,310.0 Manvel RV Park	Eron Smith 131 St. Cloud Friendswood, TX 77586 281-996-1507	Shelmark Engineering 8419 E.F. Lowry Expway Suite 120 Texas City, TX 77591 Randall Liska 409-935-9986	Fichera Buillders 16511 FM 3005 Galveston, TX 77554 409-737-2500
3341	$573,138 FWG Partners - Airport Project	FWG Partners, LTD. P.O. Box 1847 Friendswood, Texas 77549 281-485-2491	PRD Land Development Svcs 5208 Broadway Ste 203 Pearland, Texas 77581 281-760-1541	John Lejsal Farnsworth & Lott Construction Services, Inc. P.O. Box 915 Pearland, Texas 77588 281-485-2491
3342	$398,704 Sportsplex Entrance Project	City of League City, 300 West Walker St League City, Texas 77573 281-554-1000	Arkk Engineers 7322 S.W. Freeway #1040, Houston, Texas 77074 713-400-2755	Lucas Construction
3343	$2,585,980 City of Galveston 27th Street Improvements	City of Galveston, 823 Rosenberg, Galveston, Texas 77550 409-797-3575	PBK Architects 11 Greenway Plaza, 22nd Floor Houston, TX 77046 713-965-0608	Lucas Construction
3344	$1,172,600 City of Galveston Market Street Reconstruction 25th to 19th	City of Galveston, 823 Rosenberg, Galveston, Texas 77550 409-797-3575	AECOM 1921 Katy Freeway, Suite 100 Houston, Texas 281-646-2400	Ed Henkel Mainlane Industries 14115 Luthe Road Houston, Texas 77039 713-896-3141
3345	$1,425,875 City of Galveston 51st Street Improvements	City of Galveston, 823 Rosenberg, Galveston, Texas 77550 409-797-3575	Arcenaux Wilson & Cole 2901 Turtle Creek Drive Port Arthur, Texas 77642 409-724-7888	Lucas Construction

Lucas Construction Company, Inc.
Statement of Qualifications
Representative Projects Completed

LCCI JOB #	PROJECT NAME & ADDRESS	OWNER	ARCHITECT	GENERAL CONTRACTOR
3346	$3,300,377 City of Houston Clinton Drive	City of Houston 900 Bagby, 2nd Floor Houston, Texas 77002		Brian Manning Mainlane Industries 14115 Luthe Road Houston, Texas 77039 713-896-3141
3347	$2,509,893 San Leon Roads Reconstruction Galveston County 722 Moody Galveston, Texas 77550	County of Galveston 722 Moody Galveston Texas 77550 409-770-5399	Costello Engineering & Surveying 9990 Richmond Avenue Suite 450 North Building Houston, Texas 77042	Lucas Construction
3348	$716,500 Alta Vista Storage Facility, Dickinson, Texas	Alta Vista Development, LLC 6402 Stewart Road Galveston, Texas 77550 409-682-4444	Shelmark Engineering 118214 East Frwy., Ste. 360 Houston, TX 77029 Mark Harvan 713-450-1300	Lucas Construction
3349	$868,000 Stella Mare - Phase 2	Eron Smith 131 St. Cloud Friendswood, TX 77586 281-996-1507	Ibis Engineering P.O. Box 55171 Galveston, TX 77555 409-621-6740	Fichera Buillders 16511 FM 3005 Galveston, TX 77554 409-737-2500
3350	$454,662 Houston SW Airport	Houston SW Airport 503 McKeever Arcola, TX 800-511-6062	KSA Engineers, Inc. 816 Park Two Drive Sugarland, TX 77478 281-494-3252	Lucas Construction
3351	$225,150 Clute Sidewalks Phase II	City of Clute 108 East Main Street Clute, Texas 77531 979-265-2541	KSA Engineers, Inc. 816 Park Two Drive Sugarland, TX 77478 281-494-3252	Lucas Construction
3352	$2,095,490.50 Woodshire Paving and Drainage	City of Houston 611 Walker Street, 15th Floor Houston, Texas 77039 832-395-2215		David Cox Mainlane Industires 14115 Luthe Road, Suite 100 Houston, TX 77039 346-229-5302
3354	$1,014,575 Market Street Sidewalk & Curb Reconstruction 25th-33rd	City of Galveston 823 Rosenberg, Galveston, Texas 77550 409-797-3575	Shelmark Engineering 921 FM 517 Dickinson, TX 77539 409-935-9986	Lucas Construction
3355	$350,778 Southside Drainage 2018	City of Dickinson, 4403 Highway 3, Dickinson, Texas 77539 281-337-2489	IDS Engineering Group 13430 N.W. Freeway Suite 700 Houston, TX 77040 713-462-3178	Lucas Construction

Lucas Construction Company, Inc.
Statement of Qualifications
Representative Projects Completed

LCCI JOB #	PROJECT NAME & ADDRESS	OWNER	ARCHITECT	GENERAL CONTRACTOR
3356	$2,242,860 Galveston Incinerator Project	City of Galveston 823 Rosenberg, Galveston, Texas 77550 409-797-3575	AECOM 9400 Amberglen Blvd Austin, Texas 78729	Brian Courtney Alamo Environmental, Inc. dba Alamo1 2900 Nacogdoches Road San Antonio Texas 78217 210-404-1220
3357	$5,278,276 Dickinson Avenue Phase I and II	City of League City 300 W. Walker League City Texas 77573	Binkley & Barfield, Inc. 1710 Seamist Drive Houston, Texas 77008 713-869-3433	Lucas Construction
3358	$294,660 Briscoe Park Disc Golf	City of Alvin 11700 Katy Fwy, Suite 800 Houston Texas 77079	Kimley-Horn & Associates 11700 Katy Fwy, Suite 800 Houston Texas 77079 281 920-6588	Lucas Construction
3359	$1,100,500 Pearwood RV Park	Eron Smith 131 St. Cloud Friendswood, TX 77586 281-996-1507	Daniel Scott Engineering LLC P.O. Box 1549 Alvin, Texas 77512 281-519-8530	Alfio Fichera Fichera Buillders 16511 FM 3005 Galveston, TX 77554 409-737-2500
3360	$3,233,383 City of Galveston 45th Street	City of Galveston 823 Rosenberg, Galveston, Texas 77550 409-797-3575	Arcenaux Wilson & Cole 2901 Turtle Creek Drive Port Arthur, Texas 77642 409-724-7888	David Cox Mainlane Industries 14115 Luthe Road, Suite 100 Houston, TX 77039 346-229-5302
3361	$2,741,970 City of Dickinson Parking Imp's	City of Dickinson 4403 Highway 3 Dickinson, Texas 77539 281-337-2489	IDS Engineering Group 13333 N.W. Freeway Suite 300 Houston, TX 77040 713-462-3178	Lucas Construction
3362	$1,357,293 City of Galveston 27th St Imps Phase II	City of Galveston 823 Rosenberg, Galveston, Texas 77550 409-797-3575	City of Galveston Engineering Department	Lucas Construction
3363	$2,092,512 Texas City ISD Asphalt Improvements	Texas City ISD 1401 Ninth Ave. N. Texas City, TX 77590 409-942-2602 409-942-2655 fax	Arkk Engineers 7322 S.W. Freeway #1040 Houston, Texas 77074 713-400-2755	Lucas Construction
3364	$326,590 Paul Hopkins Bridge	Galveston County 722 Moody, 5th Floor Galveston, TX 77550 409-762-8621		Lucas Construction
3366	$3,735,745 City of League City - League Park	City of League City 300 W. Walker League City Texas 77573	Huitt - Zollars, Inc. 1500 S. Dairy Ashford Suite 200 Houston, TX 77077 281-496-0066	Lucas Construction
3367	Bacliff Villas	Galveston County 722 Moody, 5th Floor Galveston, TX 77550 409-762-8621	Huitt - Zollars, Inc. 1500 S. Dairy Ashford Suite 200 Houston, TX 77077 281-496-0066	Lucas Construction
3368	$1,034,674 City of Galveston 27th St Imps Phase III	City of Galveston 823 Rosenberg, Galveston, Texas 77550 409-797-3575	City of Galveston Engineering Department	Lucas Construction

Lucas Construction Company, Inc.
Statement of Qualifications
Representative Projects Completed

LCCI JOB #	PROJECT NAME & ADDRESS	OWNER	ARCHITECT	GENERAL CONTRACTOR
3370	$941,224 City of Alvin E.C. Mason Elementary School	City of Alvin 301 East House Street, Alvin, Texas 77511 281-388-4200	Costello, Inc. 2107 CityWest Blvd, 3rd Floor, Houston, Texas 77042 713-783-7788	Lucas Construction
3371	$261,310 Clear Creek Community Church			Lucas Construction
3372	$1,125,155 Oaks of Hitchcock			Base Construction
3374	$1,047,830 City of Pearland - Mimosa Acres Drainage Imps	City of Pearland 2559 Hillhouse, Pearland, Texas 77511 281-652-1755	Arkk Engineers 7322 S.W. Freeway #1040 Houston, Texas 77074 713-400-2755	Lucas Construction
3376	$1,111,111 City of Hitchcock Street Rehabilitation	City of Hitchcock 7423 Hwy 6 Hitchcock, TX 77563 409-986-9702		Lucas Construction
3377	$599,777 City of Texas City - West Annex/Biosphere Parking	City of Texas City 1801 9th Ave. N. P.O. Drawer 2608 Texas City, TX 77590 409-949-3036 409-949-3020 Fax	Arkk Engineers 7322 S.W. Freeway #1040 Houston, Texas 77074 713-400- 2755	Lucas Construction
3378	$5,304,832 City of Dickinson - Nicholstone	City of Dickinson 4403 Highway 3 Dickinson Texas 77539 281-337-2489	IDS Engineering Group 13333 N.W. Freeway Suite 300 Houston, TX 77040 713-462-3178	Lucas Construction
3379	$1,963,082 City of Dickinson - Pin Oak Drive Drainage	City of Dickinson 4403 Highway 3 Dickinson Texas 77539 281-337-2489	Huitt - Zollars, Inc. 1500 S. Dairy Ashford Suite 200 Houston, TX 77077 281-496-0066	Lucas Construction
3380	$473,215 County of Galveston - Blue Heron Drive Imps	Galveston County 722 Moody, 5th Floor Galveston, TX 77550 409-762-8621		Lucas Construction
3381	$149,000 County of Galveston - Carbide Park	Galveston County 722 Moody, 5th Floor Galveston, TX 77550 409-762-8621	Ibis Engineering 1500 Foremast Drive Galveston, TX 409-737-9233	Lucas Construction
3382	$644,432 Clear Lake Water Authority - Exploration Green	Clear Lake Water Authority Houston, TX	Lockwood Andrews Newman Engineers7322 S.W. Freeway #1040, Houston, Texas 77074 713-400-2755	Lucas Construction
3384	$595,105 Brown Drive and Amburn Road	City of Texas City 1801 9th Ave. N. P.O. Drawer 2608 Texas City, TX 77590 409-949-3036 409-949-3020 Fax	Arkk Engineers 7322 S.W. Freeway #1040 Houston, Texas 77074 713-400- 2755	Lucas Construction
3385	$349,000 City of Galveston - Sanitation Equipment Shelter	City of Galveston 823 Rosenberg, Galveston, Texas 77550 409-797-3575		Lucas Construction
3386	$145,580 GCMUD #52 - Sidewalks Grand Cay Boulevard	Galveston MUD #52 3200 SW Freeway Suite 2600, Houston, Texas 77027	Shelmark Engineering 921 FM 517 Dickinson, TX 77539 409-935-9986	Lucas Construction

Lucas Construction Company, Inc.
Statement of Qualifications
Representative Projects Completed

LCCI JOB #	PROJECT NAME & ADDRESS	OWNER	ARCHITECT	GENERAL CONTRACTOR
3387	$42,222 City of Galveston - Outdoor Fitness Project	City of Galveston 823 Rosenberg, Galveston, Texas 77550 409-797-3575		Lucas Construction
3388	$411,953 HouTex LLC - Blue Dolphin Parking Lot	Houtex Holdings I, Ltd		Patak Construction 1927 Highway 146 Kemah, TX 281-334-9833 281-334-9814 fax
3389	$195,848 GCWA - TMWNTP Parking Lot	Gulf Coast Water Authority 3630 FM 1765, Texas City, Texas 77591 409-935-2438		Lucas Construction
3390	$960,380.44 Galveston County - Jamaica Beach Roads	Galveston County 722 Moody, 5th Floor Galveston, TX 77550 409-762-8621		Lucas Construction
3391	$696,158 Galveston County - Daniel Dror Road Project	Galveston County 722 Moody, 5th Floor Galveston, TX 77550 409-762-8621		Lucas Construction
3392	$348,760 Carriage Point	Carriage Point Mango, LLC 945 Bishopswood Place Alpharetta, GA 30022	Duplantis Design Group 14950 Heathrow Forest Parkway Houston, TX 77032	Lucas Construction
3393	$670,789 City of League City - 3rd Street Asphalt Street Rehabilitation	City of League City 300 W. Walker League City Texas 77573	HRGreen 11011 Richmond Ave, Suite 200 Houston, TX 77042 713-965-9996	Lucas Construction
3394	$3,064,909 Galveston County - La Marque Various Roads	Galveston County 722 Moody, 5th Floor Galveston, TX 77550 409-762-8621	EHRA 10011 Meadowglen Lane Houston, TX 77042 713-784-4500	Lucas Construction
3395	$118,241 TCISD Ag Barn	Texas City ISD 1401 Ninth Ave. N. Texas City, TX 77590 409-942-2602 409-942-2655 fax		Lucas Construction
3396	$121,500 Midway Church of Christ			Lucas Construction
3397	$2,360,303 City of Freeport - Freeport Street Reconstruction	City of Freeport 200 West 2nd Street Freeport, TX 77541 979-233-3526	Freese and Nichols 11200 Broadway, Suite 200 Pearland, TX 77584 832-456-4700	Lucas Construction
3398	$307,013 City of Hitchcock Downtown Revitalization Sidewalk Project	City of Hitchcock 7423 Hwy 6 Hitchcock, TX 77563 409-986-9702	Kaluza, Inc. 3014 Avenue I Rosenberg, Tx 77471 281-341-0808	Lucas Construction
3399	$1,472,820 Park Board of Trustee - Stewart Beach Drainage	Galveston Park Board of Trustees 2504 Church St. Galveston, TX 7750		Lucas Construction
3400	$5,230,523 City of Baytown - 2020 Reconstruction Project	City of Baytown 2401 Market Street, Baytown, Texas 77520	Arkk Engineers 2925 Briarpark #400 Houston, Texas 77042 713-266-7900	Lucas Construction
3404	$1,673,974 Alvin I.S.D. - Heights Road	City of Alvin 301 East House Street, Alvin, Texas 77511 281-388-4200	S&G Engineering 1796 Avenue D, Suite B Katy, Texas 77493	Lucas Construction
3405	$740,575 TSCI - City of League City Traffic Signal	City of League City 300 W. Walker League City Texas 77573	Kimley-Horn & Associates 11700 Katy Fwy, Suite 800 Houston Texas 77079 281 920-6588	Traffic Systems Construction, Inc. 281-337-1926

Lucas Construction Company, Inc.
Statement of Qualifications
Representative Projects Completed

LCCI JOB #	PROJECT NAME & ADDRESS	OWNER	ARCHITECT	GENERAL CONTRACTOR
3407	$998,000 23rd Street Galveston for Mainlane	City of Galveston 823 Rosenberg, Galveston, Texas 77550 409-797-3575		David Cox Mainlane Industries 14115 Luthe Road, Suite 100 Houston, TX 77039 346-229-5302
3408	$131,801.50 Cemetery Road Dickinson Tx - Milling	Galveston County 722 Moody, 5th Floor Galveston, TX 77550 409-762-8621		Lucas Construction
3409	$126,000 Independence Park	City of Pearland Pearland, TX		Lucas Construction
3410	$3,799,224 City of Freeport - Freeport Street Reconstruction Phase 2	City of Freeport 200 West 2nd Street Freeport, TX 77541 979-233-3526	Freese and Nichols 11200 Broadway, Suite 200 Pearland, TX 77584 832-456-4700	Lucas Construction
3411	$695,480 Pasadena EDC	Pasadena Economic Development Corporation 1149 Ellsworth Pasedena Texas 77506 713-920-7957	AECOM 19219 Katy Freeway, Suite 100 Houston, Texas 77094 281-646-2400	David Cox Mainlane Industries 14115 Luthe Road, Suite 100 Houston, TX 77039 346-229-5302
3413	$1,070,000 Dril-Quip Laydown Yard	Dril-Quip		Lucas Construction
3415	$1,300,480 Nassau Bay 2022 Street Project	City of Nassau Bay	Arkk Engineers 2925 Briarpark #400 Houston, Texas 77042 713-266-790(	Lucas Construction
3416	$5,999,999 City of Baytown - 2020 Reconstruction Phase 2	City of Baytown 2401 Market Street, Baytown, Texas 77520	Binkley & Barfield, Inc. 1710 Seamist Drive Houston, Texas 77008 713-869-3433	Lucas Construction
3417	$198,965 City of League City - Calder Widening FM 517	City of League City 300 W. Walker League City Texas 77573	Gradient 2107 City West Blvd, Suite 450 Houston, Texas 77042 832-779-5700	Lucas Construction
3419	$346,244 City of Texas City - Fire Station No. 4 Access Road	City of Texas City 1801 9th Ave. N. Texas City, TX 77590 409-949-3036 409-949-3020 Fax	Arkk Engineers 2925 Briarpark #400 Houston, Texas 77042 713-266-7900	Lucas Construction
3420	$249,788 TSCI - Madrid Lane Phase II	Galveston County M.U.D. No 45	DEC Engineers 3100 W. Alabama Houston, Texas 77098 713-520-9570	Traffic Systems Inc 520 FM 517 Dickinson, Texas 77539 281-337-1926
3421	$1,094,210 G.I.S.D. B.H.S Parking Lots	G.I.S.D. 3904 Ave T, Galveston, Texas 77550 409-765-5100	PBK Architects 11 Greenway Plaza, 22nd Floor Houston, TX 77046 713-965-0608	J.W. Kelso Galveston, Texas 409-7400266
3422	$943,000 GISD - Courville Stadium	Galveston Indpendent School District 3904 Avenue T Galveston, Texas 77550 409-766-5100	Zero Six Consulting 23rd Street Galveston, TX 77550 409-740-0090	Jamail and Smith Construction
3424	$338,120 City of Humble - Downtown Parking Lot Imps	City of Humble 114 W. Higgins Humble Texas 77338	Arkk Engineers 2925 Briarpark #400 Houston, Texas 77042 713-266-7900	Lucas Construction
3425	$1,698,700 Galveston County - Algoa/Alta Loma Culvert Replacements	Galveston County 722 Moody, 5th Floor Galveston, TX 77550 409-762-8621	SPI 11767 Katy Fwy, Suite 900 Houston, Texas 77079 281-920-0487	Lucas Construction
3429	$1,073,000 Galveston County - Misc Asphalt Paving	Galveston County 722 Moody, 5th Floor Galveston, TX 77550 409-762-8621	Galveston County Engineering Department	Lucas Construction

Lucas Construction Company, Inc.
Statement of Qualifications
Representative Projects Completed

LCCI JOB #	PROJECT NAME & ADDRESS	OWNER	ARCHITECT	GENERAL CONTRACTOR
3430	$4,335,880 Galveston County - Road Rehab	Galveston County 722 Moody, 5th Floor Galveston, TX 77550 409-762-8621	Galveston County Engineering Department 722 21st St # 2, Galveston, TX 77550 (409) 770-5552	Lucas Construction
3433	$291,646 City of Hitchcock - Wedgewood Avenue Paving	City of Hitchcock 7423 Hwy 6 Hitchcock, TX 77563 409-986-9702	Kaluza, Inc. 3014 Avenue I Rosenberg, Texas 77471 281-341-6333	Lucas Construction
3435	$1,049,000 Galveston I.S.D. - Austin Middle School Renovations	G.I.S.D. 3904 Ave T, Galveston, Texas 77550 409-765-5100	PBK Architects 11 Greenway Plaza, 22nd Floor Houston, TX 77046 713-965-0608	Lucas Construction

LUCAS

CONSTRUCTION CO., INC

Safety Plan

INTRODUCTION TO OUR PROGRAM

State and Federal law, as well as company policy, make the safety and health of our employees the first consideration in operating our business. Safety and health in our business must be a part of every operation, and every employee's responsibility at all levels. It is the intent of Lucas Construction to comply with all laws concerning operation of the business, health and safety of our employees and the public. To do this, we must constantly be aware of conditions in all work areas that can produce or lead to injuries. No employee is required to work at a job known to be unsafe or dangerous to his or her health. Your cooperation in detecting hazards, reporting dangerous conditions and controlling workplace hazards is a condition of employment. Inform your supervisor immediately of any situation beyond your ability or authority to correct. Employees will not be disciplined or suffer any retaliation for reporting a safety violation in good faith.

SAFETY FIRST PRIORITY

The personal safety and health of each employee of Lucas Construction is of primary importance. Prevention of occupationally induced injuries and illnesses is of such consequence that it will be given precedence over operating productivity, whenever necessary. To the greatest degree possible, management will provide all mechanical and physical activities required for personal safety and health, in keeping with the highest standards.

INDIVIDUAL COOPERATION NECESSARY

Lucas Construction maintains a safety and health program conforming to the best practices of our field. To be successful, such a program must embody proper attitudes towards injury and illness prevention on the part of supervisors and employees. It requires the cooperation in all safety and health matters, not only of the employer and employee, but also between the employee and all co-workers. Only through such a cooperative effort can a safety program in the best interest of all be established and preserved. Safety is no accident; think safety and the job will be safer.

SAFETY PROGRAM GOALS

The objectives of Lucas Construction is a safety and health program that will reduce the number of injuries and illnesses to an absolute minimum, not merely in keeping with, but surpassing the best experience of similar operations by others. Our goal is zero accidents and injuries.

SAFETY POLICY STATEMENT

It is the policy of Lucas Construction that accident prevention shall be considered of primary importance in all phases of operation and administration. It is the intention of Lucas Construction to provide safe and healthy working conditions and to establish and insist upon safe practices at all times by all employees.

The prevention of accidents is an objective affecting all levels of our company and its operations. It is, therefore, a basic requirement that each supervisor make the safety of all employees an integral part of his or her regular management function. It is equally the duty of each employee to accept and follow established safety regulations and procedures.

Every effort will be made to provide adequate training to employees. However, if an employee is ever in doubt about how to do a job or task safely, it is his or her duty to ask a qualified person for assistance. Employees are expected to assist management in accident prevention activities. Unsafe conditions must be reported immediately. Fellow employees that need help should be assisted. Everyone is responsible for the housekeeping duties that pertain to their jobs.

Every injury that occurs on the job, even a slight cut or strain, must be reported to management as soon as possible. Under no circumstances, except emergency trips to the hospital, should an employee leave the work site without reporting an injury. When you have an accident, everyone is hurt. Please work safely. Safety is everyone's business.

SAFETY RULES FOR ALL EMPLOYEES

It is the policy of Lucas Construction that everything possible will be done to protect you from accidents, injuries and/or occupational disease while on the job. Safety is a cooperative undertaking requiring an ever-present safety consciousness on the part of every employee. If an employee is injured, positive and prompt action must be taken to see that the employee receives adequate treatment. No one likes to see a fellow employee injured by an accident. Therefore, all operations must be planned to prevent accidents. To carry out this policy, the following rules will apply:

I. All employees shall follow the safe practices and rules contained in this manual and such other rules and practices communicated on the job. All employees shall report all unsafe conditions or practices to the proper authority, including the immediate supervision on the job, and, if corrective action is not taken immediately, a senior manager, and if corrective action is not taken immediately, a governmental authority with proper jurisdiction over such practices.

2. The Supervisor shall be responsible for implementing these policies by insisting that employees observe and obey all rules and regulations necessary to maintain a safe work place and safe work habits and practices.

3. Good housekeeping must be practiced at all times in the work area. Clean up all waste and eliminate any dangers in the work area.

4. Suitable clothing and footwear must be worn at all times. Personal protection equipment (hard hats, respirators, eye protection, etc.) will be worn whenever needed.

5. All employees will participate in a safety meeting conducted by their supervisor once every week.

6. Anyone under the influence of intoxicating liquor or drugs, including prescription drugs that might impair motor skills and judgment, shall not be allowed on the job.

7. Horseplay, scuffling, and other acts which tend to have an adverse influence on safety or well being of other employees is prohibited.

8. Work shall be well planned and supervised to avoid injuries in the handling of heavy materials and while using equipment.

9. No one shall be permitted to work while the employee's ability or alertness is so impaired by fatigue, illness, or other causes that it might expose the employee or others to injury.

10.There will be no consumption of liquor or beer on the job.

11. Employees should be alert to see that all guards and other protective devices are in proper places and adjusted, and shall report deficiencies promptly to their Supervisor.

12. Employees shall not handle or tamper with any electrical equipment, machinery, or air or water lines in a manner not within the scope of their duties, unless they have received specific instructions.

13. All injuries should be reported to the Supervisor so that arrangements can be made for medical or first aid treatment.

14. When lifting heavy objects, use the large muscles of the leg instead of the smaller muscles of the back.

15. Do not throw things, especially material and equipment. Dispose of all waste properly and carefully.

16. Do not wear shoes with thin or torn soles. Do not wear open toe shoes or sandals.

17. Coming to work under the influence of drugs or alcohol is cause for immediate dismissal.

AGREEMENT TO PARTICIPATE

Every employer is required to provide a safe and healthful workplace. Lucas Construction is committed to fulfilling this requirement. A safe and healthful workplace is one of the highest priorities of Lucas Construction Company.

The information in this manual constitutes a written Injury and Illness Prevention Program. While Lucas Construction cannot anticipate every workplace hazard, the following general principals should guide your conduct. To be safe, you must never stop being safety conscious.

Study the guidelines contained in this manual. Discuss the workplace situation with your supervisor. Attend all company sponsored training and safety meetings. Read all posters and warnings. Listen to instructions carefully. Follow the Code of Safe Work Place Practices contained herein. Participate in accident investigations as requested. Accept responsibility for the safely of others. Maintain all required documentation.

By signing the acknowledgment at the end of this handbook, each employee promises to read and implement this Injury and Illness Prevention Program. If you don't understand any policy, please ask your supervisor to explain it to you.

TRAINING

Employee safety training is another requirement of an effective Injury and Illness Prevention Program.

SAFETY AND HEALTH TRAINING

Training is one of the most important elements of any injury and illness prevention program. This training is designed to enable employees to learn their jobs properly, bring new ideas to the workplace, reinforce existing safety policies and put the Injury and Illness Prevention Program into action.

Training is required for both supervision and employees alike. The content of each training class will vary, but each class will attempt to teach the following:

I. The success of Lucas Construction's Injury and Illness Prevention Program depends on the actions of individual employees as well as a commitment by the company.

2. Each employee's immediate supervisor will review the safe work procedures unique to that employee's job, and how these safe work procedures protect against risk and danger.

3. Each employee will learn when personal protective equipment is required or necessary, and how to use and maintain the personal protective equipment in good condition.

4. Each employee will learn what to do in case of emergencies occurring in the workplace.

Supervisors are vested with special duties concerning the safety of employees. Supervisors are key figures in the establishment and success of Lucas Construction Injury and Illness Prevention Program. They have primary responsibility for actually implementing the Injury and Illness Prevention Program, especially as it relates directly to the workplace. Supervisors are responsible for being familiar with safety and health hazards to which employees are exposed, how to recognize them, the potential effects of these hazards, and rules and procedures for maintaining a safe workplace. Supervisors shall convey this information to the employees at the workplace, and shall investigate accidents according to the accident investigation policies contained in this manual.

PERIODIC SAFETY TRAINING MEETINGS

Lucas Construction has a safety meeting every week. The purpose of the meeting is to convey safety information and answer employee questions. The format of most meetings will be to review the content of the injury prevention program, special work site hazards, serious concealed dangers and material safety data sheets (MSDS). Each week the Supervisor will review a portion of the company's safe work practices contained in this manual or other safety related information. When a new practice or procedure is introduced into the workplace, it will be thoroughly reviewed for safety.

A sign-up sheet will be passed around each meeting, and notes of the meeting will be distributed afterwards. A copy of the notes will be placed in the personnel file of each employee who attends the meeting. Employee attendance is mandatory.

EMPLOYEE RESPONSIBILITY FOR TRAINING

Teaching safety is a two way street. Lucas Construction can preach safety, but only employees can practice safety. Safety education requires employee participation. Every week a meeting of all employees will be conducted for the purpose of safety instruction. Employees will discuss the application of the company's Injury and Illness Prevention Program to actual job assignments. They will also read and discuss a section of the manual and review application of general safety rules to specific situations.

The following general rules apply in all situations:

1. An employee should not undertake a job that appears to be unsafe.

2. An employee is not expected to undertake a job until he/she has received adequate safety instructions, and is authorized to perform the task.

3. An employee should not use chemicals without fully understanding their toxic properties and without the knowledge required to work with these chemicals safely.

4. All mechanical safeguards must be kept in place.

5. Employees must report any unsafe conditions to their supervisor.

6. Any work-related injury must be reported to a member of management at once.

7. All personal protective equipment must be used when and where required. All personal protective equipment must be properly maintained and replaced when necessary.

COMMUNICATION

Lucas Construction has a commitment to communicate to all employees of their pledge to safety and to make sure that employees are familiar with the elements of the safety program.

ACCIDENT PREVENTION

It is the policy of Lucas Construction to provide a safe and workplace and to maintain sound operating practices. Concentrated efforts shall produce safe working conditions and result in efficient, productive operations. Safeguarding the health and welfare of our employees cannot be addressed too strongly.

Accident prevention is the responsibility of all of us. Management at all levels shall be responsible for continuous efforts directed toward the prevention of accidents. Employees are responsible for performing their jobs in a safe manner.

The observance of safe and clean work practices, coupled with ongoing compliance of all established safety standards and codes, will reduce accidents and make our company a better place to work.

Each employee has a personal responsibility to prevent accidents. You have a responsibility to your family, to your fellow employees and to the company. You are expected to observe safe practice rules and instructions relating to the efficient handling of your work.

Employee responsibilities include the following:

1. Know and obey safe practice rules.
2. Report all unsafe conditions or equipment to your supervisor immediately.
3. Don't take chances.
4. Ask questions when there is any doubt concerning safety.
5. Report all injuries immediately, no matter how slight the injury may be.
6. Don't tamper with anything you do not understand.
7. Incorporate safety into every job procedure.
8. Know that disciplinary action may result from a violation of the safety rules.
9. Caution fellow employees when they perform unsafe acts.
10. Don't remove safety devices or signs.

ACCIDENT PREVENTION POSTING POLICY

A copy of this manual will be posted in the work area.

SAFETY AUDITS

The best method to establish a safer workplace is to study past accidents and worker compensation complaints. By focusing on past injuries, Lucas Construction hopes to avoid similar problems in the future. Therefore, whenever there is an accident, and in many cases upon review of past accidents, you will be requested to participate in a safety audit interview. During the interview there will be questions about the investigation and the workplace safety related to the incident. Please answer these questions honestly and completely and volunteer any personal observations and suggestions for improved workplace safety.

Based upon the study of past accidents and industry recommendations, a safety training program will be implemented. In addition to other preventative practices, there will be a group discussion of the cause of the accident and methods to avoid the type of accident and injury situations in the future. Work rules will be reviewed and modified based upon the study of these accidents.

In addition to historical information, workplace safety depends upon observation. Your supervisor is responsible for inspecting our working area daily before and while you are working, but this does not mean that you are no longer responsible for inspecting the workplace also. Each day before you begin work, inspect the area for any dangerous condition. Inform your supervisor of anything significant, so other employees and visitors are advised. You may also be given written communications regarding unsafe conditions or serious concealed dangers. Review this communication carefully and adjust your workplace behavior to avoid any danger or hazards. If you are unclear or unsure of the significance of this written communication, contact your supervisor and review your planned actions before starting to work. It is better to wait and check than to go ahead and possibly cause an injury to yourself or others.

Management must provide written notice to employees of any serious concealed dangers of which they have actual knowledge. In addition to providing written notice of all serious concealed dangers to employees, management is required to report serious concealed dangers to either OSHA or an appropriate administrative agency within fifteen (15) days, or immediately if such danger would cause imminent ham unless the danger is removed.

Just identifying a problem is not sufficient. The danger must be reported to the appropriate supervisor, who then will take appropriate action to correct the problem. If the danger cannot be corrected, then all employees will be warned to take protective action so that the danger will not result in any injuries.

WORKPLACE INSPECTIONS

In addition to the examination of records and reports, workplace safety inspections will occur periodically every month, when conditions change, or when a new process or procedure is implemented. During these inspections, there will be a review of the Injury and Illness Prevention Policy and the Lucas Construction Company's code of safe work practices.

ACCIDENT INVESTIGATION

A primary tool used by Lucas Construction to identify the areas responsible for accidents is a thorough and properly completed accident investigation. The results of each investigation will be reduced into writing and submitted for review by management. Pictures should be taken, if possible, at all accident scenes. A written report may be prepared from notes and diagrams made at the scene. All statements should include the time and date given, and all pictures should be similarly identified, inform the people that they are being recorded. Make sure that the names and addresses and a day and evening phone number of all eyewitnesses are noted or recorded. Once the recordings have been typed, have the eyewitness sign the pages. If a formal police report or other official investigation is conducted by any governmental agency, get the name and badge number of the official, or a business card, and find out when a copy of the official report will he available to the public. If you are requested to make a statement, you have the right to have the company attorney attend with you at no cost to you.

A complete accident report will answer the following questions:

1. WHAT HAPPENED? The investigation report should begin by describing the accident, the injury sustained, the eyewitnesses, the date, time and location of the incident and the date and time of the report. Remember: who, what, when, where and how are the questions that the report must answer.

2. WHY DID THE ACCIDENT OCCUR? The ultimate cause of the accident may not be known for several days when all the data is analyzed. However, if an obvious cause suggests itself, include your conclusions as a hypothesis at the time you give your information to the person in charge of the investigation.

3. WHAT SHOULD BE DONE? Once a report determines the cause of the accident, it should suggest a method for avoiding future accidents of a similar nature. Once a solution has been adopted, it is everyone's responsibility to implement it.

4. WHAT HAS BEEN DONE? A follow up report will be issued alter a reasonable amount of time to determine if the suggested solution was implemented, and if so, whether the likelihood of the same type of accident has been reduced.

RECORDS

Lucas Construction maintains records of employee training, hazard identification and abatement, and accident investigation.

OSHA RECORDS REQUIRED

Copies of required accident investigations and certification of employee safety training shall be maintained by Management. A written report will be maintained on each accident, injury, or on-the-job illness requiring medical treatment. A record of each injury or illness is recorded on the OSHA Log and Summary of Occupational Injuries, Form 200 according to its instructions. Supplemental records of each injury are maintained on OSHA Form 101, or Employers Report of Injury or Illness, Form 5020. Every year, a summary of all reported injuries or illnesses is posted no later than February 1, for one month, until March 1, on OSHA Form 200. These records are maintained for five (3) years from the date of preparation.

LUCAS CONSTRUCTION CO. STATEMENT ON SAFETY

Lucas Construction strives to maintain a safe place to work and to employ safe workers. It is the employee's responsibility to conduct your work in a safe, responsible manner. Immediately report all accidents occurring on company premises to your supervisor.

GENERAL STATEMENT ON SAFETY

Each employee has an individual responsibility to prevent accidents. It is to the benefit of all employees and the company that you report any situation or condition you believe may present a safety hazard, including any known or concealed dangers in your work area. The company encourages you to report your concern to your immediate supervisor. The supervisor will take immediate action to investigate the matter.

SAFETY EQUIPMENT

Proper safety equipment is necessary for your protection. The company provides the best protective equipment available. Use all safeguards, safety appliances, or devices furnished for your protection and comply with all regulations that may concern or affect your safety. Wear your gear properly; all snaps and straps are fastened, cuffs not cut or rolled. Your supervisor will advise you as to what protective equipment is required for your job.

Certain jobs require standard safety apparel and appliances for the protection of the employee. Your supervisor is aware of the requirements and will furnish you with the necessary approved protective appliances. These items shall be worn and effectively maintained as a condition of your continued employment and part of our mutual obligation to comply with the Occupational Safety and Health Act (OSHA).

1. Safety goggles, glasses and face shields shall correspond to the degree of hazard, such as chemical splashes, impact hazard, dust and so forth. Do not alter or replace an approved appliance without permission from your supervisor.

2. Rubber gloves shall be worn when working with acids, caustics or other corrosive materials.

3. Specified footwear must be worn.

4. No jewelry shall be worn around power equipment.

5. Long hair must be tied back or be in a hairnet to prevent entanglement in moving machinery.

Proper safety equipment is necessary for your protection. The company provides adequate protective equipment.

HEARING CONSERVATION

Hearing protection is supplied to the employees at no cost where they are exposed to sound levels of 85dbA or greater. Hearing conservation training will be conducted on an annual basis. The Company will establish an audiometric testing program should oise levels exceed 8 hours of 85dbA.

The Company will establish a baseline audiogram for employees within 6 months of initial exposure. Prior to establishment of a baseline, employees will observe 14 hours without exposure.

GENERAL FIRE SAFETY

Our local fire department is well acquainted with our facility, its location and specific hazards.

MACHINE GUARDING

Before operating any machine, every employee must have completed a training program on safe methods of machine operations. It is the primary purpose of supervision to ensure that employees are following safe machine operating procedures. There will be a regular program of safety inspection of machinery and equipment.

All machinery and equipment must be kept clean and properly maintained. There must be sufficient clearance provided around and between machines to allow for safe operations, set up, servicing, material handling, and waste removal.

All machinery will be securely placed and anchored when necessary, to prevent tipping or other movement that could result in personal injury. Most of the time machinery should be bolted to the floor to prevent movement. The electrical cord to the machinery will be attached to a breaker or other shut-off device to stop power in case of machine movement.

There must be a power shut-off switch within reach of the operator's position at each machine. Electrical power to each machine shall be capable of being locked out for

maintenance, repair or security. The non current carrying metal parts of electrically operated machines must be bonded and grounded.

All manually operated valves and switches controlling the operation of equipment and machines must be clearly identified and readily accessible.

All moving chains and gears must be properly guarded.

The supervisor will instruct every employee in the on the methods provided to protect the operator and other employees in the machine area from hazards created by the operation of a machine, such as nip points or rotating parts etc.

The machinery guards must be secured and arranged so they do not present a hazard.

All special hand tools used for placing and removing material must protect the operator's hands. Any tool not in compliance is prohibited and shall be tagged and/or locked out to render inoperable.

All fan blades should be protected by guard having openings no larger than 1/2 inch when operating within seven (7) feet of the floor.

LOCKOUT-BLOCKOUT PROCEDURES

All machinery or equipment capable of movement must be de-energized or disengaged and blocked or locked out during cleaning, servicing, adjusting or sitting up operations. The locking-out of the control circuits in lieu of locking-out main power disconnects is prohibited. All equipment control valve handles must be provided with a means for locking out. The lockout procedure requires that stored energy (mechanical, hydraulic or air) be released or blocked before equipment is locked out for repairs.

Appropriate employees are provided with individually keyed personal safety locks. Employees are required to keep personal control of their key(s) while they have safety locks in use. Employees must check the safety of the lockout by attempting a start up after making sure no one is exposed.

Where the power disconnector does not disconnect the electrical control circuit, the appropriate electrical enclosures must be identified. The control circuit can also be disconnected and locked out.

COMPRESSED GAS AND CYLINDERS

Cylinders with a water weight capacity over 30 pounds must be equipped with a means for connecting a valve protector device, or with a collar or recess to protect the valve.

Cylinders must be legibly marked to identify clearly the gas contained. Compress gas cylinders should be stored only in areas that are protected from external heat sources such as flame impingement, intense radiant heat, electric arcs or high temperature lines. Cylinders must not be located or stored in areas where they will be damaged by passing or falling objects or subject to tampering by unauthorized persons.

Cylinders must be stored or transported in a manner to prevent them from creating a hazard by tipping, falling or roiling. All cylinders containing liquefied fuel gas must be stored or

transported in a position so that the safety relief device is always in direct contact with the vapor space in the cylinder.

Valve protectors must always be placed on the cylinders when the cylinders are not in use or connected for use. All valves must be closed off before a cylinder is moved, when the cylinder is empty, and at the completion of each job.

Low pressure fuel-gas cylinders must be checked periodically for corrosion, general distortion, cracks, or any other defect that might indicate a weakness or render them unfit for service. The periodic check of low pressure fuel-gas cylinders includes a close inspection of the cylinders bottom.

GENERAL INFORMATION

As with all operations, there must be written standards on the procedures for the equipment, description of the job task, usage of the protective equipment provided, such as the selection and use of respirators, and when they are needed.

Any water that is provided to an employee throughout the facility should be clearly identified as to whether it is for drinking, washing or cooking. All restrooms must be kept clean and sanitary.

Employees should be screened before taking positions that may expose them to hazards they are not physically capable of handling. Employees that take an assignment which requires physical labor must be trained to lift heavy loads properly so as not to hurt themselves physically.

ENVIRONMENTAL CONTROLS

All employees must be aware of the hazards involved when working with chemicals and the remedies that need to be used when an accident does occur. A training program will give instructions on how to handle the chemical being used and first aid to be applied to victims of chemical exposure. First aid and caution signs will be conspicuously posted so as to alert individuals on a constant basis. Charts identifying the chemicals utilized in the workplace, their symptoms and effects must also be posted. The workers must know what the acceptable level of exposure to a chemical is and what safety systems must be in place when working with a chemical. Staff should also be aware of new chemical products that may be available that are less harmful and they must ensure that facilities are adequately ventilated when using chemicals on the premises.

Equipment operators are to perform a safety check every day before operating the equipment. Equipment operators are to wear their seatbelts at all times when on the equipment. When equipment and other vehicles are used in buildings or other enclosed areas, carbon monoxide levels must be kept below maximum acceptable concentration.

As with all operations, there must be written standards on the procedures for the equipment, description of the job task, usage of the protective equipment provided, such as the selection and use of respirators, and when they are needed.

HAZARDOUS CHEMICAL EXPOSURE

In any company that utilizes chemical substances, a training program on the handling, hazards, storage, exposure risk, symptoms of chemicals exposure, and first aid needs to be part of any new employee training. There must also be follow-up training sessions for any new chemical or processes that may be initiated by Lucas Construction Company. Follow-up training sessions act as a reinforcement of safely standards that need to be followed on a daily basis.

In a training program, employees will learn acceptable levels of chemical exposure, proper storage and labeling of chemicals, and usage of protective clothing and equipment for handling chemicals. They will also learn about potential fire and toxicity hazards, when not to have a chemical in a confined area, or to store in closed containers. It is important that an employee recognize the Threshold Limit Values or Permissible Exposure Limits of airborne contaminants and physical agents in the workplace.

A procedural manual or set of instructions must be part of the program, with periodic inspections that clearly indicate whether an employee may be mishandling a chemical or endangering him or other employees. Part of the manual of operating procedures must establish a standard of when and how to deal with chemical spills, neutralizing, and disposing of spills or overflows. These procedures must also be posted in an area that is easily accessible for reference usage.

First aid training and equipment will be routine in any facility where chemicals are used. Employees must know how to handle equipment in emergency situations, what equipment needs to be used and whether the equipment is adequate for the situation.

HAZARDOUS SUBSTANCES COMMUNICATION

When hazardous substances are used in the workplace, a hazard communication program dealing with Material Safety Data Sheets (MSDS), labeling and employee training will be in operation. MSDS materials will be readily available for each hazardous substance used. A training program plus regular question and answer sessions on dealing with hazardous materials will be given to keep employees informed.

The program will include an explanation of what an MSDS is, how to use and obtain one; MSDS contents for each hazardous substance or class of substances; explanation of the "Right to Know"; identification of where employees can see the employers written hazard communication program and where hazardous substances are present in their work area; the health hazards of substances in the work area how to detect their presence, and specific protective measures to be used.

MATERIAL HANDLING

In handling materials the employees must know the following:

1. There must be safe clearance for equipment through aisles and doorways.

2. Aisle ways must be designated, permanently marked, and kept clear to allow unhindered passage.

3. Motorized vehicles and mechanized equipment will be inspected daily or prior to use.

4. Vehicles must be shut off and brakes must be set prior to loading or unloading.

5 Containers of combustibles or flammables, when stacked while being moved must be separated by dunnage sufficient to provide stability.

6. If dock boards (Bridge Plates) are used when loading or unloading operations are taking place between vehicles and docks, precautions must be observed:

A. Trucks and trailers will be secured from movement during loading and unloading operations.

B. Dock Plates and loading ramps will be constructed and maintained with sufficient strength to support imposed loading.

7. Hand trucks must be equipped with sideboards of sufficient height to keep handled materials from falling off.

8. At the delivery end of rollers or chutes, provisions must be made to brake the movement of the handled materials.

9. Pallets must be inspected before being loaded or moved.

10. Material Safety Data Sheets will be available to employees handling hazardous substances.

TRANSPORTING EMPLOYEES AND MATERIALS

When employees are transporting either employees or materials, they must have an operator's license for that classification of vehicle and be certified or trained in the operation of that vehicle. For a safety program to be effective they must also have knowledge of First Aid courses and safety equipment as well as the vehicle and how it operates.

Vehicles should be in good working condition, inspected on a regular basis and must be equipped with lamps (lights), brakes, horn, mirrors, windshield and turn signals in good working condition.

ERGONOMICS

With the introduction of computers into the workplace, new areas of physical debilitation have been recognized. These new potential hazards have required a redesigning of both the workplace and how employees work. A set of standards will be developed and practiced with this new technology.

Furniture will be adjustable, positioned and arranged to minimize strain on all parts of the body. The glare of a computer screen will be minimized by a glare screen to prevent eyestrain. Repetitive motions can harm back, shoulders, neck, wrists and other parts of the body. Employees should not proceed with a task when they are physically feeling impairment.

VENTILATION FOR INDOOR AIR QUALITY

HVAC systems should provide at least the quantity of outdoor air required by the state and federal codes. The HVAC systems should be inspected annually for any potential problems and there should be an approved inspection record available for review. Records should be retained for a minimum of five (5) years.

SAFETY POSTERS

Lucas Construction is required to post certain employment related information. The required information is maintained in the building where employees can find the following required posters:

1. Various state and federal orders regulating the Wages, Hours and Working Conditions in certain industries.
2. Pay Day Notice
3. Anti-Discrimination Poster
4 Equal Employment Opportunity is the Law (EEOC)
5. OSHA Safety and Health Protection on the Job
6. Notice of Workers Compensation Carrier
7. Notice to Employees: Unemployment Insurance and Disability Insurance
8. Notice: Employee Polygraph Protection Act (WH 1462)
9. Access to Medical and Exposure Records

In addition to the above listed notices, a copy of this injury prevention program, a log and summary of Occupational Injuries and Illnesses, a copy of Lucas Construction code of Safe Work Practices and a Fire Prevention and Evacuation Plan will be posted.

Material Data Safety Sheets for Lucas Construction premises are available (and list the location). When employees are required to work on the premises of any other employer, such as a service call or installation situation, the job site will maintain a collection of Material Data Safety Sheets that describe any hazards unique to that site. Check with the other employer's job site coordinator or supervisor for the exact location of the MSDS information.

A. In addition, emergency numbers should be listed.

B. In most cases of real emergency call 911. State your name, the nature of the emergency and exact location of the injury. Answer all questions completely. Do not use 911 for routine calls to the police or fire department.

LICENSES AND PERMITS

In addition to other posing required by law, Lucas Construction maintains a copy of all necessary business licenses, permits and notices required by the state and federal governmental bodies and this information is posted during the appropriate times.

WORK ENVIRONMENT, GENERAL

Work sites must be clean and orderly. Work surfaces must be kept dry or appropriate means taken to assure the surfaces are slip-resistant. Spills must be cleaned up immediately. All combustible scrap, debris and waste must be stored safely and removed promptly.

Remember that walking in a passageway used by machinery is like walking in the middle of a street used by cars. Walking employees may have the right of way, but the heavy vehicles can't always see you and can't always stop in time. The key to moving around in such circumstances is to stop, look and listen and then to move when there is no danger. Make eye contact with the drivers of moving vehicles so that you know they know you are there.

Equipment, material and supplies must be properly stored so that sharp edges do not protrude into walkways. If the walkways or stairway is more than thirty inches above the floor or ground, it must have a guardrail.

If an employee is aware of any breach of these standards, please inform Management.

FLOOR AND WALL OPENINGS

Be careful when working near floor and wall openings. All floor openings (holes) should be guarded by a cover, guardrail or equivalent barrier on all sides except at the entrance to stairways and ladders. Toe boards must be installed around the edges of a permanent floor opening.

In office buildings, fire resistive construction requires that the doors and hallways closures be properly rated and be equipped with self-closing features. Be sure that there are at least two (2) fire emergency exits accessible from your location at all times.

WORK AREA, GENERAL

Fire extinguishers must remain accessible at all times. Means of access should be kept unblocked, well lighted and unlocked during work hours. Excessive combustibles (paper) may not be stored in work areas.

Aisles and hallways must be kept clear at all times. Designated employees have been trained to respond to a fire or other emergency. Workplaces are to be kept free of debris, floor storage and electrical cords.

Adequate aisle space is to be maintained. File cabinet drawers should be opened one at a time and closed when work is finished.

Proper lifting techniques are to be used by employees to avoid over exertion and strain when carrying loads. No alcohol or any intoxicating substance may be consumed prior to or during work hours.

DRIVING

Drive safely. If vehicles are used during the workday, seat belts and shoulder harness are to be worn at all times. Vehicles must be locked when unattended to avoid criminal misconduct. Do not exceed the speed limit. Vehicles must be parked in legal spaces and must not obstruct traffic. Defensive driving must be practiced by all employees. Employees should park their vehicles in well-lighted areas at/or near entrances to avoid criminal misconduct.

LADDERS

Check ladders each and every time before you climb. Ladders should be maintained in good condition. Joints between steps arid side rails should be tight. Hardware and fittings securely attached. Moveable parts should be operating freely without binding or undue play. Non-slip safety feet are provided on each ladder. Ladder rungs and steps should be free of grease and oil. Ladders shall have the correct load capacity for the task.

Employees are prohibited from using ladders that are broken, missing steps, rungs, or cleats, or that have broken side rails or other faulty equipment parts. Defective ladders will be tagged and placed out of service. Extension ladders will be placed at a 4:1 ratio.

It is prohibited to place a ladder in front of doors opening toward the ladder except when the door is blocked open, locked or guarded. It is prohibited to place ladders on boxes, barrels or other unstable bases to obtain additional height. Face the ladder when ascending or descending.

Employees are to be careful when climbing a ladder. Do not use the top step of ordinary stepladders as a step. When portable rung ladders are used to gain access to elevated platforms, or roofs the ladder must always extend at least three (3) feet above the elevated surface.

It is required that when portable rung or cleat type ladders are used, the base must be so placed that slipping will not occur, unless it is lashed or otherwise held in place.

All portable metal ladders must be legibly marked with signs reading 'Caution" Do Not Use Around Electrical Equipment". Employees are prohibited from using ladders as guys, braces, skids, gin poles or for other than their intended purpose. Only adjust extension ladders while standing at a base and not while standing on the ladder or from a position above the ladder. Metal ladders should be inspected for tears and signs of corrosion. Rungs of ladders should be uniformly spaced at twelve (12) inches, center to center.

COMBUSTIBLE MATERIALS

All combustible scrap, debris and waste materials such as oily rags must be stored in covered metal receptacles and removed from the work site promptly. Proper storage to minimize the risk of fire, including spontaneous combustion must be practiced. Only approved containers and tanks are to be used for the storage and handling of flammable and combustible liquids.

Fire extinguishers are selected for the types of materials and placed in areas where they are to be used. These fire extinguishers are classified as follows:

CLASS A - Ordinary combustible material fires.

CLASS B - Flammable liquid, gas or grease fires.

CLASS C - Energized Electrical equipment fires.

Appropriate fire extinguishers must be mounted within seventy-five (75) feet of outside areas containing flammable liquids, and within ten (10) feet of any inside storage area for such materials. All extinguishers must be serviced, maintained and tagged at intervals not to exceed one year. Extinguishers should be placed free from obstructions or blockage. All extinguishers must be fully charged and in their designated places unless in use.

BLOODBORNE PATHOGENS

The objective of the plan is to comply with the OSHA Standard, 29 CFR 1910.1030, and to eliminate or minimize employee occupational exposure to blood, certain other body fluids, or other potentially infectious materials.

All job classifications and locations in which employees may be exposed to blood or other potentially infectious materials shall be identified and evaluated the field superintendent.

Universal precautions shall be used to prevent contact with blood or other potentially infectious material, all of which shall be considered infectious, regardless of the perceived status of the source individual.

All employees shall have access to the Exposure Control Plan. Hand washing facilities shall be made available and accessible to all employees who may incur exposure. Where hand washing facilities are not feasible, Company will provide an antiseptic cleanser in conjunction with clean cloth, paper towels or antiseptic wipes.

The field superintendent shall ensure that appropriate PPE in the necessary size is readily accessible at the work site or is issued at no cost to employees.

Lucas Construction will make the Hepatitis B vaccine available to all employees who have the potential for occupational exposure, as well as post-exposure follow up to employees who have experienced an exposure incident. This will be made available at no cost to the employee. Medical records will be kept for a duration of employment plus 30 years. Training records will be kept for 3 years. Training will be conducted prior to initial assignment and annually thereafter.

FIRST AID KITS

First aid kits and required contents are maintained in a serviceable condition. Unit type kits have all items in the first aid kit individually wrapped, sealed, and packaged in comparable sized packages. The commercial or cabinet type kits or supplies do not require all items to be individually wrapped and sealed, but only those that must be kept sterile. Items such as scissors, tweezers, tubes of ointments with caps, or rolls of adhesive tape, need not be individually wrapped, sealed or disposed of after a single use or application.

Bulk supplies of first aid supplies may be kept in a first aid room which may or may not be manned at all times.

First aid kits shall contain at least the following items:

10 PACKAGE KIT (1-5 Person Crew)

1 package-adhesive bandages, 1" [16 per]

1 package-bandage compress, 4" [1per]

1 package-scissors* and tweezers [1 per]

1 package-triangular bandage, 40" [1 per]

1 package-antiseptic soap or pads [3 per]

5 packages-of your company physician or consulting physician's choice

16 PACKAGE KIT (6-10 Person Crew)

1 package-absorbent gauze, 24" x 72" [1 per]

1 package-adhesive bandages, 1" [16 per]

2 packages-bandage compresses, 4" [1 per]

1 package-eye dressing [1 per]

1 package-scissors* and tweezers [1 each per]

1 package-antiseptic soap or pads [3 per]

2 packages-triangular bandage, 40" [1 per]

7 packages-of your company physician or consulting physician's choice

24 PACKAGE KIT (11-15 Person Crew)

2 packages-absorbent gauze, 24" x 72" [1 per]

2 packages-adhesive bandages, 1" [16 per]

2 packages-bandage compresses, 4" [1 per]

1 package-eye dressing [1 per]

1 package-scissors* and tweezers [1 each per]

1 package-antiseptic soap or pads [3 per]

6 packages-triangular bandages [1 per]

9 packages-of your company physician or consulting physician's choice

36 PACKAGE KIT (16-20 Person Crew)

2 packages-adhesive bandages, 1" [16 per]

2 packages-eye dressing [1 per]

1 package-scissors* and tweezers [1 each per]

1 package-antiseptic s or pads [3 per]

4 packages-antiseptic absorbent gauze, 24" x 72" [1 per]

5 packages-bandage compresses, 4" [1 per]

8 packages-triangular bandages [1 per]

13 packages-of your company physician or consulting physician's choice

Scissors shall be capable of cutting two (2) layers of fifteen (15) ounce cotton cloth or its equivalent. The first aid kits are maintained at the ten (10), sixteen (16), twenty-four (24), or thirty-six (36) level. These may be serviced by a servicing company or stocked (less expensively) by your own first aid room supply or a first aid main cabinet/closet.

CHEMICAL SAFETY

INTRODUCTION

The objective of this section is to provide guidance to all Lucas Construction employees and participating guests who use hazardous materials so they may perform their work safely. Many of these materials are specifically explosive, corrosive, flammable, or toxic. They may have properties that combine these hazards. Many chemicals are relatively non-hazardous by themselves, but become dangerous when they interact with other substances, either in planned usage or by accidental contact.

To avoid injury and/or properly damage, persons who handle chemicals in any area of the company must understand the hazardous properties of the chemicals with which they will be working. Before using a specific chemical, safe handling methods must always be reviewed. Supervisors are responsible for ensuring that the equipment needed to work safely with chemicals is provided. The cost of this equipment is borne by Lucas Construction Company.

HAZCOM PLAN

On May 25, 1986, the Occupational Safety and Health Administration placed in effect the requirements of a new standard called Hazard Communication (29 CAR 1910.1200). This standard establishes requirements to ensure that chemical hazards in the workplace are identified and that this information, along with information on protective measures, is transmitted to all affected employees.

This section describes how Lucas Construction employees are informed of the potential chemical hazards in their work area so they can avoid harmful exposures and safe guard their health. Components of this program include labeling, preparing a material safety data sheet [MSDA] and training.

WHAT MANAGEMENT MUST DO

Obtain/maintain copies of material safety data sheets, as required, of each hazardous material used in the work area and make them accessible to employees during each work shift.

1. Have the written Hazard Communication Program available to all employees.

2. Provide hazard-specific training for employees.

3. Identify hazardous materials in the hazard review section of the Lucas Construction purchase requisition form.

4. Ensure hazards are properly labeled.

5. Identify hazards for respective work areas and post at each jobsite.

WHAT EMPLOYEES MUST DO

I. Attend safety training meetings. Special mandatory meetings will be held to inform employees of hazards of non-routine tasks.

2. Perform operations in a safe manner.

3. Notify management immediately of any safety hazards or injuries.

4. When ordering materials, identify hazardous chemicals in the hazard review section of the Lucas Construction purchase requisition form.

THE RESPONSIBLE SAFETY SUPERVISOR MUST

1. Develop a written Hazard Communication Program.

2. Maintain a central file of Material Safety Data Sheets.

3. Review and update Lucas Construction stock safety labels.

4. Provide generic training programs.

5. Assist supervisors in developing hazard-specific training programs.

6. Oversee the Hazard Communication Standard written policy and implementation plans.

7. Alert on site contractors to hazardous materials in the work areas.

8. Alert on site contractors that they must provide to their employees information on hazardous materials they bring to the work site.

9. Ensure that the proper protective equipment and clothing is being used and that the employees have been instructed in their use.

The number of hazardous chemicals and the number of reactions between them is so large that prior knowledge of all potential hazards cannot be assumed. Therefore, when the chemical properties of a material are not fully known, it should be assumed hazardous and used in as small quantities as possible to minimize exposure and thus reduce the magnitude of unexpected events.

The following general safety precautions should be observed when working with chemicals:

1 Keep the work area clean and orderly.

2. Use the necessary safety equipment.

3. Carefully label every container with the identity of its contents and appropriate hazard warnings.

4. Store incompatible chemicals in separate areas.

5. Substitute less toxic materials in separate areas.

6. Limit the volume of volatile or flammable material to the minimum needed for short operation periods.

7. Provide means of containing the material if equipment or containers should break or spill their contents.

8. Follow the requirements of this manual, if systems that can generate pressure or are operated under pressure are involved.

9. Provide a back-up method of shutting off power to a heat source if any hazard is involved.

10. Obtain and read the Material Safety Data Sheets.

ELECTRICAL SAFETY

POLICY

It is the policy of Lucas Construction to take every reasonable precaution in the performance of work to protect the health and safety of employees and the public and to minimize the probably of damage to property. The electrical safety requirements contained in this section are regulations set forth by Lucas Construction Company.

EMPLOYEE RESPONSIBILITY

All Lucas Construction employees are responsible for all aspects of safety within their own groups. The Supervisor is responsible for providing information, inspection and assistance as appropriate, concerning Lucas Construction electrical safety requirements and procedures.

Individual employees are responsible for their own and their co-workers safety.

All employees should observe the following:

1. Become AWARE acquainted with all potential hazards in the area in which they work.

2. LEARN and follow the appropriate standards, procedures, and hazard control methods.

3. NEVER undertake a potentially hazardous operation without consulting with appropriate supervision.

4. STOP any operation you believe to be hazardous.

5. NOTIFY a supervisor of any condition or behavior that poses a potential hazard.

6. WEAR and USE appropriate protective equipment.

7. Immediately REPORT any occupational injury or illness to your supervisor.

All supervisors should observe the following:

1. Develop an attitude and awareness of safety in the people supervised and seeing that individual safety responsibilities are fully carried out.

2. Maintain a safe work environment and taking corrective action on any potentially hazardous operation or condition.

3. Ensure that the personnel he/she directs are knowledgeable and trained in the tasks they are asked to perform.

4. Ensure that safe conditions prevail in the area and that everyone is properly informed of the areas safety regulations and procedures.

5. Ensure that contract personnel are properly protected by means of instructions, signs, barriers or other appropriate resources.

6. Ensures that no employee assigned to potentially hazardous work appears to be fatigued, ill, emotionally disturbed or under the influence of alcohol or drugs. Remember that over the counter drugs, prescription drugs or illegal drugs can all have disastrous effects.

Management at EVERY LEVEL has the responsibility for maintaining the work environment at a minimal level of risk throughout all areas.

All managers should observe the following:

1. Responsible for being aware of all potentially hazardous activities within the area of responsibility.

2. May assign responsibility or delegate authority for performance of any function, but remains accountable.

3. Remains responsible for any oversight or error that leads to injury, illness damage to property, or death.

PROCEDURES

It is the policy of Lucas Construction to follow the fundamental principles of safety, which are described below. A clear understanding of these principles will improve the safety of working with or around electrical equipment and power.

Practice proper housekeeping and cleanliness. Poor housekeeping is a major factor in many accidents. A cluttered area is likely to be both unsafe and inefficient. Every employee is responsible for keeping a clean area and every supervisor is responsible for ensuring that his or her areas of responsibility remain clean.

Identify hazards and anticipate problems. Think through what might go wrong and what the consequences would be. Do not hesitate to discuss any situation or question with your supervisor and coworkers.

Resist 'hurry-up' pressure. Program pressures should not cause you to bypass thoughtful consideration and planned procedures.

Design for safety. Consider safety to be an integral part of the design process. Protective devices, warning signs, and administrative procedures are supplements to good design but can never fully compensate for its absence. Completed designs should include provisions for safe maintenance.

Maintain for safety. Good maintenance is essential to safe operations. Maintenance procedures and schedules for servicing and maintaining equipment and facilities, including documentation of repairs, removals, replacement, and disposals, should be established.

WORKING WITH ENERGIZED EQUIPMENT

This section contains safety requirements that must be met in constructing electrical equipment and in working on energized electrical equipment. Special emphasis is placed on problems associated with personnel working on hazardous electrical equipment in an energized condition. Such work is permissible, but only after extensive effort to perform the necessary tasks with the equipment in a securely de-energized condition has proven unsuccessful, or if the equipment is so enclosed and protected that contact with hazardous voltage is essentially impossible.

A person in a hazardous position, who appears to be ill, fatigued, emotionally disturbed or under the influence of alcohol and or drugs (including Prescriptions) must be replaced by a competent backup person, or the hazardous work must be terminated.

Supervisors and workers must be encouraged to make the conservative choice when they are in doubt about a situation regarding safety. Stop, check out the situation, and then begin again when the situation is known and safe.

Training sessions and drills must be conducted periodically to help prevent accidents and to train personnel to cope with any accident that may occur. First Aid and CPR instruction must be included.

TRUCK LOADING

All objects loaded on trucks must be secured to the truck to prevent any shifting of the load in transit. The wheels of trucks or trailers being loaded or unloaded at a loading dock MUST be CHOCKED to prevent movement.

ACKNOWLEDGEMENT

I have read (or have had read to me) reviewed and understand, the above Safety Program. I acknowledge that I have received a copy of this Safety Program.

EMPLOYEE'S SIGNATURE _____

DATE _____

Copy: Employee's File

LUCAS

CONSTRUCTION CO. INC

Injury & Prevention Program

R W Lucas Construction, LLC

Injury and Illness Prevention Program

SAFETY POLICY

We, the management will make every effort to provide our employees with a safe and healthful work place.

In order to accomplish this, we have trained our superintendents in the recognition, avoidance and prevention of accident causing conditions and/or acts of employees that may cause injury or death to our employees.

We provide the essential safety training as prescribed in the OSHA Construction Safety Act 1926.21 Safety Training and Education. The jobsite safety is the responsibility of the superintendent.

Our employees have been informed of their responsibilities and rights under the act.

We encourage our employees to offer suggestions that will produce a safer work place.

Any employee who deliberately and intentionally violates Company Safety and/or QSHA regulations will subject to such disciplinary action as management deems necessary to correct the situation.

Ryan Lucas (President)

R W Lucas Construction, LLC

SAFETY TRAINING

We have delegated the responsibility of safety training to the superintendents. They are responsible for training all employees on safety in the work place.

They are to hold safety meetings once a week and follow through to make sure that everyone abides by all applicable federal, state and local laws plus the policy of our company. They are responsible for informing all employees of any changes in the policy, rules, etc.

They are to encourage smart safety habits to increase the safety awareness in the workforce.

The Injury and Illness Prevention Program

The Company's injury and illness Prevention Program includes safety meetings, training programs, posting safety notices and safety tips, and provides periodic written communications to employees regarding safety matters.

Representatives of the company may also conduct periodic inspections to identify unsafe conditions and work practices, as well as investigating occupational injuries and illnesses. When appropriate, the management may utilize the services of outside representatives to conduct investigations in a further attempt to promote safety in the workplace. Every effort will be made to correct unsafe or unhealthy conditions, work practices, or procedures in a timely manner. It is therefore essential that all employees cooperate in achieving these objectives and assist the company in providing a safe workplace for everyone.

Cooperation and Questions

Employees may occasionally be asked to assist or participate in inspections, the correction of unsafe or unhealthful conditions, training programs and activities. Full cooperation by all employees is necessary to the accomplishment of our goals. Employees should direct all questions regarding their obligations under the injury and Illness Prevention Program or the Company's safety policies to the IIPP Administrator.

I have read (or it has been translated to me in Spanish) the above Safety Policies & Procedures for this company, and I understand that failure to abide by these policies will lead to disciplinary action that may result in suspension and/or termination.

Employee: Date:

Witnessed By: Date:

Safety Meetings

All employees will be required to attend safety meetings and to participate in the Company's safety program. A member of management will attend each safety meeting. We will conduct safety meetings on the _____of each _____. The time and the meeting location will be posted in each department and on the Safety Bulletin Board. As a reminder, each employee will be notified the week prior to a scheduled meeting.

All safety meetings will include the following:

Accident and injury history at this worksite for the period prior to the meeting.

Comparison of accident and injuries among departments, as well as for the period prior.

New equipment and safety procedures will be discussed when necessary.

A safety topic will be discussed each meeting; e.g., proper lifting techniques, proper housekeeping, etc.

At the end of the Safety Meeting, a safety reporting form will be passed out to each employee or made available for anonymous reporting of unsafe acts or hazards. The form will also include a suggestion area for future safety topics.

Management may, at its discretion, invite outside vendors or speakers to speak at safety meetings or to conduct safety-training programs.

The emphasis of all meetings will be safety and only safety, outside issues will be discussed at a later time. Always ask for safety comments from employees, invite participation. All

employees will be required to sign-in on the Safety Meeting Report (See chapter 5). The report will include topics discussed and safety suggestions received. This report will be maintained in the Safety Meeting File. Include the attending manager's name on the report.

All safety related memos or employee information sheets will be kept in the Safety File.

Code of Safe Practices-Job Safety Analysis Form

Position

Department

Safe Work Conditions

Safe Work Practices

Personal Protective Equipment

Safety Meeting/Training Report

Date

Company Name: R W Lucas Construction LLC

Address: 551 C League City Parkway

Phone: 281-316-9990

City: League City

State: TX

Zip Code: 77573

Topic:

Comments:

Supervisor:

Management Representative:

Employee Attending

Employee Name Dept.

Employee Name Dept.

New procedure discussed

Number of Accidents Past Period

Number of Accidents This Period

Retain this for 3 years.

Inspections

We have delegated the responsibility of inspections to the superintendents. They are to perform inspections of all aspects of the jobsite periodically and report in writing any problems or safety hazards that exist. They are to follow through with the corrections of the problems or hazards.

Contractors Job Site Checklist

Project Name/Number:

Project Location

Person(s) Making Inspection

Date of Inspection

This Checklist may serve as an inspection tool, focusing on those areas which need attention, Any "NO" responses to the question indicates corrective action is necessary. This checklist should be completed periodically and reviewed by upper management.

Manual Material

Are mechanical devices being used at every opportunity in place of manual handling of material? Examples: power assisted concrete and roof buggies, brick tongs, tar carriers, tar pump hoses, automatic nailing guns, long handle pry bars, pullies, hoist, carts, dollies, forklifts, and wheel barrows.

Are ropes, slings, chains, hooks, cables, and chokers in good condition?

Proper staging of materials to minimize lifting and carrying.

Rigging equipment inspected regularly and in good condition.

Is the handling of bagged material limited to 50 lbs.?

When applicable, are carrying handles being used when a single worker is carrying sheeted materials?

Housekeeping: Slips, Trips and Falls

Are walking and working surfaces clear and free of debris?

Are waste and trash containers provided, and used?

Is there regular removal of waste and trash from the containers?

When applicable, is there prompt removal of snow, ice and water from walking and working surfaces?

Does each trade clean up after themselves?

If no, should you inform the Sub-contractor?

Is the Sub-contractor doing an acceptable job in clean-up?

Adequate temporary lighting provided.

Is temporary storage of materials and supplies at the job done in a organized fashion?

Fire Protection and Prevention

Are all flammable liquid containers clearly identified?

Are all flammable liquid containers UL or FM listed/

Have proper storage practices for flammables been observed?

Has the proper type and adequate number of extinguishers been observed at the job site?

Are the extinguishers readily accessible and serviced regularly?

Hydrants clear and accessible for fire department personnel.

Has gas cylinders been chained upright with valve caps securely fastened?

Has there been proper segregation between flammable gasses?

Proper labeling of full and empty cylinders?

Are temporary heaters located at safe distance from combustibles?

Is ventilation adequate for temporary heaters?

Electrical

Are all switch gear, panels, and devices that are energized marked and/or guarded to prevent accidental contact?

Are lockout devices available, and used on all circuits and equipment, that could become energized while work is being performed?

Are all temporary circuits properly guarded and grounded?

Are extension cords in continuous lengths without splice, tape or fray?

Are GFCI's being used? If not, is Assured Equipment Grounding Conductor Program being followed?

If temporary lighting is provided, are bulbs protected against accidental breakage?

Are working surfaces clear of cords so as not to create a tripping hazard to employees?

Is there a sufficient number of temporary outlets on the job site?

Any visual signs of outlet overloading?

Hazard Communication

Does the Hazard Communication Program Include:

List of hazardous chemicals.

Container labeling.

Material Safety Data Sheets (MSDS).

Employee training.

Personal protective equipment (PPE).

Emergency response.

Hazards of non-routine tasks.

Informing other contractors.

Posting

Is a Copy of the Hazard Communication program at this job site?

Excavation/Trenching

Have utility companies been notified of proposed excavation work (one-call system)?

Are all tools, equipment, and shoring materials readily available prior to job star up.

Are overhead utility lines noted and precautions taken to avoid contact by cranes, backhoes, or other heavy equipment?

Is the spoil pile at least two (2) feet from the edge of the excavation?

Is the excavation inspected daily or more frequently when there is a change in weather or environment that could affect the soil?

If needed, are barricades, stop logs, properly placed?

Has soil classification been made by a competent person?

Are excavations five (5) feet or deeper correctly sloped, benched, shored or is a trench box (shield) used?

Is a ladder or other means of exit (egress) provided in trenches or excavations four (4) or deeper?

When ladders are used, do they extend three (3) feet above the surface and are they secured?

Are shoring and shielding systems inspected daily by a competent person?

Is the trench backfilled as soon as work is completed?

Barricading

Floor openings planked and secured or barricaded.

Are direction signs used to inform the public of up-coming construction work?

Is the sidewalk protection effective?

Is a flag person provided to direct traffic when needed?

Has the person been trained on how to direct traffic and the public?

Are open excavation, road drop offs, manholes, uneven surfaces barricaded?

Ladders

Is the proper ladder for the job being used?

Are ladders in good condition (no missing or broken rungs)?

Are there safety shoes/cleats on the bottom of ladders? Are they needed?

Are non-conductive ladders available for use around live wiring?

Are ladders tied-off at top or otherwise secured?

Do side rails extend 36 inches above top of landing?

Rungs or cleats uniformly spaced 10-14 inches apart.

Are step ladders fully open when in use?

Scaffolding

Are scaffold components visibly free or any physical damage? (no bent supports or cross bracing)

Is scaffold properly erected with all pins and braces in place and locked?

Are rolling scaffolds equipped with locking wheels?

Hoist, Cranes and Derricks

Are cables and sheaves checked?

Are slings, hoods, eyelets, chokes inspected?

Are load capacities posted in cab?

Are power lines at a safe distance?

Do cranes have proper barricades around swing radius?

Are Crane Inspection logs with crane?

Floor, Wall Openings, Stairways

Floor and roof openings guarded by guardrails and toe boards or a secured cover

Open-sided floors and platforms sic feet or more above ground guarded with standard railing (including mid-rail and toe board), or equivalent.

Are stairs with four or more risers equipped with standard hand rail protection?

Runways four feet or move above ground properly guarded.

Anchor posts and framing of members for railings of all types capable of withstanding 200 lb. load in any direction.

Environmental

Hazardous Material Management:

Formal hazardous materials management plan and designated director?

Storage containers (including tanks) – Structurally sound, adequately marked, labeled, placarded?

Storage areas properly posted and secured by locked gates?

Storage areas – covered, diked?

Storage areas – adequate inspection procedures and fire protection?

Adequate protection of nearby natural waterways?

Contingency/emergency plan, spill control plan?

Personnel training and records?

Personal protective equipment?

Waste Collection and Removal:

Storage containers – structurally sound, properly marked and labeled?

Storage area – properly posted?

EPA identification number and proper manifest use?

EPA certificates shipper and disposal facility?

Certificates of insurance from shipper and disposal facility?

Records and reports maintained for at least 3 years?

Management

Are there stop work procedures in place in the event unexpected potential pollution hazards such as abandoned tanks, buried drums, asbestos, PCBs, etc. turn up on the job site?

Training

Any Documentation or evidence of training employees in the recognition and avoidance of hazards associated with the work task?

Comments/Remarks

Workplace Safety Review

Company Name

Address

City, State, Zip Code

Telephone, Department

Safety Checklist – Indicates Attention Required

Material Handling

Lifting

Trucks/ Tow Motors

Pallet Jacks/ Carts

Conveyors

Hoists/Cranes

Chemical/ Flammables

Acids/ Caustics

Flammables

Toxics

Carcinogens

Environmental

Hear/ Cold

Noise

Vapors/Fumes

Dust

Vibration

Machinery

Bolts, Gears, Etc.

Guards, Point of Op.

Cleaning and Adjust

Lockout/ Tagout

Work Areas
Material Storage
Aisles/Stairwells Clear
Floor Dry/ Wet
Ladders/ Scaffolds
Exits Clear

Controls
Guards
Training
Procedures
Local Exhaust System

Unsafe Behavior describe

Safety Equipment Checklist - Indicates Attention Required
Emergency Shower
Emergency Eye Wash
Fire Extinguisher
First Aid
Other

Personal Protective Equipment Checklist - Indicates Attention Required
Boots/ Safety Shoes
Hard Hats
Gloves
Respiratory Protection
Hearing Protection
Eye Protection/ Face Shields
Other
Provide detailed Information on hazards and safety controls:
Item
Hazards

Controls

Conducted by, Title, Date

Reviewed by, Title, Date

Form to be completed by safely manager and retain for 3 years.

Workplace Safety Inspection

Company Name

Address

City, State, Zip Code

Telephone, Department

Potential Hazards – Indicates Attention Required

Material Handling

Lifting

Trucks/ Tow Motors

Pallet Jacks/ Carts

Conveyors

Hoists/Cranes

Chemical/ Flammables

Acids/ Caustics

Flammables

Toxics

Carcinogens

Environmental

Hear/ Cold

Noise

Vapors/Fumes

Dust

Vibration

Machinery

Bolts, Gears, Etc.

Guards, Point of Op.
Cleaning and Adjust
Lockout/ Tagout

Work Areas
Material Storage
Aisles/Stairwells Clear
Floor Dry/ Wet
Ladders/ Scaffolds
Exits Clear

Controls
Guards
Training
Procedures
Local Exhaust System

Unsafe Behavior describe

Safety Equipment Checklist - Indicates Attention Required
Emergency Shower
Emergency Eye Wash
Fire Extinguisher
First Aid
Other

Personal Protective Equipment Checklist Indicates Attention Required
Boots/ Safety Shoes
Hard Hats
Gloves
Respiratory Protection
Hearing Protection
Eye Protection/ Face Shields

Other

Item

Priority Ration

Unsafe Conditions/ Procedures/ Behavior

Corrective Action

Target Date

Completion Date

Note: All hazardous situations should be corrected as soon as possible. The priority system is a suggested guideline to correct the more serious situations first. Hazard priority: 1. Serious 2. Moderate 3. Minor.

Conducted by, Title, Date,

Reviewed by, Title, Date

Form to be completed by safely manager and retain for 3 years.

FIRST AID

We have delegated the responsibility of first aid to the superintendents. He is to have a first aid kit on each jobsite. He is responsible for keeping the first aid kit properly stocked. He is also responsible for making sure that someone on the jobsite is properly trained in first aid procedures.

ACCIDENT INVESTIGATION/REPORTING

Responsibility for accident investigation and reporting is delegated to the superintendents. They are to notify management of any near misses or injuries sustained on the jobsite. They are to complete an El and a Supervisors Accident Investigation Report as soon as possible and give to management. They are to investigate the cause of the accident and see what steps could be taken to avoid the accident. They are to implement these findings into their safety meetings to avoid similar incidents.

Supervisor's Accident Investigation Report

Company Name, Facility or Job, Name of the Injured or Driver

Age, Employee in Previous Accident, Occupation, Employment Date, Date of Accident/ Hour

Exact Location

Describe injury or damage

Was injured or driver action in regular line of duty? Explain

Name of Witness(es)

Unsafe Act (what happened)

Operating without authority; failure to secure or warn

Operating or working at unsafe speed

Making safety devices inoperative

Using unsafe equipment, hand in place of equipment, or equipment unsafely

Failure to sue safe attire or personal protective equipment

Improper

turn, lane usage, backing, interval signal,

Unsafe loading, placing, mixing combining, etc.

Taking unsafe position or posture

Working on moving or dangerous equipment

Distracting, teasing, abusing, startling, etx.

Lack of job training or instruction

Judgment

Other

Unsafe Conditions

Improper guarding (unguarded, inadequately guarded, guard removal, etc.)

Defective substances or equipment (broken, poorly, designed, slippery, etc.)

Hazardous arrangement (unsafe piled material, poor layout, poor housekeeping, no aisle markings, etc.)

Improper dress or apparel (goggles, gloves, shoes, masks, sleeves, etc.)

Improper illumination (none, glaring light, etc.)

Improper ventilation (poor, dusty, gassy, high humidity, etc,)

Poor road or visibility conditions

Defective

brakes, motors, lights, wipes, steering, wheels or rims, other

Steps Taken to Prevent a Recurrence

Instructed employee, Supplied safeguard, Eliminated condition, Guarded machine

Warned employee, Supplied person. prot. equipt., Repaired condition

Other action

Reported condition to:

Supervisor Signature, Date, Employee, Date

Forward to Safety Manager after completion. Must be retained for 3 years.

SAFETY PROCEDURES

1. Report to work rested and physically fit to perform your job. If you are unable to report to work or you will be late, you must notify your superintendent as soon as possible.

2. Employees will be required to wear a shirt or blouse covering the entire upper torso, with sleeves covering the shoulders and completely encircling the upper arm. The shirt or blouse material must be solid; no fishnet type materials are to be worn. No one is to work without a shirt or blouse. Full length slacks or jeans must be worn at all times. Wear clothing suitable for weather and your work. Torn or loose clothing, cuffs, neckwear are hazardous.

3. Use gloves, aprons or other suitable skin protection when handling rough materials, chemicals and hot or cold objects.

4. Jewelry (rings, bracelets, neck chains, etc.) must not be worn. Only watches with plastic or leather bands and medical alert tags will be allowed.

5. Hard hats meeting ANSI Z89 must be worn at all times (visitors and subcontractors included).

6. Employees will be required to wear eye protection with side shields meeting ANSI Z87.1 and or NIOSH standards. Those individuals who wear prescription glasses are required to have ANSI approved lens or wear protective covering over the lens (protective covering will be provided by R W Lucas Construction LLC). Full face shield is required with any grinding operation. Proper eye protection is required at all times if exposed to flying objects, dust, hot splashing metal, harmful rays and chemicals.

7. Wear proper respiratory equipment when spray painting, burning, exposed to dust or other toxic hazards as required.

8. Employees will be required to wear hearing protection in designated areas.

9. Employees will be required to wear shin and toe guards when hammer jacking or sand tampering.

10. Remove or clinch nails in old lumber

11. Bend knees, keep back nearly straight when lifting. Leg muscles, not your back should do the work.

12. Face ladder when climbing. Use both hands. Use hand line or material hoist to lift loads.

13. Never point an air hose at anyone or use it to clean clothing— extremely dangerous!

14. Be sure you have clear area behind you before swinging sledgehammer or other tools or material.

15. Have all cords, leads, hose, etc. placed in trees to avoid tripping hazards or getting damaged — and away from oil and grease.

16. "No Smoking" signs are to be posted near fire dangers. Obey them always. Smoke ONLY in designated areas. Butts must be put in a bucket of sand.

17. Do not refuel a hot or running engine. Clean up spills before starting.

18. Do not look at welding or cutting operations without wearing proper eye protection.

19. Check hose, fittings and valves for leaks (use soapy water).

20. Keep oily cloths away from oxygen (Explosion Danger).

21. Always light torch with a "torch lighter". NEVER use a match or cigarette and NEVER in a keg or drum.

22. Open compressed gas cylinders slowly to avoid valve damage.

23. Always be seated when riding authorized vehicles.

24. Report ANY injuries immediately! Even small cuts can become seriously infected.

25. The transportation, possession, sale and use of intoxicants or drugs on construction sites are PROHIBITED.

26. Safety shoes, goggles, gloves and hats should be worn where required by specific rules.

27. Appropriate behavior is expected by ALL personnel. HORSEPLAY and practical joking is unacceptable and will result in disciplinary action.

28. Running is not permitted.

29. Machines must not be operated unless all guards are in place.

30. No riders are allowed on equipment such as forklifts, cranes, etc.

31. MSDS (Material Safety Data Sheets) will be available on jobsite as well as in the R W Lucas Construction LLC office.

32. Loads being moved by cranes must have tag line during transit.

33. Persons riding as passengers in trucks or in trailers must be seated either on the bench provided or on the floor.

34. Be familiar with the safety lock out / tag out procedure when working on powered equipment.

35. If working overhead, do not start until area beneath the job is cleared of people and machines are covered or until suitable alternative precautions are taken to prevent injury below due to falling objects from above.

36. A fire extinguisher is to be with each welding machine.

37. Personnel must keep their work area clean, neat and orderly. Work areas must be kept free of anything that can create a tripping or slipping hazard. Remember— CLEAN WORK AREA IS A SAFE WORK AREA"!

There are no shortcuts to good safety practices—WHEN IN DOUBT, ASK!

Work with care and good judgment at all times to avoid accidents, whether or not a specific rule is contained in this policy. Give your wholehearted support to safety activities. Preventing your accident depends mostly on YOU!

Violations of these Safety Policy Procedures will not be tolerated. One verbal warning will be given by your supervisor. In the event of a second infraction, you will be subject to immediate dismissal.

THE AMERICAN INSTITUTE OF ARCHITECTS

Bond No. 108226880

AIA Document A312

Performance Bond

Any singular reference to Contractor, Surety, Owner or other party shall be considered plural where applicable

CONTRACTOR (Name and Address):
Lucas Construction Company, Inc.
551 C League City Parkway
League City, Texas 77573

SURETY (Name and Principal Place of Business):
Travelers Casualty and Surety Company of America
4650 Westway Park Blvd.
Houston, Texas 77041

OWNER (Name and Address):
The County of Galveston
722 Moody (21st Street) Fifth Floor
Galveston, Texas 77550

CONSTRUCTION CONTRACT
Date:
Amount: Five Hundred Twenty Five Thousand Eighty Two and 00/100 Dollars ($525,082.00)
Description (Name and Location): HIGHWAY 3 BOAT RAMP AND PARKING LOT RECONSTRUCTION PROJECT

BOND
Date (Not earlier than Construction Contract Date):
Amount: Five Hundred Twenty Five Thousand Eighty Two and 00/100 Dollars ($525,082.00)
Modifications to this Bond: ☒ None ☐ See Page 3

CONTRACTOR AS PRINCIPAL
Company: Lucas Construction Company, Inc. (Corporate Seal)

Signature: Willes Lucas PRES
Name and Title: WILLES LUCAS PRESIDENT
(Any additional signatures appear on page 3)

SURETY (Corporate Seal)
Company: Travelers Casualty and Surety Company of America

Signature: Kelly J. Brooks
Name and Title: Kelly J. Brooks, Attorney-In-Fact

(FOR INFORMATION ONLY—Name, Address and Telephone)
AGENT or BROKER:
Southern American Insurance Agency, Inc
13823 Schmidt Road
Cypress, TX 77429
281-890-9294

OWNER'S REPRESENTATIVE (Architect, Engineer or other party):

1 The Contractor and the Surety, jointly and severally, bind themselves, their heirs, executors, administrators, successors and assigns to the Owner for the performance of the Construction Contract, which is incorporated herein by reference.

2 If the Contractor performs the Construction Contract, the Surety and the Contractor shall have no obligation under this Bond, except to participate in conferences as provided in Subparagraph 3.1.

3 If there is no Owner Default, the Surety's obligation under this Bond shall arise after:

3.1 The Owner has notified the Contractor and the Surety at its address described in Paragraph 10 below that the Owner is considering declaring a Contractor Default and has requested and attempted to arrange a conference with the Contractor and the Surety to be held not later than fifteen days after receipt of such notice to discuss methods of performing the Construction Contract. If the Owner, the Contractor and the Surety agree, the Contractor shall be allowed a reasonable time to perform the Construction Contract, but such an agreement shall not waive the Owner's right, if any, subsequently to declare a Contractor Default; and

3.2 The Owner has declared a Contractor Default and formally terminated the Contractor's right to complete the contract. Such Contractor Default shall not be declared earlier than twenty days after the Contractor and the Surety have received notice as provided in Subparagraph 3.1; and

3.3 The Owner has agreed to pay the Balance of the Contract Price to the Surety in accordance with the terms of the Construction Contract or to a contractor selected to perform the Construction Contract in accordance with the terms of the contract with the Owner.

4 When the Owner has satisfied the conditions of Paragraph 3, the Surety shall promptly and at the Surety's expense take one of the following actions:

4.1 Arrange for the Contractor, with consent of the Owner, to perform and complete the Construction Contract; or

4.2 Undertake to perform and complete the Construction Contract itself, through its agents or through independent contractors; or

4.3 Obtain bids or negotiated proposals from qualified contractors acceptable to the Owner for a contract for performance and completion of the Construction Contract, arrange for a contract to be prepared for execution by the Owner and the contractor selected with the Owner's concurrence, to be secured with performance and payment bonds executed by a qualified surety equivalent to the bonds issued on the Construction Contract, and pay to the Owner the amount of damages as described in Paragraph 6 in excess of the Balance of the Contract Price incurred by the Owner resulting from the Contractor's default; or

4.4 Waive its right to perform and complete, arrange for completion, or obtain a new contractor and with reasonable promptness under the circumstances:

.1 After investigation, determine the amount for which it may be liable to the Owner and, as soon as practicable after the amount is determined, tender payment therefor to the Owner; or

.2 Deny liability in whole or in part and notify the Owner citing reasons therefor

5 If the Surety does not proceed as provided in Paragraph 4 with reasonable promptness, the Surety shall be deemed to be in default on this Bond fifteen days after receipt of an additional written notice from the Owner to the Surety demanding that the Surety perform its obligations under this Bond, and the Owner shall be entitled to enforce any remedy available to the Owner. If the Surety proceeds as provided in Subparagraph 4.4, and the Owner refuses the payment tendered or the Surety has denied liability, in whole or in part, without further notice the Owner shall be entitled to enforce any remedy available to the Owner

6 After the Owner has terminated the Contractor's right to complete the Construction Contract; and if the Surety elects to act under Subparagraph 4.1, 4.2, or 4.3 above, then the responsibilities of the Surety to the Owner shall not be greater than those of the Contractor under the Construction Contract, and the responsibilities of the Owner to the Surety shall not be greater than those of the Owner under the Construction Contract. To the limit of the amount of this Bond, but subject to commitment by the Owner of the Balance of the Contract Price to mitigation of costs and damages on the Construction Contract, the Surety is obligated without duplication for:

6.1 The responsibilities of the Contractor for correction of defective work and completion of the Construction Contract;

6.2 Additional legal, design professional and delay costs resulting from the Contractor's Default, and resulting from the actions or failure to act of the Surety under Paragraph 4; and

6.3 Liquidated damages, or if no liquidated damages are specified in the Construction Contract, actual damages caused by delayed performance or non-performance of the Contractor.

7 The Surety shall not be liable to the Owner or others for obligations of the Contractor that are unrelated to the Construction Contract, and the Balance of the Contract Price shall not be reduced or set off on account of any such unrelated obligations. No right of action shall accrue on this Bond to any person or entity other than the Owner or its heirs, executors, administrators or successors.

8 The Surety hereby waives notice of any change, including changes of time, to the Construction Contract or to related subcontracts, purchase orders and other obligations.

9 Any proceeding, legal or equitable, under this Bond may be instituted in any court of competent jurisdiction in the location in which the work or part of the work is located and shall be instituted within two years after Contractor Default or within two years after the Contractor ceased working or within two years after the Surety refuses or fails to perform its obligations under this Bond, whichever occurs first. If the provisions of this Paragraph are void or prohibited by law, the minimum period of limitation avail-

able to sureties as a defense in the jurisdiction of the suit shall be applicable.

10 Notice to the Surety, the Owner or the Contractor shall be mailed or delivered to the address shown on the signature page.

11 When this Bond has been furnished to comply with a statutory or other legal requirement in the location where the construction was to be performed, any provision in this Bond conflicting with said statutory or legal requirement shall be deemed deleted herefrom and provisions conforming to such statutory or other legal requirement shall be deemed incorporated herein. The intent is that this Bond shall be construed as a statutory bond and not as a common law bond.

12 DEFINITIONS

12.1 Balance of the Contract Price: The total amount payable by the Owner to the Contractor under the Construction Contract after all proper adjustments have been made, including allowance to the Contractor of any amounts received or to be received by the Owner in settlement of insurance or other claims for damages to which the Contractor is entitled, reduced by all valid and proper payments made to or on behalf of the Contractor under the Construction Contract.

12.2 Construction Contract: The agreement between the Owner and the Contractor identified on the signature page, including all Contract Documents and changes thereto.

12.3 Contractor Default: Failure of the Contractor, which has neither been remedied nor waived, to perform or otherwise to comply with the terms of the Construction Contract.

12.4 Owner Default: Failure of the Owner, which has neither been remedied nor waived, to pay the Contractor as required by the Construction Contract or to perform and complete or comply with the other terms thereof.

MODIFICATIONS TO THIS BOND ARE AS FOLLOWS:

(Space is provided below for additional signatures of added parties, other than those appearing on the cover page.)

CONTRACTOR AS PRINCIPAL		SURETY	
Company	(Corporate Seal)	Company:	(Corporate Seal)
Signature: _____		Signature: _____	
Name and Title:		Name and Title:	
Address:		Address:	

TRAVELERS

Travelers Casualty and Surety Company of America
Travelers Casualty and Surety Company
St. Paul Fire and Marine Insurance Company

POWER OF ATTORNEY

KNOW ALL MEN BY THESE PRESENTS: That Travelers Casualty and Surety Company of America, Travelers Casualty and Surety Company, and St. Paul Fire and Marine Insurance Company are corporations duly organized under the laws of the State of Connecticut (herein collectively called the "Companies"), and that the Companies do hereby make, constitute and appoint **Kelly J. Brooks** of **CYPRESS**, **Texas**, their true and lawful Attorney(s)-in-Fact to sign, execute, seal and acknowledge any and all bonds, recognizances, conditional undertakings and other writings obligatory in the nature thereof on behalf of the Companies in their business of guaranteeing the fidelity of persons, guaranteeing the performance of contracts and executing or guaranteeing bonds and undertakings required or permitted in any actions or proceedings allowed by law.

IN WITNESS WHEREOF, the Companies have caused this instrument to be signed, and their corporate seals to be hereto affixed, this **21st** day of **April, 2021**.

SEAL SEAL SEAL

State of Connecticut

By _____
Robert L. Raney, Senior Vice President

City of Hartford ss.

On this the **21st** day of **April, 2021**, before me personally appeared **Robert L. Raney**, who acknowledged himself to be the Senior Vice President of each of the Companies, and that he, as such, being authorized so to do, executed the foregoing instrument for the purposes therein contained by signing on behalf of said Companies by himself as a duly authorized officer.

IN WITNESS WHEREOF, I hereunto set my hand and official seal.

My Commission expires the **30th** day of **June, 2026**

NOTARY PUBLIC

_____
Anna P. Nowik, Notary Public

This Power of Attorney is granted under and by the authority of the following resolutions adopted by the Boards of Directors of each of the Companies, which resolutions are now in full force and effect, reading as follows:

RESOLVED, that the Chairman, the President, any Vice Chairman, any Executive Vice President, any Senior Vice President, any Vice President, any Second Vice President, the Treasurer, any Assistant Treasurer, the Corporate Secretary or any Assistant Secretary may appoint Attorneys-in-Fact and Agents to act for and on behalf of the Company and may give such appointee such authority as his or her certificate of authority may prescribe to sign with the Company's name and seal with the Company's seal bonds, recognizances, contracts of indemnity, and other writings obligatory in the nature of a bond, recognizance, or conditional undertaking, and any of said officers or the Board of Directors at any time may remove any such appointee and revoke the power given him or her; and it is

FURTHER RESOLVED, that the Chairman, the President, any Vice Chairman, any Executive Vice President, any Senior Vice President or any Vice President may delegate all or any part of the foregoing authority to one or more officers or employees of this Company, provided that each such delegation is in writing and a copy thereof is filed in the office of the Secretary; and it is

FURTHER RESOLVED, that any bond, recognizance, contract of indemnity, or writing obligatory in the nature of a bond, recognizance, or conditional undertaking shall be valid and binding upon the Company when (a) signed by the President, any Vice Chairman, any Executive Vice President, any Senior Vice President or any Vice President, any Second Vice President, the Treasurer, any Assistant Treasurer, the Corporate Secretary or any Assistant Secretary and duly attested and sealed with the Company's seal by a Secretary or Assistant Secretary; or (b) duly executed (under seal, if required) by one or more Attorneys-in-Fact and Agents pursuant to the power prescribed in his or her certificate or their certificates of authority or by one or more Company officers pursuant to a written delegation of authority; and it is

FURTHER RESOLVED, that the signature of each of the following officers: President, any Executive Vice President, any Senior Vice President, any Vice President, any Assistant Vice President, any Secretary, any Assistant Secretary, and the seal of the Company may be affixed by facsimile to any Power of Attorney or to any certificate relating thereto appointing Resident Vice Presidents, Resident Assistant Secretaries or Attorneys-in-Fact for purposes only of executing and attesting bonds and undertakings and other writings obligatory in the nature thereof, and any such Power of Attorney or certificate bearing such facsimile signature or facsimile seal shall be valid and binding upon the Company and any such power so executed and certified by such facsimile signature and facsimile seal shall be valid and binding on the Company in the future with respect to any bond or understanding to which it is attached.

I, **Kevin E. Hughes**, the undersigned, Assistant Secretary of each of the Companies, do hereby certify that the above and foregoing is a true and correct copy of the Power of Attorney executed by said Companies, which remains in full force and effect.

Dated this _____ day of _____

SEAL SEAL SEAL

_____
Kevin E. Hughes, Assistant Secretary

To verifythe authenticity of this Power of Attorney, please call us at 1-800-421-3880.
Please refer to the above-named Attorney(s)-in-Fact and the details of the bond to which this Power of Attorney is attached.

Travelers

IMPORTANT NOTICE

TO OBTAIN INFORMATION OR MAKE A COMPLAINT:

You may contact Travelers Casualty & Surety Company of America, Travelers Casualty & Surety Company, Travelers Indemnity Company, Standard Fire Insurance Company and/or Farmington Casualty Company for information or to make a complaint at:

Travelers Bond
Attn: Claims
1500 Market Street
West Tower, Suite 2900
Philadelphia, PA 19102

(267) 675-3000
(267) 675-3102 Fax

You may contact the Texas Department of Insurance to obtain the information on companies, coverages, rights or complaints at:

Texas Department of Insurance
P.O. Box 149104
Austin, TX 78714-9104

(800) 252 3439

ATTACH THIS NOTICE TO YOUR BOND. This notice is for information only and does not become a part or a condition of the attached document and is given to comply with Section 2253-021, Government Code, and Section 53.202, Property Code, effective September 1, 2001.

THE AMERICAN INSTITUTE OF ARCHITECTS

Bond No. 108226880

AIA Document A312

Payment Bond

Any singular reference to Contractor, Surety, Owner or other party shall be considered plural where applicable.

CONTRACTOR (Name and Address):
Lucas Construction Company, Inc
551 C League City Parkway
League City, TX 77573

SURETY (Name and Principal Place of Business):
Travelers Casualty and Surety Company of America
4650 Westway Park Blvd
Houston, Texas 77041

OWNER (Name and Address):
The County of Galveston
722 Moody (21st Street) Fifth Floor
Galveston, Texas 77550

CONSTRUCTION CONTRACT
Date:
Amount: Five Hundred Twenty Five Thousand Eighty Two and 00/100 Dollars ($525,082.00)
Description (Name and Location): HIGHWAY 3 BOAT RAMP AND PARKING LOT RECONSTRUCTION PROJECT

BOND
Date (Not earlier than Construction Contract Date):
Amount: Five Hundred Twenty Five Thousand Eighty Two and 00/100 Dollars ($525,082.00)
Modifications to this Bond: ☒ None ☐ See Page 6

CONTRACTOR AS PRINCIPAL
Company: Lucas Construction Company, Inc. (Corporate Seal)

Signature: Willis Lucas PRES
Name and Title: WILLIS LUCAS PRESIDENT

SURETY (Corporate Seal)
Company: Travelers Casualty and Surety Company of America

Signature: Kelly J. Brooks
Name and Title: Kelly J. Brooks, Attorney-in-Fact

(Any additional signatures appear on page 6)

(FOR INFORMATION ONLY—Name, Address and Telephone)
AGENT or BROKER:
Southern American Insurance Agency, Inc.
13823 Schmidt Road
Cypress, TX 77429
281-890-9294

OWNER'S REPRESENTATIVE (Architect, Engineer or other party):

1 The Contractor and the Surety, jointly and severally, bind themselves, their heirs, executors, administrators, successors and assigns to the Owner to pay for labor, materials and equipment furnished for use in the performance of the Construction Contract, which is incorporated herein by reference.

2 With respect to the Owner, this obligation shall be null and void if the Contractor:

2.1 Promptly makes payment, directly or indirectly, for all sums due Claimants, and

2.2 Defends, indemnifies and holds harmless the Owner from claims, demands, liens or suits by any person or entity whose claim, demand, lien or suit is for the payment for labor, materials or equipment furnished for use in the performance of the Construction Contract, provided the Owner has promptly notified the Contractor and the Surety (at the address described in Paragraph 12) of any claims, demands, liens or suits and tendered defense of such claims, demands, liens or suits to the Contractor and the Surety, and provided there is no Owner Default.

3 With respect to Claimants, this obligation shall be null and void if the Contractor promptly makes payment, directly or indirectly, for all sums due.

4 The Surety shall have no obligation to Claimants under this Bond until:

4.1 Claimants who are employed by or have a direct contract with the Contractor have given notice to the Surety (at the address described in Paragraph 12) and sent a copy, or notice thereof, to the Owner, stating that a claim is being made under this Bond and, with substantial accuracy, the amount of the claim.

4.2 Claimants who do not have a direct contract with the Contractor:

.1 Have furnished written notice to the Contractor and sent a copy, or notice thereof, to the Owner, within 90 days after having last performed labor or last furnished materials or equipment included in the claim stating, with substantial accuracy, the amount of the claim and the name of the party to whom the materials were furnished or supplied or for whom the labor was done or performed; and

.2 Have either received a rejection in whole or in part from the Contractor, or not received within 30 days of furnishing the above notice any communication from the Contractor by which the Contractor has indicated the claim will be paid directly or indirectly; and

.3 Not having been paid within the above 30 days, have sent a written notice to the Surety (at the address described in Paragraph 12) and sent a copy, or notice thereof, to the Owner, stating that a claim is being made under this Bond and enclosing a copy of the previous written notice furnished to the Contractor.

5 If a notice required by Paragraph 4 is given by the Owner to the Contractor or to the Surety, that is sufficient compliance.

6 When the Claimant has satisfied the conditions of Paragraph 4, the Surety shall promptly and at the Surety's expense take the following actions:

6.1 Send an answer to the Claimant, with a copy to the Owner, within 45 days after receipt of the claim, stating the amounts that are undisputed and the basis for challenging any amounts that are disputed.

6.2 Pay or arrange for payment of any undisputed amounts.

7 The Surety's total obligation shall not exceed the amount of this Bond, and the amount of this Bond shall be credited for any payments made in good faith by the Surety.

8 Amounts owed by the Owner to the Contractor under the Construction Contract shall be used for the performance of the Construction Contract and to satisfy claims, if any, under any Construction Performance Bond. By the Contractor furnishing and the Owner accepting this Bond, they agree that all funds earned by the Contractor in the performance of the Construction Contract are dedicated to satisfy obligations of the Contractor and the Surety under this Bond, subject to the Owner's priority to use the funds for the completion of the work.

9 The Surety shall not be liable to the Owner, Claimants or others for obligations of the Contractor that are unrelated to the Construction Contract. The Owner shall not be liable for payment of any costs or expenses of any Claimant under this Bond, and shall have under this Bond no obligations to make payments to, give notices on behalf of, or otherwise have obligations to Claimants under this Bond.

10 The Surety hereby waives notice of any change, including changes of time, to the Construction Contract or to related subcontracts, purchase orders and other obligations

11 No suit or action shall be commenced by a Claimant under this Bond other than in a court of competent jurisdiction in the location in which the work or part of the work is located or after the expiration of one year from the date (1) on which the Claimant gave the notice required by Subparagraph 4.1 or Clause 4.2.3, or (2) on which the last labor or service was performed by anyone or the last materials or equipment were furnished by anyone under the Construction Contract, whichever of (1) or (2) first occurs. If the provisions of this Paragraph are void or prohibited by law, the minimum period of limitation available to sureties as a defense in the jurisdiction of the suit shall be applicable

12 Notice to the Surety, the Owner or the Contractor shall be mailed or delivered to the address shown on the signature page. Actual receipt of notice by Surety, the Owner or the Contractor, however accomplished, shall be sufficient compliance as of the date received at the address shown on the signature page.

13 When this Bond has been furnished to comply with a statutory or other legal requirement in the location where the construction was to be performed, any provision in this Bond conflicting with said statutory or legal requirement shall be deemed deleted herefrom and provisions conforming to such statutory or other legal requirement shall be deemed incorporated herein. The intent is that this

Bond shall be construed as a statutory bond and not as a common law bond.

14 Upon request by any person or entity appearing to be a potential beneficiary of this Bond, the Contractor shall promptly furnish a copy of this Bond or shall permit a copy to be made.

15 DEFINITIONS

15.1 Claimant: An individual or entity having a direct contract with the Contractor or with a subcontractor of the Contractor to furnish labor, materials or equipment for use in the performance of the Contract. The intent of this Bond shall be to include without limitation in the terms "labor, materials or equipment" that part of water, gas, power, light, heat, oil, gasoline, telephone service or rental equipment used in the Construction Contract, architectural and engineering services required for performance of the work of the Contractor and the Contractor's subcontractors, and all other items for which a mechanic's lien may be asserted in the jurisdiction where the labor, materials or equipment were furnished.

15.2 Construction Contract: The agreement between the Owner and the Contractor identified on the signature page, including all Contract Documents and changes thereto.

15.3 Owner Default: Failure of the Owner, which has neither been remedied nor waived, to pay the Contractor as required by the Construction Contract or to perform and complete or comply with the other terms thereof.

MODIFICATIONS TO THIS BOND ARE AS FOLLOWS:

1. Amend paragraphs 4.1 and 4.2.3 dealing with notice to the surety by adding at the end of each paragraph "and furnished to surety an explanation of the claim and copies of documents on which the Claimant relies to support the claim."

2. Amend paragraph 5 by changing "or" to "and" so it reads:

> 5. If a notice required by paragraph 4 is given by the Owner to the Contractor and to the Surety, that is sufficient compliance.

3. Paragraph 6 above is deleted in its entirety and the following is substituted in its place:

> 6. When the Claimant has satisfied the conditions of paragraph 4 and has submitted any additional supporting documentation, and any sworn proof of claim, requested by the Surety, the Surety shall, within a reasonable period of time, which shall not be less than 45 days, respond to the Claimant and offer to pay or arrange for payment of any undisputed amount; provided, however, that the failure of the Surety to fully and/or timely discharge its obligations under this paragraph or to dispute or identify any specific defense to all or part of a claim shall not be deemed an admission of liability by the Surety or otherwise constitute a waiver of any rights or defenses the Contractor and/or Surety may have or acquire as to such claim, including, without limitation, any right to dispute such claim. In no event shall the Surety's liability to any Claimant under this Bond exceed the sum properly due such claimant.

(Space is provided below for additional signatures of added parties, other than those appearing on the cover page.)

CONTRACTOR AS PRINCIPAL		SURETY	
Company:	(Corporate Seal)	Company:	(Corporate Seal)
Signature:		Signature:	
Name and Title:		Name and Title:	
Address:		Address:	

TRAVELERS

Travelers Casualty and Surety Company of America
Travelers Casualty and Surety Company
St. Paul Fire and Marine Insurance Company

POWER OF ATTORNEY

KNOW ALL MEN BY THESE PRESENTS: That Travelers Casualty and Surety Company of America, Travelers Casualty and Surety Company, and St. Paul Fire and Marine Insurance Company are corporations duly organized under the laws of the State of Connecticut (herein collectively called the "Companies"), and that the Companies do hereby make, constitute and appoint **Kelly J. Brooks** of **CYPRESS**, **Texas**, their true and lawful Attorney(s)-in-Fact to sign, execute, seal and acknowledge any and all bonds, recognizances, conditional undertakings and other writings obligatory in the nature thereof on behalf of the Companies in their business of guaranteeing the fidelity of persons, guaranteeing the performance of contracts and executing or guaranteeing bonds and undertakings required or permitted in any actions or proceedings allowed by law.

IN WITNESS WHEREOF, the Companies have caused this instrument to be signed, and their corporate seals to be hereto affixed, this **21st** day of **April, 2021.**

SEAL SEAL SEAL

State of Connecticut

By: _____
Robert L. Raney, Senior Vice President

City of Hartford ss

On this the **21st** day of **April, 2021**, before me personally appeared **Robert L. Raney**, who acknowledged himself to be the Senior Vice President of each of the Companies, and that he, as such, being authorized so to do, executed the foregoing instrument for the purposes therein contained by signing on behalf of said Companies by himself as a duly authorized officer.

IN WITNESS WHEREOF, I hereunto set my hand and official seal.

My Commission expires the **30th** day of **June, 2026**

NOTARY PUBLIC CONNECTICUT

_____
Anna P. Nowik, Notary Public

This Power of Attorney is granted under and by the authority of the following resolutions adopted by the Boards of Directors of each of the Companies, which resolutions are now in full force and effect, reading as follows:

RESOLVED, that the Chairman, the President, any Vice Chairman, any Executive Vice President, any Senior Vice President, any Vice President, any Second Vice President, the Treasurer, any Assistant Treasurer, the Corporate Secretary or any Assistant Secretary may appoint Attorneys-in-Fact and Agents to act for and on behalf of the Company and may give such appointee such authority as his or her certificate of authority may prescribe to sign with the Company's name and seal with the Company's seal bonds, recognizances, contracts of indemnity, and other writings obligatory in the nature of a bond, recognizance, or conditional undertaking, and any of said officers or the Board of Directors at any time may remove any such appointee and revoke the power given him or her; and it is

FURTHER RESOLVED, that the Chairman, the President, any Vice Chairman, any Executive Vice President, any Senior Vice President or any Vice President may delegate all or any part of the foregoing authority to one or more officers or employees of this Company, provided that each such delegation is in writing and a copy thereof is filed in the office of the Secretary; and it is

FURTHER RESOLVED, that any bond, recognizance, contract of indemnity, or writing obligatory in the nature of a bond, recognizance, or conditional undertaking shall be valid and binding upon the Company when (a) signed by the President, any Vice Chairman, any Executive Vice President, any Senior Vice President or any Vice President, any Second Vice President, the Treasurer, any Assistant Treasurer, the Corporate Secretary or any Assistant Secretary and duly attested and sealed with the Company's seal by a Secretary or Assistant Secretary; or (b) duly executed (under seal, if required) by one or more Attorneys-in-Fact and Agents pursuant to the power prescribed in his or her certificate or their certificates of authority or by one or more Company officers pursuant to a written delegation of authority; and it is

FURTHER RESOLVED, that the signature of each of the following officers: President, any Executive Vice President, any Senior Vice President, any Vice President, any Assistant Vice President, any Secretary, any Assistant Secretary, and the seal of the Company may be affixed by facsimile to any Power of Attorney or to any certificate relating thereto appointing Resident Vice Presidents, Resident Assistant Secretaries or Attorneys-in-Fact for purposes only of executing and attesting bonds and undertakings and other writings obligatory in the nature thereof, and any such Power of Attorney or certificate bearing such facsimile signature or facsimile seal shall be valid and binding upon the Company and any such power so executed and certified by such facsimile signature and facsimile seal shall be valid and binding on the Company in the future with respect to any bond or understanding to which it is attached.

I, **Kevin E. Hughes,** the undersigned, Assistant Secretary of each of the Companies, do hereby certify that the above and foregoing is a true and correct copy of the Power of Attorney executed by said Companies, which remains in full force and effect.

Dated this day of

SEAL SEAL SEAL

_____
Kevin E. Hughes, Assistant Secretary

To verifythe authenticity of this Power of Attorney, please call us at 1-800-421-3880.
Please refer to the above-named Attorney(s)-in-Fact and the details of the bond to which this Power of Attorney is attached.

Travelers

IMPORTANT NOTICE

TO OBTAIN INFORMATION OR MAKE A COMPLAINT:

You may contact Travelers Casualty & Surety Company of America, Travelers Casualty & Surety Company, Travelers Indemnity Company, Standard Fire Insurance Company and/or Farmington Casualty Company for information or to make a complaint at:

Travelers Bond
Attn: Claims
1500 Market Street
West Tower, Suite 2900
Philadelphia, PA 19102

(267) 675-3000
(267) 675-3102 Fax

You may contact the Texas Department of Insurance to obtain the information on companies, coverages, rights or complaints at:

Texas Department of Insurance
P.O. Box 149104
Austin, TX 78714-9104

(800) 252-3439

ATTACH THIS NOTICE TO YOUR BOND. This notice is for information only and does not become a part or a condition of the attached document and is given to comply with Section 2253-021, Government Code, and Section 53 202, Property Code, effective September 1, 2001.

CERTIFICATE OF LIABILITY INSURANCE

DATE (MM/DD/YYYY): 4/11/2025

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

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

PRODUCER Hotchkiss Insurance Agency, LLC - Houston 13430 NW Freeway, Suite 600 Houston TX 77040	**CONTACT NAME:** Certificates Houston **PHONE (A/C, No, Ext):** 713-956-9800 **FAX (A/C, No):** 713-956-0331 **E-MAIL ADDRESS:** certs@hiallc.com
INSURED LUCACON-01 Lucas Construction Company R W Lucas Construction LLC 551 League City Pkwy, #C League City TX 77573-5429	**INSURER(S) AFFORDING COVERAGE** — **NAIC #** INSURER A : Texas Mutual Insurance Company — 524210 INSURER B : Travelers Lloyds Insurance Company — 41262 INSURER C : Travelers Property Casualty Co of Amer — 25674 INSURER D : Phoenix Insurance Company — 25623 INSURER E : Travelers Indemnity Company — 25658 INSURER F :

COVERAGES **CERTIFICATE NUMBER:** 802477631 **REVISION NUMBER:**

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

INSR LTR	TYPE OF INSURANCE	ADDL INSD	SUBR WVD	POLICY NUMBER	POLICY EFF (MM/DD/YYYY)	POLICY EXP (MM/DD/YYYY)	LIMITS	
D	X COMMERCIAL GENERAL LIABILITY CLAIMS-MADE [X] OCCUR GEN'L AGGREGATE LIMIT APPLIES PER: POLICY [X] PRO-JECT [ ] LOC OTHER:			DT-CO-0L261407-PHX-24	7/31/2024	7/31/2025	EACH OCCURRENCE DAMAGE TO RENTED PREMISES (Ea occurrence) MED EXP (Any one person) PERSONAL & ADV INJURY GENERAL AGGREGATE PRODUCTS - COMP/OP AGG $	$ 1,000,000 $ 300,000 $ 5,000 $ 1,000,000 $ 2,000,000 $ 2,000,000 $
E	AUTOMOBILE LIABILITY X ANY AUTO OWNED AUTOS ONLY / SCHEDULED AUTOS X HIRED AUTOS ONLY / X NON-OWNED AUTOS ONLY			8109K375991-24-26-G	7/31/2024	7/31/2025	COMBINED SINGLE LIMIT (Ea accident) BODILY INJURY (Per person) BODILY INJURY (Per accident) PROPERTY DAMAGE (Per accident) $	$ 1,000,000 $ $ $ $
C	X UMBRELLA LIAB X OCCUR EXCESS LIAB CLAIMS-MADE DED X RETENTION $ 10,000			CUP-0L264502-24-26	7/31/2024	7/31/2025	EACH OCCURRENCE AGGREGATE $	$ 8,000,000 $ 8,000,000 $
A	WORKERS COMPENSATION AND EMPLOYERS' LIABILITY ANYPROPRIETOR/PARTNER/EXECUTIVE OFFICER/MEMBER EXCLUDED? Y/N [N] (Mandatory in NH) If yes, describe under DESCRIPTION OF OPERATIONS below	N / A		0001182104	7/31/2024	7/31/2025	X PER STATUTE / OTH-ER E.L. EACH ACCIDENT E.L. DISEASE - EA EMPLOYEE E.L. DISEASE - POLICY LIMIT	 $ 1,000,000 $ 1,000,000 $ 1,000,000
B	Equipment Floater Special inc Theft			QT-660-8J919392-TLC-24	7/31/2024	7/31/2025	Leased/Rented Scheduled Equipment Deductible	400,000 7,088,011 1,000

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

The general liability policy includes a blanket additional insured endorsement (Per GL Form CGD604 08/13) that provides Additional insured status when required by written contract.
The auto policy includes a blanket additional insured endorsement (Per Form CAT353 02/15) that provides Additional insured status when required by written contract.
The general liability, auto and workers compensation policies includes a blanket waiver of subrogation endorsement when required by written contract.
The certificate holder is named as loss payee with regards to the equipment floater policy as their interest may appear.
The general liability policy includes a special endorsement with Primary and Noncontributory wording (Per GL Form CGD604 08/13).
The auto policy includes a special endorsement with Primary and Noncontributory wording (CAT499 02/16).
See Attached...

CERTIFICATE HOLDER

County of Galveston
722 Moody Avenue
Galveston TX 77550

CANCELLATION

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

AUTHORIZED REPRESENTATIVE

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AGENCY CUSTOMER ID: LUCACON-01

LOC #:

ADDITIONAL REMARKS SCHEDULE

AGENCY Hotchkiss Insurance Agency, LLC - Houston	NAMED INSURED Lucas Construction Company R W Lucas Construction LLC 551 League City Pkwy, #C League City TX 77573-5429
POLICY NUMBER	
CARRIER / NAIC CODE	EFFECTIVE DATE:

ADDITIONAL REMARKS

THIS ADDITIONAL REMARKS FORM IS A SCHEDULE TO ACORD FORM,

FORM NUMBER: 25 FORM TITLE: CERTIFICATE OF LIABILITY INSURANCE

The umbrella/excess will follow the underlying liability coverage forms, subject to the policy terms and conditions.

RE: Highway 3 Boat Ramp and Parking Lot Reconstruction Project

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TexasMutual®
WORKERS' COMPENSATION INSURANCE

WORKERS' COMPENSATION AND EMPLOYERS LIABILITY POLICY

WC 42 03 04 B
Insured copy

TEXAS WAIVER OF OUR RIGHT TO RECOVER FROM OTHERS ENDORSEMENT

This endorsement applies only to the insurance provided by the policy because Texas is shown in item 3.A. of the Information Page.

We have the right to recover our payments from anyone liable for an injury covered by this policy. We will not enforce our right against the person or organization named in the Schedule, but this waiver applies only with respect to bodily injury arising out of the operations described in the schedule where you are required by a written contract to obtain this waiver from us.

This endorsement shall not operate directly or indirectly to benefit anyone not named in the Schedule.

The premium for this endorsement is shown in the Schedule.

Schedule

1. ( ) Specific Waiver
   Name of person or organization
   (X) Blanket Waiver
   Any person or organization for whom the Named Insured has agreed by written contract to furnish this waiver.

2. Operations: All Texas operations
3. Premium:
   The premium charge for this endorsement shall be **2.00** percent of the premium developed on payroll in connection with work performed for the above person(s) or organization(s) arising out of the operations described.
4. Advance Premium: Included, see Information Page

This endorsement changes the policy to which it is attached effective on the inception date of the policy unless a different date is indicated below.
(The following "attaching clause" need be completed only when this endorsement is issued subsequent to preparation of the policy.)
This endorsement, effective on 7/31/24 **at 12:01 a.m.** standard time, forms a part of:

Policy no. 0001182104 of Texas Mutual Insurance Company effective on 7/31/24

Issued to: LUCAS CONSTRUCTION COMPANY INC

Jeanette Ward

This is not a bill

Authorized representative

NCCI Carrier Code: 29939

7/26/24

PO Box 12058, Austin, TX 78711-2058
texasmutual.com | (800) 859-5995 | Fax (800) 359-0650

THIS ENDORSEMENT CHANGES THE POLICY. PLEASE READ IT CAREFULLY.

BLANKET ADDITIONAL INSURED – PRIMARY AND NON-CONTRIBUTORY WITH OTHER INSURANCE – CONTRACTORS

This endorsement modifies insurance provided under the following:

BUSINESS AUTO COVERAGE FORM

PROVISIONS

1. The following is added to Paragraph **c.** in **A.1., Who Is An Insured,** of **SECTION II – COVERED AUTOS LIABILITY COVERAGE:**

   This includes any person or organization who you are required under a written contract or agreement, that is signed by you before the "bodily injury" or "property damage" occurs and that is in effect during the policy period, to name as an additional insured for Covered Autos Liability Coverage, but only for damages to which this insurance applies and only to the extent of that person's or organization's liability for the conduct of another "insured".

2. The following is added to Paragraph **B.5., Other Insurance** of **SECTION IV – BUSINESS AUTO CONDITIONS:**

   Regardless of the provisions of paragraph **a.** and paragraph **d.** of this part **5. Other Insurance,** this insurance is primary to and non-contributory with applicable other insurance under which an additional insured person or organization is a named insured when a written contract or agreement with you, that is signed by you before the "bodily injury" or "property damage" occurs and that is in effect during the policy period, requires this insurance to be primary and non-contributory.

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THIS ENDORSEMENT CHANGES THE POLICY. PLEASE READ IT CAREFULLY.

XTEND ENDORSEMENT FOR CONTRACTORS

This endorsement modifies insurance provided under the following:

COMMERCIAL GENERAL LIABILITY COVERAGE PART

GENERAL DESCRIPTION OF COVERAGE – This endorsement broadens coverage. However, coverage for any injury, damage or medical expenses described in any of the provisions of this endorsement may be excluded or limited by another endorsement to this Coverage Part, and these coverage broadening provisions do not apply to the extent that coverage is excluded or limited by such an endorsement. The following listing is a general coverage description only. Read all the provisions of this endorsement and the rest of your policy carefully to determine rights, duties, and what is and is not covered.

A. Who Is An Insured – Unnamed Subsidiaries

B. Blanket Additional Insured – Governmental Entities – Permits Or Authorizations Relating To Operations

C. Incidental Medical Malpractice

D. Blanket Waiver Of Subrogation

E. Contractual Liability – Railroads

F. Damage To Premises Rented To You

PROVISIONS

A. WHO IS AN INSURED – UNNAMED SUBSIDIARIES

The following is added to **SECTION II – WHO IS AN INSURED**:

Any of your subsidiaries, other than a partnership, joint venture or limited liability company, that is not shown as a Named Insured in the Declarations is a Named Insured if:

a. You are the sole owner of, or maintain an ownership interest of more than 50% in, such subsidiary on the first day of the policy period; and

b. Such subsidiary is not an insured under similar other insurance.

No such subsidiary is an insured for "bodily injury" or "property damage" that occurred, or "personal and advertising injury" caused by an offense committed:

a. Before you maintained an ownership interest of more than 50% in such subsidiary; or

b. After the date, if any, during the policy period that you no longer maintain an ownership interest of more than 50% in such subsidiary.

For purposes of Paragraph **1.** of Section II – Who Is An Insured, each such subsidiary will be deemed to be designated in the Declarations as:

a. An organization other than a partnership, joint venture or limited liability company; or

b. A trust;

as indicated in its name or the documents that govern its structure.

B. BLANKET ADDITIONAL INSURED – GOVERNMENTAL ENTITIES – PERMITS OR AUTHORIZATIONS RELATING TO OPERATIONS

The following is added to **SECTION II – WHO IS AN INSURED**:

Any governmental entity that has issued a permit or authorization with respect to operations performed by you or on your behalf and that you are required by any ordinance, law, building code or written contract or agreement to include as an additional insured on this Coverage Part is an insured, but only with respect to liability for "bodily injury", "property damage" or "personal and advertising injury" arising out of such operations.

The insurance provided to such governmental entity does not apply to:

a. Any "bodily injury", "property damage" or "personal and advertising injury" arising out of operations performed for the governmental entity; or

b. Any "bodily injury" or "property damage" included in the "products-completed operations hazard".

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C. INCIDENTAL MEDICAL MALPRACTICE

1. The following replaces Paragraph **b.** of the definition of "occurrence" in the **DEFINITIONS** Section:

   b. An act or omission committed in providing or failing to provide "incidental medical services", first aid or "Good Samaritan services" to a person, unless you are in the business or occupation of providing professional health care services.

2. The following replaces the last paragraph of Paragraph **2.a.(1)** of **SECTION II – WHO IS AN INSURED**:

   Unless you are in the business or occupation of providing professional health care services, Paragraphs **(1)(a)**, **(b)**, **(c)** and **(d)** above do not apply to "bodily injury" arising out of providing or failing to provide:

   (a) "Incidental medical services" by any of your "employees" who is a nurse, nurse assistant, emergency medical technician or paramedic; or

   (b) First aid or "Good Samaritan services" by any of your "employees" or "volunteer workers", other than an employed or volunteer doctor. Any such "employees" or "volunteer workers" providing or failing to provide first aid or "Good Samaritan services" during their work hours for you will be deemed to be acting within the scope of their employment by you or performing duties related to the conduct of your business.

3. The following replaces the last sentence of Paragraph **5.** of **SECTION III – LIMITS OF INSURANCE**:

   For the purposes of determining the applicable Each Occurrence Limit, all related acts or omissions committed in providing or failing to provide "incidental medical services", first aid or "Good Samaritan services" to any one person will be deemed to be one "occurrence".

4. The following exclusion is added to Paragraph **2., Exclusions**, of **SECTION I – COVERAGES – COVERAGE A – BODILY INJURY AND PROPERTY DAMAGE LIABILITY**:

   Sale Of Pharmaceuticals

   "Bodily injury" or "property damage" arising out of the violation of a penal statute or ordinance relating to the sale of pharmaceuticals committed by, or with the knowledge or consent of, the insured.

5. The following is added to the **DEFINITIONS** Section:

   "Incidental medical services" means:

   a. Medical, surgical, dental, laboratory, x-ray or nursing service or treatment, advice or instruction, or the related furnishing of food or beverages; or

   b. The furnishing or dispensing of drugs or medical, dental, or surgical supplies or appliances.

6. The following is added to Paragraph **4.b., Excess Insurance**, of **SECTION IV – COMMERCIAL GENERAL LIABILITY CONDITIONS**:

   This insurance is excess over any valid and collectible other insurance, whether primary, excess, contingent or on any other basis, that is available to any of your "employees" for "bodily injury" that arises out of providing or failing to provide "incidental medical services" to any person to the extent not subject to Paragraph **2.a.(1)** of Section **II** – Who Is An Insured.

D. BLANKET WAIVER OF SUBROGATION

The following is added to Paragraph **8., Transfer Of Rights Of Recovery Against Others To Us**, of **SECTION IV – COMMERCIAL GENERAL LIABILITY CONDITIONS**:

If the insured has agreed in a contract or agreement to waive that insured's right of recovery against any person or organization, we waive our right of recovery against such person or organization, but only for payments we make because of:

a. "Bodily injury" or "property damage" that occurs; or

b. "Personal and advertising injury" caused by an offense that is committed;

subsequent to the execution of the contract or agreement.

E. CONTRACTUAL LIABILITY – RAILROADS

1. The following replaces Paragraph **c.** of the definition of "insured contract" in the **DEFINITIONS** Section:

   c. Any easement or license agreement;

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2. Paragraph **f.(1)** of the definition of "insured contract" in the **DEFINITIONS** Section is deleted.

F. DAMAGE TO PREMISES RENTED TO YOU

The following replaces the definition of "premises damage" in the **DEFINITIONS** Section:

"Premises damage" means "property damage" to:

a. Any premises while rented to you or temporarily occupied by you with permission of the owner; or

b. The contents of any premises while such premises is rented to you, if you rent such premises for a period of seven or fewer consecutive days.

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THIS ENDORSEMENT CHANGES THE POLICY. PLEASE READ IT CAREFULLY.

BUSINESS AUTO EXTENSION ENDORSEMENT

This endorsement modifies insurance provided under the following:

BUSINESS AUTO COVERAGE FORM

GENERAL DESCRIPTION OF COVERAGE – This endorsement broadens coverage. However, coverage for any injury, damage or medical expenses described in any of the provisions of this endorsement may be excluded or limited by another endorsement to the Coverage Part, and these coverage broadening provisions do not apply to the extent that coverage is excluded or limited by such an endorsement. The following listing is a general coverage description only. Limitations and exclusions may apply to these coverages. Read all the provisions of this endorsement and the rest of your policy carefully to determine rights, duties, and what is and is not covered.

A. BROAD FORM NAMED INSURED

B. BLANKET ADDITIONAL INSURED

C. EMPLOYEE HIRED AUTO

D. EMPLOYEES AS INSURED

E. SUPPLEMENTARY PAYMENTS – INCREASED LIMITS

F. HIRED AUTO – LIMITED WORLDWIDE COVERAGE – INDEMNITY BASIS

G. WAIVER OF DEDUCTIBLE – GLASS

H. HIRED AUTO PHYSICAL DAMAGE – LOSS OF USE – INCREASED LIMIT

I. PHYSICAL DAMAGE – TRANSPORTATION EXPENSES – INCREASED LIMIT

J. PERSONAL PROPERTY

K. AIRBAGS

L. NOTICE AND KNOWLEDGE OF ACCIDENT OR LOSS

M. BLANKET WAIVER OF SUBROGATION

N. UNINTENTIONAL ERRORS OR OMISSIONS

PROVISIONS

A. BROAD FORM NAMED INSURED

The following is added to Paragraph **A.1., Who Is An Insured**, of **SECTION II – COVERED AUTOS LIABILITY COVERAGE**:

Any organization you newly acquire or form during the policy period over which you maintain 50% or more ownership interest and that is not separately insured for Business Auto Coverage. Coverage under this provision is afforded only until the 180th day after you acquire or form the organization or the end of the policy period, whichever is earlier.

B. BLANKET ADDITIONAL INSURED

The following is added to Paragraph **c.** in **A.1., Who Is An Insured**, of **SECTION II – COVERED AUTOS LIABILITY COVERAGE**:

Any person or organization who is required under a written contract or agreement between you and that person or organization, that is signed and executed by you before the "bodily injury" or "property damage" occurs and that is in effect during the policy period, to be named as an additional insured is an "insured" for Covered Autos Liability Coverage, but only for damages to which this insurance applies and only to the extent that person or organization qualifies as an "insured" under the Who Is An Insured provision contained in Section II.

C. EMPLOYEE HIRED AUTO

1. The following is added to Paragraph **A.1., Who Is An Insured**, of **SECTION II – COVERED AUTOS LIABILITY COVERAGE**:

   An "employee" of yours is an "insured" while operating an "auto" hired or rented under a contract or agreement in an "employee's" name, with your permission, while performing duties related to the conduct of your business.

2. The following replaces Paragraph **b.** in **B.5., Other Insurance**, of **SECTION IV – BUSINESS AUTO CONDITIONS**:

   b. For Hired Auto Physical Damage Coverage, the following are deemed to be covered "autos" you own:

   (1) Any covered "auto" you lease, hire, rent or borrow; and

   (2) Any covered "auto" hired or rented by your "employee" under a contract in an "employee's" name, with your

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permission, while performing duties related to the conduct of your business.

However, any "auto" that is leased, hired, rented or borrowed with a driver is not a covered "auto".

D. EMPLOYEES AS INSURED

The following is added to Paragraph **A.1., Who Is An Insured**, of **SECTION II – COVERED AUTOS LIABILITY COVERAGE**:

Any "employee" of yours is an "insured" while using a covered "auto" you don't own, hire or borrow in your business or your personal affairs.

E. SUPPLEMENTARY PAYMENTS – INCREASED LIMITS

1. The following replaces Paragraph **A.2.a.(2)**, of **SECTION II – COVERED AUTOS LIABILITY COVERAGE**:

   (2) Up to $3,000 for cost of bail bonds (including bonds for related traffic law violations) required because of an "accident" we cover. We do not have to furnish these bonds.

2. The following replaces Paragraph **A.2.a.(4)**, of **SECTION II – COVERED AUTOS LIABILITY COVERAGE**:

   (4) All reasonable expenses incurred by the "insured" at our request, including actual loss of earnings up to $500 a day because of time off from work.

F. HIRED AUTO – LIMITED WORLDWIDE COVERAGE – INDEMNITY BASIS

The following replaces Subparagraph **(5)** in Paragraph **B.7., Policy Period, Coverage Territory**, of **SECTION IV – BUSINESS AUTO CONDITIONS**:

(5) Anywhere in the world, except any country or jurisdiction while any trade sanction, embargo, or similar regulation imposed by the United States of America applies to and prohibits the transaction of business with or within such country or jurisdiction, for Covered Autos Liability Coverage for any covered "auto" that you lease, hire, rent or borrow without a driver for a period of 30 days or less and that is not an "auto" you lease, hire, rent or borrow from any of your "employees", partners (if you are a partnership), members (if you are a limited liability company) or members of their households.

(a) With respect to any claim made or "suit" brought outside the United States of America, the territories and possessions of the United States of America, Puerto Rico and Canada:

(i) You must arrange to defend the "insured" against, and investigate or settle any such claim or "suit" and keep us advised of all proceedings and actions.

(ii) Neither you nor any other involved "insured" will make any settlement without our consent.

(iii) We may, at our discretion, participate in defending the "insured" against, or in the settlement of, any claim or "suit".

(iv) We will reimburse the "insured" for sums that the "insured" legally must pay as damages because of "bodily injury" or "property damage" to which this insurance applies, that the "insured" pays with our consent, but only up to the limit described in Paragraph **C.**, Limits Of Insurance, of SECTION II – COVERED AUTOS LIABILITY COVERAGE.

(v) We will reimburse the "insured" for the reasonable expenses incurred with our consent for your investigation of such claims and your defense of the "insured" against any such "suit", but only up to and included within the limit described in Paragraph **C.**, Limits Of Insurance, of SECTION II – COVERED AUTOS LIABILITY COVERAGE, and not in addition to such limit. Our duty to make such payments ends when we have used up the applicable limit of insurance in payments for damages, settlements or defense expenses.

(b) This insurance is excess over any valid and collectible other insurance available to the "insured" whether primary, excess, contingent or on any other basis.

(c) This insurance is not a substitute for required or compulsory insurance in any country outside the United States, its territories and possessions, Puerto Rico and Canada.

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You agree to maintain all required or compulsory insurance in any such country up to the minimum limits required by local law. Your failure to comply with compulsory insurance requirements will not invalidate the coverage afforded by this policy, but we will only be liable to the same extent we would have been liable had you complied with the compulsory insurance requirements.

(d) It is understood that we are not an admitted or authorized insurer outside the United States of America, its territories and possessions, Puerto Rico and Canada. We assume no responsibility for the furnishing of certificates of insurance, or for compliance in any way with the laws of other countries relating to insurance.

G. WAIVER OF DEDUCTIBLE – GLASS

The following is added to Paragraph **D., Deductible**, of **SECTION III – PHYSICAL DAMAGE COVERAGE**:

No deductible for a covered "auto" will apply to glass damage if the glass is repaired rather than replaced.

H. HIRED AUTO PHYSICAL DAMAGE – LOSS OF USE – INCREASED LIMIT

The following replaces the last sentence of Paragraph **A.4.b., Loss Of Use Expenses**, of **SECTION III – PHYSICAL DAMAGE COVERAGE**:

However, the most we will pay for any expenses for loss of use is $65 per day, to a maximum of $750 for any one "accident".

I. PHYSICAL DAMAGE – TRANSPORTATION EXPENSES – INCREASED LIMIT

The following replaces the first sentence in Paragraph **A.4.a., Transportation Expenses**, of **SECTION III – PHYSICAL DAMAGE COVERAGE**:

We will pay up to $50 per day to a maximum of $1,500 for temporary transportation expense incurred by you because of the total theft of a covered "auto" of the private passenger type.

J. PERSONAL PROPERTY

The following is added to Paragraph **A.4., Coverage Extensions**, of **SECTION III – PHYSICAL DAMAGE COVERAGE**:

Personal Property

We will pay up to $400 for "loss" to wearing apparel and other personal property which is:

(1) Owned by an "insured"; and

(2) In or on your covered "auto".

This coverage applies only in the event of a total theft of your covered "auto".

No deductibles apply to this Personal Property coverage.

K. AIRBAGS

The following is added to Paragraph **B.3., Exclusions**, of **SECTION III – PHYSICAL DAMAGE COVERAGE**:

Exclusion **3.a.** does not apply to "loss" to one or more airbags in a covered "auto" you own that inflate due to a cause other than a cause of "loss" set forth in Paragraphs **A.1.b.** and **A.1.c.**, but only:

a. If that "auto" is a covered "auto" for Comprehensive Coverage under this policy;

b. The airbags are not covered under any warranty; and

c. The airbags were not intentionally inflated.

We will pay up to a maximum of $1,000 for any one "loss".

L. NOTICE AND KNOWLEDGE OF ACCIDENT OR LOSS

The following is added to Paragraph **A.2.a.**, of **SECTION IV – BUSINESS AUTO CONDITIONS**:

Your duty to give us or our authorized representative prompt notice of the "accident" or "loss" applies only when the "accident" or "loss" is known to:

(a) You (if you are an individual);

(b) A partner (if you are a partnership);

(c) A member (if you are a limited liability company);

(d) An executive officer, director or insurance manager (if you are a corporation or other organization); or

(e) Any "employee" authorized by you to give notice of the "accident" or "loss".

M. BLANKET WAIVER OF SUBROGATION

The following replaces Paragraph **A.5., Transfer Of Rights Of Recovery Against Others To Us**, of **SECTION IV – BUSINESS AUTO CONDITIONS** :

5. Transfer Of Rights Of Recovery Against Others To Us

We waive any right of recovery we may have against any person or organization to the extent required of you by a written contract signed and executed prior to any "accident" or "loss", provided that the "accident" or "loss" arises out of operations contemplated by

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such contract. The waiver applies only to the person or organization designated in such contract.

N. UNINTENTIONAL ERRORS OR OMISSIONS

The following is added to Paragraph **B.2., Concealment, Misrepresentation, Or Fraud**, of **SECTION IV – BUSINESS AUTO CONDITIONS**:

The unintentional omission of, or unintentional error in, any information given by you shall not prejudice your rights under this insurance. However this provision does not affect our right to collect additional premium or exercise our right of cancellation or non-renewal.

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THIS ENDORSEMENT CHANGES THE POLICY. PLEASE READ IT CAREFULLY.

BLANKET ADDITIONAL INSURED – AUTOMATIC STATUS IF REQUIRED BY WRITTEN CONTRACT (CONTRACTORS)

This endorsement modifies insurance provided under the following:

COMMERCIAL GENERAL LIABILITY COVERAGE PART

1. The following is added to **SECTION II – WHO IS AN INSURED**:

   Any person or organization that:

   a. You agree in a "written contract requiring insurance" to include as an additional insured on this Coverage Part; and

   b. Has not been added as an additional insured for the same project by attachment of an endorsement under this Coverage Part which includes such person or organization in the endorsement's schedule;

   is an insured, but:

   a. Only with respect to liability for "bodily injury", "property damage" or "personal injury"; and

   b. Only as described in Paragraph **(1)**, **(2)** or **(3)** below, whichever applies:

      (1) If the "written contract requiring insurance" specifically requires you to provide additional insured coverage to that person or organization by the use of:

         (a) The Additional Insured – Owners, Lessees or Contractors – (Form B) endorsement CG 20 10 11 85; or

         (b) Either or both of the following: the Additional Insured – Owners, Lessees or Contractors – Scheduled Person Or Organization endorsement CG 20 10 10 01, or the Additional Insured – Owners, Lessees or Contractors – Completed Operations endorsement CG 20 37 10 01;

      the person or organization is an additional insured only if the injury or damage arises out of "your work" to which the "written contract requiring insurance" applies;

      (2) If the "written contract requiring insurance" specifically requires you to provide additional insured coverage to that person or organization by the use of:

         (a) The Additional Insured – Owners, Lessees or Contractors – Scheduled Person or Organization endorsement CG 20 10 07 04 or CG 20 10 04 13, the Additional Insured – Owners, Lessees or Contractors – Completed Operations endorsement CG 20 37 07 04 or CG 20 37 04 13, or both of such endorsements with either of those edition dates; or

         (b) Either or both of the following: the Additional Insured – Owners, Lessees or Contractors – Scheduled Person Or Organization endorsement CG 20 10, or the Additional Insured – Owners, Lessees or Contractors – Completed Operations endorsement CG 20 37, without an edition date of such endorsement specified;

      the person or organization is an additional insured only if the injury or damage is caused, in whole or in part, by acts or omissions of you or your subcontractor in the performance of "your work" to which the "written contract requiring insurance" applies; or

      (3) If neither Paragraph **(1)** nor **(2)** above applies:

         (a) The person or organization is an additional insured only if, and to the extent that, the injury or damage is caused by acts or omissions of you or your subcontractor in the performance of "your work" to which the "written contract requiring insurance" applies; and

         (b) The person or organization does not qualify as an additional insured with respect to the independent acts or omissions of such person or organization.

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2. The insurance provided to the additional insured by this endorsement is limited as follows:
   a. If the Limits of Insurance of this Coverage Part shown in the Declarations exceed the minimum limits of liability required by the "written contract requiring insurance", the insurance provided to the additional insured will be limited to such minimum required limits of liability. For the purposes of determining whether this limitation applies, the minimum limits of liability required by the "written contract requiring insurance" will be considered to include the minimum limits of liability of any Umbrella or Excess liability coverage required for the additional insured by that "written contract requiring insurance". This endorsement will not increase the limits of insurance described in Section **III** – Limits Of Insurance.
   b. The insurance provided to the additional insured does not apply to "bodily injury", "property damage" or "personal injury" arising out of the rendering of, or failure to render, any professional architectural, engineering or surveying services, including:
      (1) The preparing, approving, or failing to prepare or approve, maps, shop drawings, opinions, reports, surveys, field orders or change orders, or the preparing, approving, or failing to prepare or approve, drawings and specifications; and
      (2) Supervisory, inspection, architectural or engineering activities.
   c. The insurance provided to the additional insured does not apply to "bodily injury" or "property damage" caused by "your work" and included in the "products-completed operations hazard" unless the "written contract requiring insurance" specifically requires you to provide such coverage for that additional insured during the policy period.
3. The insurance provided to the additional insured by this endorsement is excess over any valid and collectible other insurance, whether primary, excess, contingent or on any other basis, that is available to the additional insured. However, if the "written contract requiring insurance" specifically requires that this insurance apply on a primary basis or a primary and non-contributory basis, this insurance is primary to other insurance available to the additional insured under which that person or organization qualifies as a named insured, and we will not share with that other insurance. But the insurance provided to the additional insured by this endorsement still is excess over any valid and collectible other insurance, whether primary, excess, contingent or on any other basis, that is available to the additional insured when that person or organization is an additional insured, or is any other insured that does not qualify as a named insured, under such other insurance.
4. As a condition of coverage provided to the additional insured by this endorsement:
   a. The additional insured must give us written notice as soon as practicable of an "occurrence" or an offense which may result in a claim. To the extent possible, such notice should include:
      (1) How, when and where the "occurrence" or offense took place;
      (2) The names and addresses of any injured persons and witnesses; and
      (3) The nature and location of any injury or damage arising out of the "occurrence" or offense.
   b. If a claim is made or "suit" is brought against the additional insured, the additional insured must:
      (1) Immediately record the specifics of the claim or "suit" and the date received; and
      (2) Notify us as soon as practicable.

      The additional insured must see to it that we receive written notice of the claim or "suit" as soon as practicable.
   c. The additional insured must immediately send us copies of all legal papers received in connection with the claim or "suit", cooperate with us in the investigation or settlement of the claim or defense against the "suit", and otherwise comply with all policy conditions.
   d. The additional insured must tender the defense and indemnity of any claim or "suit" to any provider of other insurance which would cover the additional insured for a loss we cover under this endorsement. However, this condition does not affect whether the insurance provided to the additional insured by this endorsement is primary to other insurance available to the additional insured which covers that person or organization as a named insured as described in Paragraph **3.** above.
5. The following is added to the **DEFINITIONS** Section:

   "Written contract requiring insurance" means that part of any written contract or agreement under which you are required to include a person or or-

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ganization as an additional insured on this Coverage Part, provided that the "bodily injury" and "property damage" occurs, and the "personal injury" is caused by an offense committed, during the policy period and:

a. After the signing and execution of the contract or agreement by you; and

b. While that part of the contract or agreement is in effect.

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CONTRACTOR'S AFFIDAVIT OF PAYMENT OF DEBTS AND CLAIMS

TO (Owner):

PROJECT NO:

CONTRACT FOR:

PROJECT:
(name, address)

CONTRACT DATE:

State of:

County of:

The undersigned, hereby certifies that, except as listed below, he has paid in full or has otherwise satisfied all obligations for all materials and equipment furnished, for all work, labor, and services performed, and for all known indebtedness and claims against the Contractor for damages arising in any manner in connection with the performance of the Contract referenced above for which the Owner or his property might in any way be held responsible.

EXCEPTIONS: (If none, write "None". If required by the Owner, the Contractor shall furnish bond satisfactory to the Owner for each exception.)

SUPPORTING DOCUMENTS ATTACHED HERETO:

1. Consent of Surety to Final Payment.
   Whenever Surety is involved, consent of Surety is required. CONSENT OF SURETY, may be used for this purpose.
   Indicate attachment: yes_____ no_____

The following supporting documents should be attached hereto if required by the Owner:

1. Contractor's Release or Waiver of Liens, conditional upon receipt of final payment.
2. Separate Releases or Waivers of Liens from Subcontractors and material and equipment suppliers to the extent required by the Owner, accompanied by a list thereof.
3. Contractor's Affidavit of Release of Liens.

CONTRACTOR:

Address:

BY:

Subscribed and sworn to before me this

day of 20

Notary Public:

My Commission Expires:

CONTRACTOR'S AFFIDAVIT OF RELEASE OF LIEN

TO (Owner):

PROJECT NO:

CONTRACT FOR:

PROJECT:
(name, address)

CONTRACT DATE:

State of:

County of:

The undersigned, hereby certifies that, to the best of his knowledge, information and belief, except as listed below, the Releases or Waivers of Lien attached hereto include the Contractor, all Subcontractors, all suppliers of materials and equipment, and all performers of Work, labor or services who have or may have liens against any property of the Owner arising in any manner out of the performance of the Contract referenced above.

EXCEPTIONS: (If none, write "None". If required by the Owner, the Contractor shall furnish bond satisfactory to the Owner for each exception.)

SUPPORTING DOCUMENTS ATTACHED HERETO:

1. Contractor's Release or Waiver of Liens, conditional upon receipt of final payment.
2. Separate Releases or Waivers of Liens from Sub-contractors and material and equipment suppliers, to the extent required by the Owner, accompanied by a list thereof.

CONTRACTOR:

Address:

BY:

Subscribed and sworn to before me this

day of 20

Notary Public:

My Commission Expires:

CONSENT OF SURETY COMPANY TO FINAL PAYMENT

TO (Owner):

PROJECT NO:

CONTRACT FOR:

PROJECT:
(name, address)

CONTRACT DATE:

CONTRACTOR:

In accordance with the provisions of the Contract between the Owner and the Contractor as indicated above, the
(here insert name and address of Surety as it appears in the bond).

, SURETY COMPANY,

on bond of (here insert name and address of Contractor)

, CONTRACTOR,

hereby approves of the final payment to the Contractor, and agrees that final payment to the Contractor shall not relieve the Surety Company of any of its obligations to (here insert name and address of Owner)

, OWNER,

as set forth in the said Surety Company's bond.

IN WITNESS WHEREOF,
the Surety Company has hereunto set its had this day of 20 .

Surety Company

Signature of Authorized Representative

Title

ATTEST:
(Seal):

NOTE: This form is to be use as a companion document to Contractor's Affidavit of Payment of Debts and Claims.

CONSENT OF SURETY TO REDUCTION IN OR PARTIAL RELEASE OF RETAINAGE

TO (Owner):

PROJECT NO:

CONTRACT FOR:

PROJECT:
(name, address)

CONTRACT DATE:

In accordance with the provisions of the Contract between the Owner and the Contractor as indicated above, the
(here insert name and address of Surety as it appears in the bond).

, SURETY,

on bond of (here insert name and address of Contractor as it appears in the bond)

, CONTRACTOR,

hereby approves the reduction in or partial release of retainage to the contractor as follows:

The Surety agrees that such reduction in or partial release of retainage to the Contractor shall not relieve the Surety of any of its obligations to (here insert name and address of Owner)

, OWNER,

as set forth in the said Surety's bond.

IN WITNESS WHEREOF,
the Surety has hereunto set its had this day of 20 .

Surety

Signature of Authorized Representative

Title

ATTEST:
(Seal):

"General Decision Number: TX20250062 01/03/2025

Superseded General Decision Number: TX20240062

State: Texas

Construction Type: Heavy

County: Galveston County in Texas.

HEAVY CONSTRUCTION PROJECTS Including Water and Sewer Lines (Does Not Include Flood Control)

Note: Contracts subject to the Davis-Bacon Act are generally required to pay at least the applicable minimum wage rate required under Executive Order 14026 or Executive Order 13658. Please note that these Executive Orders apply to covered contracts entered into by the federal government that are subject to the Davis-Bacon Act itself, but do not apply to contracts subject only to the Davis-Bacon Related Acts, including those set forth at 29 CFR 5.1(a)(1).

If the contract is entered into on or after January 30, 2022, or the contract is renewed or extended (e.g., an option is exercised) on or after January 30, 2022:	. Executive Order 14026 generally applies to the contract. . The contractor must pay all covered workers at least $17.75 per hour (or the applicable wage rate listed on this wage determination, if it is higher) for all hours spent performing on the contract in 2025.
If the contract was awarded on or between January 1, 2015 and January 29, 2022, and the contract is not renewed or extended on or after January 30, 2022:	. Executive Order 13658 generally applies to the contract. . The contractor must pay all covered workers at least $13.30 per hour (or the applicable wage rate listed on this wage determination, if it is higher) for all hours spent performing on that contract in 2025.

The applicable Executive Order minimum wage rate will be adjusted annually. If this contract is covered by one of the Executive Orders and a classification considered necessary for performance of work on the contract does not appear on this wage determination, the contractor must still submit a conformance request.

Additional information on contractor requirements and worker protections under the Executive Orders is available at http://www.dol.gov/whd/govcontracts.

Modification Number	Publication Date
0	01/03/2025

SFTX0669-001 04/01/2024

	Rates	Fringes
SPRINKLER FITTER (Fire Sprinklers)	$ 36.15	23.88

SUTX2005-021 08/05/2005

HEAVY Including Water and Sewer Lines (Excluding Flood Control)

	Rates	Fringes
Carpenter	$ 14.38 **	
Cement mason/concrete finisher	$ 11.37 **	1.13
Electrician	$ 18.40	1.34
FORM BUILDER/FORM SETTER	$ 13.35 **	1.17
IRONWORKER, REINFORCING	$ 11.29 **	
Laborers:		
Common	$ 10.70 **	
Landscape	$ 7.35 **	
Mason Tender Cement	$ 9.96 **	
Pipelayer	$ 10.07 **	
PIPEFITTER	$ 17.00 **	0.04
Power equipment operators:		
Excavator	$ 16.74 **	
Backhoe	$ 13.25 **	
Bulldozer	$ 14.00 **	
Crane	$ 14.91 **	0.58
Front End Loader	$ 11.75 **	0.92
Grader	$ 12.20 **	1.48
Tractor	$ 12.38 **	1.51
TRUCK DRIVER	$ 12.28 **	0.98

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

==========

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

Note: Executive Order (EO) 13706, Establishing Paid Sick Leave for Federal Contractors applies to all contracts subject to the Davis-Bacon Act for which the contract is awarded (and any solicitation was issued) on or after January 1, 2017. If this contract is covered by the EO, the contractor must provide employees with 1 hour of paid sick leave for every 30 hours they work, up to 56 hours of paid sick leave each year.

Employees must be permitted to use paid sick leave for their own illness, injury or other health-related needs, including preventive care; to assist a family member (or person who is like family to the employee) who is ill, injured, or has other health-related needs, including preventive care; or for reasons resulting from, or to assist a family member (or person who is like family to the employee) who is a victim of, domestic violence, sexual assault, or stalking. Additional information on contractor requirements and worker protections under the EO is available at https://www.dol.gov/agencies/whd/government-contracts.

Unlisted classifications needed for work not included within the scope of the classifications listed may be added after award only as provided in the labor standards contract clauses (29CFR 5.5 (a) (1) (iii)).

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

Union Rate Identifiers

A four-letter identifier beginning with characters other than ""SU"", ""UAVG"", ?SA?, or ?SC? denotes that a union rate was prevailing for that classification in the survey. Example: PLUM0198-005 07/01/2024. PLUM is an identifier of the union whose collectively bargained rate prevailed in the survey for this classification, which in this example would be Plumbers. 0198 indicates the local union number or district council number where applicable, i.e., Plumbers Local 0198. The next number, 005 in the example, is an internal number used in processing the wage determination. The date, 07/01/2024 in the example, is the effective date of the most current negotiated rate.

Union prevailing wage rates are updated to reflect all changes over time that are reported to WHD in the rates in the collective bargaining agreement (CBA) governing the classification.

Union Average Rate Identifiers

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

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

Survey Rate Identifiers

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

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

State Adopted Rate Identifiers

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

WAGE DETERMINATION APPEALS PROCESS

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

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

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

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

Regarding any other wage determination matter such as conformance decisions, requests for initial decisions should be directed to the WHD Branch of Construction Wage Determinations.

Requests can be submitted via email to BCWD-Office@dol.gov or by mail to:

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

2) If an initial decision has been issued, then any interested party (those affected by the action) that disagrees with the decision can request review and reconsideration from the Wage and Hour Administrator (See 29 CFR Part 1.8 and 29 CFR Part 7). Requests for review and reconsideration can be submitted via email to dba.reconsideration@dol.gov or by mail to:

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

The request should be accompanied by a full statement of the interested party's position and any information (wage payment data, project description, area practice material, etc.) that the requestor considers relevant to the issue.

3) If the decision of the Administrator is not favorable, an interested party may appeal directly to the Administrative Review Board (formerly the Wage Appeals Board). Write to:

Administrative Review Board
U.S. Department of Labor
200 Constitution Avenue, N.W.
Washington, DC 20210.

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END OF GENERAL DECISION"

PROJECT SPECIFICATIONS

THE COUNTY OF GALVESTON, TX
HIGHWAY 3 BOAT RAMP RENOVATION

DICKINSON, TEXAS

ISSUE FOR BIDDING
March 2024

CONTENTS

1. Civil Specifications
2. Electrical Specifications

LJA ENGINEERING
1904 W Grand Parkway N, Suite 100
Katy, Texas 77449
P: 713-953-5200

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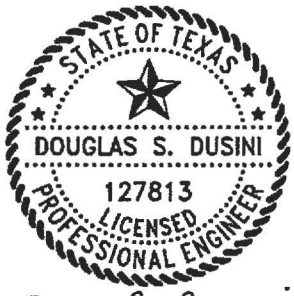
THIS ENGINEERING SEAL APPLIES TO THE PREPARATION OF THE CIVIL SPECIFICATIONS



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THIS ENGINEERING SEAL APPLIES TO THE PREPARATION OF THE ELECTRICAL SPECIFICATIONS

3.14.2024

SECTION 01014
ENVIRONMENTAL PROTECTION

1. GENERAL

1.1. SCOPE OF WORK

Construction of the Work covered by these Contract Documents is subject to the applicable provisions and rules of the Texas Commission on Environmental Quality (TCEQ) and United States Army Corps of Engineers and all other local applicable Federal, State, and Local laws, rules, regulations, ordinances, and conditions/requirements of permits issued by governmental agencies for the conduct of this project.

1.2. REFERENCED DOCUMENTS

TxDOT Standard Specifications[1]:

Item 02105– Containment and Disposal of Waste

1.3. SUBMITTALS

1.3.1. Record Data–Containment Boom: Manufacturer's data sheets for absorbent oil spill containment booms.

1.3.2. Record Data–Storage and Fueling Plan: for hydraulic fluid, oil, and fuel: Submit for approval by County of Galveston prior to bringing fuel storage on-site. Describe plan for fueling equipment and fuel storage including spill prevention, containment, and cleanup provisions. Provide a list of all equipment that will contain more than 55 gallons of hydraulic fluid, oil, or fuel. Provide drawings for the secondary containment systems pertaining to above ground fuel storage tanks, equipment-mounted fuel tanks, oil reservoirs, and oil and fuel lines (including hydraulic fluid lines). Provide a description on how secondary containment will be inspected. Provide a description on how fueling operations will be handled over or near a waterway, or on shore, describing environmental protection methods that will be implemented. Provide description for requesting additional fuel storage containers not included in initial request. Provide inspection form to be used on a weekly basis in evaluating these areas.

1.3.3. Record Data–Equipment Maintenance Plan: Describe plan for minimizing the potential environmental impacts of preventative and non-scheduled equipment maintenance activities. Describe what environmental protections measures will be implemented prior to and during both preventative and non-scheduled equipment maintenance activities.

1.3.4. Record Data–Equipment Inspection Reports: Provide inspection procedure and example inspection form to be used on a weekly basis to report equipment inspections.

[1] For referenced TxDOT Standards, visit www.dot.state.tx.us/business/specifications.htm

1.3.5. Record Data–MSDS: Provide MSDS data sheets on all proposed fuels, chemicals, paints, greases, hydraulic fluids, coatings, epoxies, cements, admixtures, etc. to be used on and with equipment, to be used temporarily during construction, and to be permanently incorporated into the work.

1.3.6. Record Data–Materials used to perform the Work: Provide a list for the following types of materials that will be used in performing the Work.

A. Ozone-depleted chemicals

B. Materials with volatile organic compounds (VOCs)

C. Any material that will become an F-listed waste (e.g. acetone, xylene, toluene, methylethyl ketone)

D. Acute toxic materials

E. Constituents subject to reporting under the state and federal Right-to-Know regulations (as shown on the Material Data Sheets.)

1.3.7. Record Data–Care of Water Plan: Describe plan for dewatering an area and managing water flows and infiltration into the work area. All water flows from, or generated by the work, must meet State and Federal regulations prior to entering a creek, stream or a lake. Regulations include, but not limited, to 30 TAC 307 and 26 TWC 121, Surface Water Quality Standards and Water Quality Control for the State of Texas respectively.

1.3.8. Record Data–Storm Water Inspections: Contractor to submit weekly storm water inspections to Owner based on Storm Water Pollution Prevention Plan provided by Owner.

1.4. PROTECTION OF LAND RESOURCES

1.4.1. The land resources, within the project boundaries and outside the limits of work under the Work of this Contract, shall be preserved in their present condition or be restored to a condition after construction that will appear to be natural and not detract from the appearance of the project. Activities shall be confined to areas defined by the Drawings and Specifications.

1.5. PROTECTION OF WATER RESOURCES

1.5.1. No water courses shall be polluted with any construction debris, loose soil, suspended sediment, petroleum products, abrasives, epoxies, paints, solvents, cleaners, fuels, surface preparation materials, oils, lubricants, bitumen, calcium chlorides, insecticides, herbicides, or other toxic materials harmful to life unless specifically permitted. Chemical emulsifiers, dispersant, coagulants, or other cleanup compounds shall not be used without prior written approval. It is the responsibility of the Contractor to insure compliance with state and local water quality standards and to identify if any additional discharge permits are required to perform Work.

1.5.2. The Contractor may be required to submit a certified Spill Prevention Control and Countermeasures Plan (SPCC) that will fulfill the requirements of the Clean Water Act, CFR Part 112. In the event that the total capacity of all hydraulic fluid, oil, fuel containing tanks, containers, and equipment exceeds 1,320 gallons. The plan must be prepared prior to installing or mobilizing equipment that would cause the 1,320 gallon limit to be exceeded.

1.5.3. The Contractor will submit for approval all fuel storage containers, prior to mobilizing containers onto site, in accordance with Edwards Aquifer Rules (30 TAC 213). Additional fuel storage containers not approved in initial request must be individually approved by the Owner.

1.6. PROTECTION OF AIR QUALITY

1.6.1. All Work shall be performed in such a manner as to ensure that air quality is protected. Contractor will complete and maintain all records to support compliance with the applicable air quality standards including but not limited to 30 TAC 106.

1.7. PROTECTION OF FISH AND WILDLIFE

1.7.1. All Work shall be performed and all steps taken to prevent interference or disturbance to fish and wildlife. Water courses or habitats outside the project boundaries shall not be altered or disturbed, without Owner's written prior consent.

1.8. BURNING OF DEBRIS

1.8.1. No debris or surplus materials may be disposed of by burning at the job site or at any other location.

1.9. INFORMATION REGARDING WASTES REQUIRED WITH BID

1.9.1. Waste control measures shall be implemented during construction activities to prevent unauthorized release and ensure proper management of waste in accordance with Section 02105– Containment and Disposal of Waste.

1.10. PROHIBITED MATERIALS

1.10.1. The Contractor is strictly prohibited from using any of the following types of materials that could generate waste in performance of the work.

1.11. ENVIRONMENTAL INSPECTIONS

1.11.1. The Owner reserves the right to perform environmental inspections. The Contractor shall provide remedial action as required by the Owner.

A. Asbestos, asbestos-containing material (ACM)
B. Mercury-containing material
C. Surface coatings with lead, cadmium, chromium, or mercury
D. PCB-containing material
E. Radioactive-containing material

2. PRODUCTS

2.1. ENVIRONMENTAL CONTROL DEVICES

2.1.1. Environmental booms shall be commercially available absorbent boom material for providing containment and absorption of releases.

2.1.2. Environmental booms shall meet the following requirements:

A. Booms shall be suitable for use in rivers and lakes with fluctuating water levels, and for continuous exposure to the environmental and ultraviolet rays.
B. Boom shall have a circular cross section. No rectangular cross section booms will be allowed.
C. Booms shall have a minimum diameter of 8 in. when deployed and the above water freeboard shall extend at least 4 in. above the surface of the water to prevent waves from splashing contaminants over the top of the boom.

D. Connecting devices between lengths of booms shall be such that stresses on the connecting points are evenly spread across the boom fabric and do not cause weak points that may separate under stress.

E. Portable fuel tanks greater than 5 gallons shall be double walled.

3. EXECUTION

3.1. EROSION CONTROL DURING CONSTRUCTION

3.1.1. The Contractor shall utilize the Best Management Practices (BMPs) with regard to controlling erodible soils within the construction lay-down area, project site, and while working near water, or water courses. This may include installing and maintaining silt fences or other similar structural controls as prescribed within the Storm Water Pollution Prevention Plan or additional controls as needed for any erodible soil, or storage of materials within the lay-down area and work site.

3.2. STORM WATER POLLUTION PREVENTION PLAN (SWP3)

3.2.1. Implementation of the SWP3 is required. The Owner will provide the SWP3 and Contractor will perform all actions required within the SWP3 in relation to day to day on site activities including: weekly inspections of controls, and maintenance to sediment and erosion controls based on inspection records. Contractor shall provide a copy of the inspection records to Owners Representative on a weekly basis beginning with first required inspection, in addition, Contractor will maintain records in accordance with Texas Pollution Discharge Elimination System requirements.

3.3. ENVIRONMENTAL COMPLIANCE REQUIREMENTS

3.3.1. The Work under this Contract is applicable to the requirements of 30 TAC Chapter 307, General Criteria for Texas Surface Water Quality Standards.

3.3.2. The Work under this Contract is applicable to the requirements of Texas Administrative Code (TAC):

http://texreg.sos.state.tx.us/public/readtac$ext.viewtac

Title 30 Environmental Quality; Part 1 Texas Commission on Environmental Quality; Chapter 106 Permits By Rule:

A. Subchapter A General Requirements; Rule 106.4 Requirements for Permitting By Rule.

B. Subchapter I Manufacturing; Rule 106.227 Soldering, Brazing, Welding.

C. Subchapter K General; Rule 106.263 Routine Maintenance, Start-up and Shutdown of Facilities, and Temporary Maintenance Facilities; Paragraph (c)(3)(A); Paragraph (e)(7); Paragraph (f); and Paragraph (g).

3.3.3. The Work under this Contract is applicable to the requirements of the Owner's Board Policies, 507–Water Quality Leadership and 402–Environmental Leadership.

3.3.4. Work under this Contract is applicable to the requirements of Storm Water Pollution Prevention Plan (SWP3) that will fulfill the TPDES requirements. See the following link for details and questions:

https://www.tceq.texas.gov/assistance/water/stormwater/sw-construction.html.

3.3.5. The Contractor is responsible for following all state, local, and federal regulations. The above list was reviewed for applicability however; this may not be all encompassing. It is the responsibility of the Contractor to evaluate, determine applicability, and insure compliance with federal, state and local regulatory standards and obtain any additional permits or standards that apply to the Work being performed.

3.3.6. The Contractor's means, methods, and duration of construction may require the following environmental compliance requirements for the project.

A. Spill Prevention Control and Countermeasures Plan (SPCC) that will fulfill the requirements of the Clean Water Act, CFR Part 112.

3.4. PLACEMENT AND MAINTENANCE OF ENVIRONMENTAL BOOMS

3.4.1. Deploy containment booms immediately downstream of the work zones as required. The booms shall be deployed prior to the start of work, remain in place, and be monitored until all work activities over, above, or within the waterways are complete.

3.4.2. Placement of Booms: A boom shall be placed completely across any waterway in which work is being performed.

3.4.3. Installation of Booms: Booms shall be installed so that the terminal ends are adequately secured against stream embankment or land mass so that there are no gaps between the booms and the surfaces to which they are tied or otherwise anchored. This seal between the terminal end of the boom and the land mass must be maintained as water levels rise and fall during routine stream fluctuations.

3.4.4. Inspections and Maintenance: Boom repairs or replacement must be made as soon as damage is noticed to ensure that work areas are adequately covered during the project. Booms shall be immediately replaced following a spill cleanup. Spent booms shall be disposed of in accordance with Section 02105, Containment and Disposal of Waste. Booms shall be inspected daily for damage including:

3.5. PREVENTATIVE MAINTENANCE, FUELING, AND SPILL CONTAINMENT

3.5.1. Scheduled preventive maintenance shall be performed on all construction equipment prior to mobilization in the work area. Contractor shall establish a maintenance area within the staging area for performing all routine and preventative maintenance, when possible. Contractor shall thoroughly inspect all construction equipment for any leaks prior to use at the job site and on a daily basis.

3.5.2. A spill can be defined as an accidental release of a solid, liquid, or gas to land, air, or water that would create a potential or actual hazard to human health or the environment.

A. The Contractor is solely responsible for any spills or release caused by himself or any of his subcontractors that occur during the performance of, or in connection with the performance of the Work under this Contract. The Contractor shall be responsible for all notifications required by any federal, state, or local law or regulations. The Contractor shall immediately notify the Project Manager or the Owner's Environmental Representative of the nature and location of any spill. The Contractor shall provide a written report to Owner that identifies the substance, quantity released, location of the spill, agencies notified/talked to if any, cleanup and remediation activities conducted or planned. The written report should be a narrative that summarizes on the scene activity, remediation efforts, and if long term remediation will

be required. This initial report shall be provided to the Owner within 24 hours after the incident. Follow up reports may be required if requested by the Owner. These requirements are also required if the spill occurs off the Owner's property as a result of contractors performance of the Work under this Contract.

B. The Contractor shall be liable for, and agrees to indemnify and hold the Owner harmless from any and all liabilities, including, but not limited to, remediation costs, fines, penalties, court costs, and attorney fees resulting from spills, releases, improper handling and/or disposal of wastes connected with a spill by the Contractor.

C. Spills shall be cleaned up to background levels or to criteria as set forth in the applicable federal, state, or local laws and regulations, or whichever is the most stringent.

3.5.3. The Contractor shall provide a temporary secondary containment berm with plastic liner around all stationary construction equipment subject to potential leakage of fluids or fuel to contain accidental leakage and/or discharges. Detection and cleanup of liquid fuel, oil leaks, or spills, shall be accomplished as follows.

A. Leak Detection: Leaks from any tanks or lines on equipment shall be detected by the Contractor during a daily check. Any fuel, oil, or chemical leak shall be reported immediately verbally and then in writing, in the appropriate format, to the Owner's Resident Representative. The Contractor shall ensure that the source of the leak is repaired and that the spilled fluid is cleaned up immediately and thoroughly.

B. Leak Cleanup: The Contractor shall be responsible for all spill cleanups and notify Owner's Resident Representative immediately. Any fuel, oil, or chemical leakage shall be collected in the bermed area surrounding the equipment using absorbent material. Contractor shall keep absorbent materials on site for cleanup. Contaminated absorbent materials shall be disposed of in accordance with Section 02105–Containment and Disposal of Waste.

C. Oil Filters: Used oil, oil filters, and cartridges shall be collected by the Contractor and these items will be recycled at an Owner approved and audited recycling facility.

D. Operation of Equipment in Areas Subject to Direct Discharge to Waterways: Special precautions shall be taken to prevent releases of fuel, oil or chemicals when equipment is working over or adjacent to the water. This shall include provision of secondary containment for equipment-mounted fuel tanks, oil reservoirs, and fuel and oil lines (including hydraulic fluid lines). Exposed hydraulic lines shall be double wrapped and/or shielded by the use of deflectors, as necessary, to prevent a release to the water in the event of a line rupture. No fuel container larger than 250 gallons shall be stored on-site outside of the staging area designated on the construction drawings, unless prior written approval by the owner. Fueling of equipment over or adjacent to water shall be done using a maximum fuel storage/transfer container size of five (5) gallons. A funnel shall be used to minimize fuel spillage, and a drip pan shall be used to capture any spillage of fuel. If the total quantity of containers smaller than five gallons on a barge, platform, walkway, or structure exceeds five (5) gallons, then these multiple items shall be kept in secondary containment while in storage.

3.5.4. The Contractor should attempt to use and work with the least amount of chemicals or fuels needed for a given job.

3.6. NOISE CONTROL.

3.6.1. The Contractor shall take reasonable measures to avoid unnecessary noise. Such measures shall be appropriate for the normal ambient sound levels in the area during working hours. All construction machinery and vehicles shall be equipped with appropriate sound muffling devices and operated in a manner to cause the least noise consistent with efficient performance of the Work.

3.7. EQUIPMENT HYDRAULIC SYSTEMS

3.7.1. Evaluate all hydraulic systems and lines on Contractor's equipment to determine if vegetable-based or environmental friendly hydraulic oil can be utilized over waterways. Vegetable-based or environmental friendly hydraulic oil is required if equipment manufacturer allows replacement of standard hydraulic oils. Provide MSDS sheets on the proposed hydraulic fluids. All hydraulic systems shall be double wrapped with absorbent materials or use deflective devises.

4. **MEASUREMENT AND PAYMENT**

Separate measurement or payment will not be made for Work required under this Section. All costs in connection with the Work specified herein will be considered to be included with the related item of Work in the Bid Schedule, or incidental to the Project.

END OF SECTION

SECTION 01300
SUBMITTALS

1 GENERAL

1.1. SCOPE OF WORK

Where required by the specifications, the Contractor shall submit descriptive information which will enable the Owner to determine whether the Contractor's proposed materials, equipment or methods of work are in general conformance with the design concept and are in compliance with the drawings and specifications. The information to be submitted shall consist of drawings, specifications, descriptive data, certificates, samples, test results and other such information, all as specifically required in the specifications and all other submittals the Owner deems necessary.

1.2. SUBMITTAL PROCEDURES

1.2.1. Scheduling and Handling

A. Schedule submittals well in advance of the need for the material or equipment for construction. Allow time to make delivery of material or equipment after submittal is approved.

B. Develop a submittal schedule that allows sufficient time for initial review, correction, resubmission and final review of all submittals. The Owner Representative will review and return submittals to the Contractor as expeditiously as possible but the amount of time required for review will vary depending on the complexity and quantity of data submitted. In no case will a submittal schedule be acceptable which allows less than 3 days for initial review by the Owner Representative. This time for review shall in no way be justification for delays or additional compensation to the Contractor.

C. The Owner Representative's review of submittals covers only general conformity to the Drawings, Specifications and dimensions which affect the layout. The Contractor is responsible for quantity determination. No quantities will be verified by the Owner Representative. The Contractor is responsible for any errors, omissions or deviations from the Contract requirements; review of submittals in no way relieves the Contractor from his obligation to furnish required items according to the Drawings and Specifications.

D. Submit 2 copies of documents unless otherwise specified in the following paragraphs or in the Specifications.

E. Revise and resubmit as required. Identify all changes made since previous submittal.

F. The Contractor shall assume the risk for material or equipment which is fabricated or delivered prior to approval. No material or equipment shall be incorporated into the Work or included in periodic progress payments until approval has been obtained in the specified manner.

1.2.2. Transmittal Form and Numbering

A. Transmit each submittal to the Owner Representative with a transmittal form.

B. Sequentially number each transmittal form beginning with the number 1. Resubmittals shall use the original number with an alphabetic suffix (i.e., 2A for first resubmittal of Submittal 2 or 15C for third resubmittal of Submittal 15). Each submittal shall only contain one type of work, material, or equipment. Mixed submittals will not be accepted.

C. Identify variations from requirements of Contract Documents and identify product or system limitations.

1.2.3. Contractor's Certification

A. Each submittal shall contain a statement or stamp signed and dated by the Contractor, certifying that the items have been reviewed in detail and are correct and in accordance with Contract Documents, except as noted by any requested variance.

1.3. SHOP DRAWINGS, PRODUCT DATA, AND SAMPLES

1.3.1. Shop Drawings

A. Submit shop drawings for review as required by the Specifications.

B. Contractor's Certification, as described in item F of Section 01300.1.2.1, shall be placed on each drawing.

C. The drawings shall accurately and distinctly present the following:

- Field and erection dimensions clearly identified as such
- Arrangement and section views
- Relation to adjacent materials or structure including complete information for making connections between work under this Contract and work under other contracts
- Kinds of materials and finishes
- Parts list and description
- Assembly drawings of equipment components and accessories showing their respective positions and relationships to the complete equipment package
- Where necessary for clarity, identify details by reference to drawing sheet and detail numbers, schedule or room numbers as shown on the Contract Drawings.

D. Drawings shall be to scale, and shall be a true representation of the specific equipment or item to be furnished.

1.3.2. Product Data

A. Submit product data for review as required in Specification sections.

B. Contractor's Certification, as described in item F of Section 01300.1.2.1, shall be placed on each data item submitted.

C. Mark each copy to identify applicable products, models, options to be used in this Project. Supplement manufacturers' standard data to provide information unique to this Project, where required by the Specifications.

D. For products specified only by reference standard, give manufacturers, trade name, model or catalog designation and applicable reference standard.

E. For products proposed as alternates to "approved" products provide all information required to demonstrate the proposed products meet the level of quality and performance criteria of the "approved product".

1.3.3. Samples

A. Submit samples for review as required by the Specifications.

B. Contractor's Certification, as described in item F of Section 01300.1.2.1. shall be placed on each sample or a firmly attached sheet of paper.

C. Submit the number of samples specified in Specifications; one of which will be retained by the Owner's Representative.

D. Reviewed samples which may be used in the Work are identified in Specifications.

1.4. MANUFACTURER'S CERTIFICATES

1.4.1. When specified in Specification sections, submit manufacturers' certificate of compliance for review by Owner's Representative.

1.4.2. Contractor's Certification, as described in item F of Section 01300.1.2.1, shall be placed on front page of the certificate.

1.4.3. Submit supporting reference data, affidavits, and certifications as appropriate.

1.4.4. Certificates may be recent or previous test results on material or product, but must be acceptable to Owner's Representative.

1.5. DESIGN MIXES

1.5.1. When specified in Specifications, submit design mixes for review.

1.5.2. Contractor's Certification as described in item F of Section 01300.1.2.1, shall be placed on front page of each design mix.

1.5.3. Mark each design mix to identify proportions, gradations, and additives for each class and type of design mix submitted. Include applicable test results on samples for each mix.

1.5.4. Maintain a copy of approved design mixes at mixing plant.

END OF SECTION

SECTION 02105
CONTAINMENT AND DISPOSAL OF WASTE

1 GENERAL

1.1. SCOPE

1.1.1. This Section identifies specific areas involving environmental requirements that the Contractor must comply with in performing this Scope of Work. This will be done by complying with all applicable Federal, State, and Local Laws and Regulations concerning environmental pollution control and abatement, as well as the specific requirements in other portions of this contract for environmental protection.

1.2. CONTRACTOR SUBMITTALS

1.2.1. Record Data–A Waste Disposal Plan shall be submitted by the Contractor prior to mobilization. The plan should outline the handling, labeling, temporary storage, and disposal of solid wastes. Provide plan drawings for the temporary storage of non-hazardous waste containers and secondary containment system located with the staging area. The Contractor shall provide the name; permit number, telephone number, and point of contact for the non-hazardous waste disposal facilities that will be used. Owner will provide approval of the off-site non-hazardous disposal facility prior to Contractor use. The Contractor shall also provide the company name and transportation registration numbers that will transport the non-hazardous waste to the approved disposal facility.

1.3. APPLICABLE REGULATIONS AND REFERENCES

1.3.1. The following documents are considered a part of this Specification. The Contractor shall direct any questions, such as the extent of applicability or apparent conflict to the Owner for resolution. The revision in effect on the date when the Work is performed shall apply.

1.3.2. The United States Government.

A. National Ambient Air Quality Standards (NAAQS-40 CFR 50)

B. Clean Air Act (CAA–40 CFR Subchapter C, "Air Programs"–Parts 50 through 99)

C. 40 CFR 50 "National Primary and Secondary Ambient Air Quality Standards"

- Section 50.6 "Particulate Matter"
- Section 50.12 "Lead"

D. 40 CFR 58 "Ambient Air Quality Surveillance"

- Appendix A "QA Requirements for State and Local Air Monitoring Stations"
- Appendix E "Probe Siting Criteria for Ambient Air Quality Monitoring"

E. Clean Water Act (CWA, as amended in 1972, 1977 and 1987–40 CFR Subchapter D, Parts 100 through 149)

F. 40 CFR 117 "Determination of Reportable Quantities of Hazardous Substances"

G. Resource Conservation and Recovery Act (RCRA–40 CFR 240-280)

- 40 CFR 261–Subpart C "Identification and Listing of Hazardous Waste–Characteristics"
- 40 CFR 262 "Standards Applicable to Generators of Hazardous Waste"
- 40 CFR 262 "Standards Applicable to Transporters of Hazardous Waste"
- 40 CFR 264 "Standards for Owners and Operators of Hazardous Waste Treatment, Storage and Disposal Facilities"
- 40 CFR 265 "Interim Status Standards for Owners and Operators of Hazardous Waste Treatment, Storage and Disposal Facilities"
- 40 CFR 268 "Land Disposal Restrictions"
- 40 CFR 300 "National Oil and Hazardous Substances Pollution Contingency Plan"
- 40 CFR 302 "Designation, Reportable Quantities and Notification"

H. Environmental Protection Agency (EPA) Publications

- SW-846 Test Methods for Evaluating Solid Waste–Physical/Chemical Methods
- Method 3050 "Acid Digestion of Sediments, Sludges and Soils"

1.4. NON-COMPLIANCE

1.4.1. Furnish temporary facilities, including Contractor's field offices, storage sheds, sanitary facilities, temporary utilities, and temporary security fencing and gates needed to complete the work.

1.5. SUBCONTRACTORS

1.5.1. The Contractor shall enforce compliance with this Section by his subcontractors.

1.6. MANAGEMENT OF HAZARDOUS AND NON-HAZARDOUS WASTE

1.6.1. General.

A. The Contractor might generate a variety of different wastes and in different forms: solids, liquids, gas, or any combination of these. Waste is any product that is no longer needed or that is not being used for its intended purpose. Waste falls into one of the two categories known as hazardous, or non-hazardous waste as shown below. Any unused material, stored for later use with approval from the Owner, is not waste unless it is past its shelf life or is spilled.

B. Depending on the types of products used by the Contractor for the Work performed under the Contract, the Contractor may create "waste" which may be regulated as a hazardous

waste, or a non-hazardous waste stream. A "waste stream" is generated when a product creates a by-product or it is not going to be used as it was originally intended. Within the State of Texas, an industrial facility that creates a "waste stream" is required to determine if it is hazardous, or non-hazardous. Non-hazardous waste can be segregated into three categories which are defined as Class 1, 2 or 3 in Title 30 TAC 335, Industrial Solid Waste and Municipal Hazard Waste, Subchapter R, Waste Classification. The Contractor, prior to bidding, should evaluate their means and methods for each specific task performed under the Scope of Work to determine if they will create a "waste stream". Some typical "waste streams" that may be created from abatement and coating work include blast media, filter media, excess paint, solvent waste, and empty paint cans.

1.6.2. Contractor's Requirements.

A. The Contractor is responsible for determining the types of "waste streams" which may be produced from the Work entailed.

B. The Contractor is responsible for ensuring proper disposal of all "waste streams" generated from the work done on a daily basis.

C. The Contractor shall provide continuous cleanup work at the job site. All debris resulting from any of the direct or related Work performed by the Contractor shall be promptly containerized and managed in accordance with Texas Commission on Environmental Quality or Department of Health Standards. No liquid waste shall be disposed of in facility drains. On site disposal will not be permitted for any material. All costs of removing debris shall be incidental to the Work, and no separate payment will be made therefore.

1.6.3. Owner's Requirements.

A. If requested, the Owner can provide points of contact with the Texas Commission on Environmental Quality (TCEQ) who can assist the Contractor in evaluating their "waste streams" and in making a waste determination.

B. The Owner's Project Manager or designated representative and the Environmental Representative, before or during the Work, will review and approve the Contractor's suggested transporter and disposal facilities for wastes.

C. The Owner may, after having given notice in writing, that the work and storage areas are not properly cleaned, perform the proper cleanup or have it performed by others and deduct the cost thereof from any monies due the Contractor.

D. The Owner's trash cans, dumpsters, etc. shall not be used unless otherwise approved by the Owner.

E. The Owner may dispose of the materials and offset the cost associated with the disposal against the unpaid balance of the Contract Price if these materials are not removed from the job site within thirty (30) days of completion of the Work.

F. Scrap metal will be recycled at the Owner's facility.

1.7. CERTIFICATION

1.7.1. The interior and exterior of all bulk tanks brought onto the job site must be clean and free of any residue before being used on the Project. This is applicable for all tanks leased and/or owned. The Contractor shall provide this certification to the Owner before use. The Owner reserves the right to approve or reject the use of any bulk tank brought on site by the Contractor.

2 MEASUREMENT AND PAYMENT

Separate measurement or payment will not be made for Work required under this Section. All costs in connection with the Work specified herein will be considered to be included with the related item of Work in the Bid Schedule, or incidental to the Project.

END OF SECTION

SECTION 02402
CARE OF WATER DURING CONSTRUCTION

1. GENERAL

1.1. SCOPE

Furnish labor, materials, equipment and incidentals necessary to operate pumps, piping and other facilities to assist in the removal of rainfall, surface water, waves, river water, and flood water as necessary to perform the required construction. Build and maintain the necessary temporary impounding work. Remove the temporary work, equipment, and materials after they have served their purposes in strict accordance with this section of the specifications and the applicable drawings.

1.2. SUBMITTALS

Submittals shall be in accordance with Section 01300–SUBMITTALS and shall include:

1.2.1. Plans and procedures for handling flood flows, overtopping flows, high waves, surface water, lake water, leakage, and tailwater.

1.2.2. Coordination work requirements with Owner's flood control operations.

1.3. Approval of submittals does not relieve the Contractor of full responsibility and liability for care of water during construction.

1.4. PROJECT CONDITIONS

1.4.1. Lake Conditions

A. The project site may be subjected to increased water under flood and/or emergency conditions.

B. The Owner will endeavor to provide the Contractor, when possible, a 24-hour weather forecast for possible flood and/or emergency condition.

2. EXECUTION

2.1. GENERAL

2.1.1. Secure, operate, move, or otherwise take action to protect all equipment, materials and supplies. Handle leakage flows, surface water runoff, overtopping waves, or any other water encountered during the progress of the work. Build temporary works as needed to protect the project site. Full responsibility for the successful dewatering and protection of the work areas rests with the Contractor. Remove temporary protective works, after they have served their purpose, in a manner satisfactory to the Owner's Representative.

2.1.2. Coordinate work with Owner's river control operations. Inform the Owner of the necessity for

work of the type described above, so that any necessary US Army Corps of Engineers permits or other required authorizations can be secured prior to construction of such facilities.

2.2. FLOOD FLOWS AND OTHER WATER

2.2.1. The Contractor shall build temporary works as needed to pass floodwater around the work site, and away from construction work while it is in progress. Unless otherwise approved by OWNER, a diversion must discharge into the same natural watercourse or drainage feature in which the floodwater normally discharges. Construct permanent work in areas free from water. The Contractor shall be fully responsible for the successful dewatering of the work areas. Remove protective works after they have served their purpose, in a manner satisfactory to the Owner or his representative.

3. **MEASUREMENT AND PAYMENT**

Separate measurement or payment will not be made for Work required under this Section. All costs in connection with the Work specified herein will be considered to be included with the related item of Work in the Bid Schedule, or incidental to the Project.

END OF SECTION

SECTION 104
REMOVING CONCRETE

1. GENERAL

1.1. SCOPE

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 AND PAYMENT

3.1. MEASUREMENT

Removing concrete pavement, 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. Additional measurements or calculations will be made if adjustments of quantities are required.

3.2. 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.

END OF SECTION

SECTION 105
REMOVING BASE AND ASPHALT PAVEMENT

1. GENERAL

1.1. SCOPE

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 AND PAYMENT

3.1. MEASUREMENT

This Item will be measured 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.

3.2. 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 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 incidentals.

END OF SECTION

SECTION 110
EXCAVATION

1. GENERAL

1.1. SCOPE

Excavate areas as shown on the plans or as directed. Remove materials encountered to the lines, grades, and typical sections shown on the plans and cross-sections.

2. CONSTRUCTION

Accept ownership of unsuitable or excess material and dispose of material in accordance with local, state, and federal regulations at locations outside the right of way.

Maintain drainage in the excavated area to avoid damage to the roadway section. Correct any damage to the subgrade caused by weather at no additional cost to the OWNER.

Shape slopes to avoid loosening material below or outside the proposed grades. Remove and dispose of slides as directed.

2.1. ROCK CUTS

Excavate to finish subgrade. Manipulate and compact subgrade in accordance with Section 132.3.4., "Compaction Methods," unless excavation is to clean homogenous rock at finish subgrade elevation. Use approved embankment material compacted in accordance with Section 132.3.4., "Compaction Methods," to replace undercut material at no additional cost if excavation extends below finish subgrade.

2.2. EARTH CUTS

Excavate to finish subgrade. Scarify subgrade to a uniform depth at least 6 in. below finish subgrade elevation in areas where base or pavement structure will be placed on subgrade. Manipulate and compact subgrade in accordance with Section 132.3.4., "Compaction Methods." Take corrective measures as directed if unsuitable material is encountered below subgrade elevations.

2.3. SUBGRADE TOLERANCES

Excavate to within 1/2 in. in cross-section and 1/2 in. in 16 ft. measured longitudinally for turnkey construction. Excavate to within 0.1 ft. in cross-section and 0.1 ft. in 16 ft. measured longitudinally for staged construction.

3. MEASUREMENT AND PAYMENT

3.1. MEASUREMENT

This Item will be measured by the cubic yard in its original position as computed by the method of average end areas.

This is a plans quantity measurement Item. The quantity to be paid is the quantity shown in the plans.

Additional measurements or calculations will be made if adjustments of quantities are required.

Shrinkage or swelling factors will not be considered in determining the calculated quantities.

3.2. 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 "Excavation (Pavement)," "Excavation (Boat Ramp)." This price is full compensation for authorized excavation; drying; undercutting subgrade and reworking or replacing the undercut material in rock cuts; hauling; disposal of material not used elsewhere on the project; scarification and compaction; and equipment, labor, materials, tools, and incidentals.

END OF SECTION

SECTION 132
EMBANKMENT

1. GENERAL

1.1. SCOPE

Furnish, place, and compact materials for construction of roadways, embankments, levees, dikes, or any designated section of the roadway where additional material is required.

2. MATERIALS

Furnish approved material capable of forming a stable embankment from required excavation in the areas shown on the plans or from sources outside the right of way. Select fill soils that consist of either clayey sands (SC) or sandy lean clays (CL) of the following type

- **Type A.** Granular material that is free from vegetation or other objectionable material. Select fill soils that consist of either clayey sands (SC) or sandy lean clays (CL) and meet the requirements of Table 1.

Table 1: Testing Requirements

Property	Test Method	Specification Limit
Liquid Limit	ASTM D4318	≤ 40
Plasticity index (PI)	ASTM D4318	$10 \geq PI \leq 20$
Passing No. 200 sieve	ASTM C136	$\geq 35\%$

[1] Perform the linear shrinkage test only as indicated in Tex-104-E.

3. CONSTRUCTION

Scarify and loosen the unpaved surface areas. except rock, to a depth of at least 6 in. unless otherwise shown on the plans. Bench slopes before placing material. Begin placement of material at the toe of slopes. Do not place trees, stumps, roots, vegetation, or other objectionable material in the embankment. Simultaneously recompact scarified material with the placed embankment material. Do not exceed the layer depth specified in Section 132.3.2., "Compaction Methods."

Construct embankments to the grade and sections shown on the plans. Construct the embankment in layers approximately parallel to the finished grade for the full width of the individual pavement cross-sections unless otherwise shown on the plans. Ensure that each section of the embankment conforms to the detailed sections or slopes. Maintain the finished section, density, and grade until the project is accepted.

3.1. Earth Embankments.

Earth embankment is mainly composed of material other than rock. Construct embankments in successive layers, evenly distributing materials in lengths suited for sprinkling and rolling.

Obtain approval to incorporate rock and broken concrete produced by the construction project in the lower layers of the embankment. Place the rock and concrete outside the limits of the completed pavement when the size of approved rock or broken concrete exceeds the layer thickness requirements in Section 132.3.2., "Compaction Methods." Cut and remove all exposed reinforcing steel from the broken concrete.

Move the material dumped in piles or windrows by blading or by similar methods and incorporate it into uniform layers. Featheredge or blend abutting layers of dissimilar material for at least 100 ft. to ensure there are no abrupt changes in the material. Break down clods or lumps of material.

Apply water free of industrial wastes and other objectionable matter to achieve the uniform moisture content specified for compaction.

Compact the layer to the required density in accordance with Section 132.3.2.1, "Density and Moisture Control," when density control is specified.

3.2. **Compaction Methods.** Begin rolling longitudinally at the sides nd proceed toward the center, overlapping on successive trips by at least 1/2 the width of the roller. Begin rolling at the lower side and progress toward the high side on superelevated curves. Alternate roller trips to attain slightly different lengths. Compact embankments in accordance with Section 132.3.2.1, "Density and Moisture Control," as shown on the plans.

3.2.1. **Density and Moisture Control.** Compact each layer to the required density using equipment complying with Item 210. Determine the maximum lift thickness based on the ability of the compacting operation and equipment to meet the required density. Do not exceed layer thickness of 16 in. loose, unless otherwise approved. Bring each layer to the moisture content directed before and during compacting operations. Recompact and refinish the subgrade at no additional expense to the Owner if the required stability or finish is lost for any reason.

Table 2: Field Density Control Requirements

Description	Density	Moisture Content
	ASTM D698	ASTM D698
PI≤15	≥98% D_a	–
15≤PI≤35	≥98% D_a and ≤102% D_a	≥W_{opt}
PI>35	≥95% D_a and ≤100% D_a	≥W_{opt}

A. The full depth of each lift of fill soil is to be compacted to 95% of the Standard Proctor maximum dry density (ASTM D698).

B. The moisture content of the fill soils is to be maintained within 3% of the optimum moisture content based on ASTM D698.

C. Collect representative samples of the fill soils for classification, compaction testing, and determination of the maximum dry density, optimum moisture content, gradation and plasticity.

Remove small areas of the layer to allow for density tests as required. Replace the removed material and recompact at no additional expense to the Department. Proof-roll in accordance with Item 216, when shown on the plans or as directed. Correct soft spots as directed.

3.3. **Mantenance of Moisture and Reworking** Maintain the density and moisture content once all requirements in Table 2 are met. Maintain the moisture content no lower than 4% below optimum for soils with a PI greater than 15. Rework the material to obtain the specified compaction when the material loses the required stability, density, moisture, or finish. Alter the compaction methods and procedures on subsequent work to obtain specified density as directed.

3.4. **Acceptance Criteria.**

3.4.1. **Grade Tolerances.**

A. **Staged Construction.** Grade to within 1.25 in. in the cross-section and 1.25 in. in 16 ft. measured longitudinally.

B. **Turnkey Construction.** Grade to within 0.5 in. in the cross-section and 0.5 in. in 16 ft. measured longitudinally.

3.4.2. **Gradation Tolerances.** Ensure no more than one of the five most recent gradation tests is outside the specified limits on any individual sieve by more than 5% when gradation requirements are shown on the plans.

3.4.3. **Density Tolerances.** Ensure no more than one of the five most recent density tests for compaction work is outside the specified density limits and no test is outside the limits by more than 3 pcf.

3.4.4. **Plasticity Tolerances.** Ensure no more than one of the five most recent PI tests for material is outside the specified limit by more than 2 points.

4. **MEASUREMENT** Embankment will be measured by the cubic yard. Measurement will be further defined for payment as follows:

4.1. **Final.** The cubic yard will be measured in its final position using the average end area method. The volume is computed between the original ground surface or the surface upon which the embankment is to be constructed and the lines, grades, and slopes of the embankment. In areas of salvaged topsoil, payment for embankment will be made in accordance with Item 160, "Topsoil." Shrinkage or swell factors will not be considered in determining the calculated quantities.

4.2. **Original.** The cubic yard will be measured in its original and natural position using the average end area method.

4.3. **Vehicle.** The cubic yard will be measured in vehicles at the point of delivery.

When measured by the cubic yard in its final position, this is a plans quantity measurement Item. The quantity to be paid is the quantity shown in the proposal, unless modified by the Contract. Additional measurements or calculations will be made if adjustments of quantities are required.

Shrinkage or swell factors are the Contractor's responsibility. When shown on the plans, factors are for informational purposes only.

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 "Embankment (Final)," "Embankment (Original)," or "Embankment (Vehicle)" of the compaction method and type specified. This price

is full compensation for furnishing embankment; hauling; placing, compacting, finishing, and reworking; disposal of waste material; and equipment, labor, tools, and incidentals.

When proof rolling is directed, it will be paid for in accordance with Item 216, "Proof Rolling."

All sprinkling and rolling, except proof rolling, will not be paid for directly but will be considered subsidiary to this Item, unless otherwise shown on the plans.

Where subgrade is constructed under this Contract, correction of soft spots in the subgrade will be at the Contractor's expense. Where subgrade is not constructed under this Contract, correction of soft spots in the subgrade will be paid in accordance with the Contract.

END OF SECTION

SECTION 164
SEEDING FOR EROSION CONTROL

1. **GENERAL**

   1.1. SCOPE

   Provide and install temporary or permanent seeding for erosion control as shown on the plans or as directed.

2. **MATERIALS**

   2.1. **Seed.** Provide seed from the previous season's crop meeting the requirements of the Texas Seed Law, including the testing and labeling for pure live seed (PLS = Purity × Germination). Furnish seed of the designated species, in labeled unopened bags or containers to the Engineer before planting. Use within 12 mo. from the date of the analysis.

   Use Tables 1-3 to determine the appropriate seed mix and rates as specified on the plans.

   If a grass plant species is not available by the producers, the other grass plant species in the seeding mix will be increased proportionally by the percentage of the missing plant grass species. Substitute species and rates require approval of the Engineer before being incorporated into the seeding mix. The rates listed in the tables are for drill seeding. All other methods of placing seed will require a 25% increase in rate.

   2.2. **Fertilizer.** Use a complete fertilizer containing nitrogen (N), phosphoric acid (P), and potash (K) nutrients unless otherwise specified on the plans. Ensure at least 50% of the nitrogen component is a slow-release sulfur-coated urea. Ensure that fertilizer is in an acceptable condition for distribution in containers labeled with the analysis. Fertilizer is subject to testing by the Texas A&M Feed and Fertilizer Control Service in accordance with the Texas Fertilizer Law.

   2.3. **Water.** Use water that is clean and free of industrial wastes and other substances harmful to the growth of vegetation.

      2.3.1. **Straw or Hay 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.

      2.3.2. **Hydro Mulch.** Use mulches that are on the TxDOT Approved Products List.

      (https://www.txdot.gov/business/resources/highway/erosion-control-products-vendors.html.)

      Submit one full set of manufacturer's literature for the selected material. Keep mulch dry until applied. Do not use molded or rotted material.

   2.4. **Tacking Methods.** Use a tacking agent applied in accordance with the manufacturer's recommen-

dations or by a crimping method on all straw or hay mulch operations. Use tacking agents as approved or as specified on the plans.

Table 1: Permanent Urban Seed Mix

Planting Dates	Clay Soils Species and Rates (lb. PLS/acre)		Sandy Soils Species and Rates (lb. PLS/acre)	
Jan. 15–May 15	Green Sprangletop	0.3	Green Sprangletop	0.3
	Bermudagrass	2.4	Bermudagrass	5.4
	Sideoats Grama (Haskell)	4.5		

Table 2: Temporary Cool Season Seeding Mix

Planting Dates	All Soils Species and Rates (lb. PLS/acre)	
Sept. 1–Jan. 31	Oats	40.0
	Little Barley	5.0

Table 3: Temporary Warm Season Seeding

Planting Dates	All Soils Species and Rates (lb. PLS/acre)	
Feb. 1–Aug. 31	Brownton Millet	20.0

3. **CONSTRUCTION**

Scarify the area to a depth of 4 in. before placing the seed, unless otherwise directed. Use approved equipment to vertically track the seedbed as shown on the plans or as directed. Scarify the seedbed to a depth of 4 in. or mow the area before placement of the permanent seed mix when performing permanent seeding after an established temporary seeding. Plant the seed mix specified and mulch, if required, after the area has been completed to lines and grades as shown on the plans.

Furnish and distribute the fertilizer uniformly at a rate equal to 60 lb. of nitrogen per acre or at the analysis and rate specified on the plans. Apply fertilizer as a dry material, and do not mix with water to form a slurry. Incorporate fertilizer during seedbed preparation as specified on the plans.

Grass seed, flower seed, and fertilizer may be distributed simultaneously during dry seeding operations, provided each component is applied at the specified rate. Do not combine fertilizer and seed in the same slurry during hydro mulch seeding operations. Apply half of the required fertilizer during the temporary seeding operation and the other half during the permanent seeding operation when temporary and permanent seeding are both specified for the same area.

Water the seeded areas at the rates and frequencies as shown on the plans or as directed.

Distribute the seed or seed mixture uniformly over the areas shown on the plans. Provide equipment with an agitator or method to maintain a uniform seed mixture during distribution.

3.1. **Planting Season.**

3.1.1. **Temporary Seed.** Plant cool seeding mix September 1–January 31. Plant warm seeding mix May 1–August 30.

3.1.2. **Permanent Seed.** End planting by May 15. Begin planting season on January 15.

3.2. **Broadcast Seeding.** Use hand or mechanical distribution or hydro-seeding on top of the soil unless otherwise directed. Apply the mixture to the area to be seeded within 30 min. of placement of components in the equipment when seed and water are to be distributed as a slurry during hydro-seeding. Roll the planted area using a light roller or other suitable equipment. Roll sloped areas along the contour of the slopes.

3.3. **Straw or Hay Mulch Seeding.** Plant seed in accordance with Section 164.3.2., "Broadcast Seeding." Apply straw or hay mulch uniformly over the seeded area immediately after planting the seed or seed mixture. Apply straw or hay mulch in accordance with Section 164.3.5., "Straw or Hay Mulching." Apply tack in accordance with Section 164.2.4., "Tacking Methods."

3.3.1. **Hydro Mulch Seeding.** Plant seed in accordance with Section 164.3.2., "Broadcast Seeding," before placing mulch. Apply mulch uniformly over the seeded area immediately after planting the seed or seed mixture at the following rates.

- **Sandy Soils with Slopes of 3:1 or Less.** 2,500 lb. per acre.
- **Sandy Soils with Slopes Greater than 3:1.** 3,000 lb. per acre.
- **Clay Soils with Slopes of 3:1 or Less.** 2,000 lb. per acre.
- **Clay Soils with Slopes Greater than 3:1.** 2,300 lb. per acre.

Mulch rates are based on dry weight of mulch per acre. Mix mulch and water to make a slurry and apply uniformly over the seeded area using suitable equipment.

3.4. **Drill Seeding.** Plant at a depth of 1/4–1/3 in. using a pasture- or rangeland-type drill unless otherwise directed. Plant seed along the contour of the slopes.

3.5. **Straw or Hay Mulching.** Apply straw or hay mulch uniformly over the area as shown on the plans. Apply straw mulch at 2–2.5 ton per acre. Apply hay mulch at 1.5–2 ton per acre. Use a tacking method over the mulched area in accordance with Section 164.2.4., "Tacking Methods."

4. MEASUREMENT AND PAYMENT

4.1. MEASUREMENT

This Item will be measured by the square yard.

4.2. 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 "Broadcast Seeding (Perm)" of the rural or urban seed mixture and sandy or clay soil specified, "Broadcast Seeding (Temp)" of warm or cool season specified, "Straw or Hay Mulch Seeding (Perm)" of the rural or urban seed mixture and sandy or clay soil specified, "Straw or Hay Mulch Seeding (Temp)" of warm or cool season specified, "Hydro Mulch Seeding (Perm)" of the rural or urban seed mixture and sandy or clay soil

specified, "Hyrdro Mulch Seeding (Temp)" of warm or cool season specified, "Drill Seeding (Perm)" of the rural or urban seed mixture and sandy or clay soil specified, "Drill Seeding (Temp)" of warm or cool season specified, and "Straw or Hay Mulching." This price is full compensation for furnishing materials, seeding mix, water for hydro-seeding and hydro-mulching operations, mowing, tacking, labor, equipment, tools. supplies, and incidentals.

Fertilizer will not be paid for directly, but will be subsidiary to this Item.

END OF SECTION

SECTION 230
CRUSHED AGGREGATE BASE COURSE

1. GENERAL

1.1. SCOPE

This Item shall govern for a foundation course for a surface course or for other base courses and shall be composed of crushed aggregate materials; and shall be constructed as herein specified in one or more courses in conformity with the typical sections shown on the plans and to the lines and grades as established by the Engineer.

1.2. REFERENCED DOCUMENTS

TxDOT Standard Specifications, Materials Specifications and Test Procedures[1]:

Item 210– Rolling

Item 216– Proof Rolling

Tex-600-J– Sampling and Testing Lime

Harris County Standard Specifications[2]:

Item 231– Cement Stabilized Crushed Aggregate Base Course

Item 250– Hot Mix Asphaltic Concrete Base Course (Black Base)

Tex-600-J– Sampling and Testing Lime

2. MATERIALS

The materials shall be obtained from approved sources, shall be crushed, and shall consist of durable particles of crushed aggregate, mixed with approved binding material. The crushed material shall have a minimum compressive strength of 45 psi at 0 psi lateral pressure and 175 psi at 15 psi lateral pressure using triaxial testing procedures. The crushed aggregate shall meet the gradation in Table tab:grad when tested in accordance with ASTM C136 " Standard Test Method for Sieve Analysis of Fine and Coarse Aggregates."

The material passing the No. 40 sieve shall meet the following requirements when tested in accordance with ASTM D4318 "Standard Test Methods for Liquid Limit, Plastic Limit, and Plasticity Index of Soils."

- The liquid limit shall not exceed 35.
- The plasticity index shall not exceed 10.

[1] For referenced TxDOT Standards, visit www.dot.state.tx.us/business/specifications.htm

[2] For referenced Harris County Standards, visithttps://www.eng.hctx.net/Consultants/Standards-Specifications/Standard-Engineering-Design-Specifications

Table 1: Gradation requirements

RETAINED ON SIEVE CONFORMING TO ASTM E11	% RETAINED, BY WEIGHT
1-3/4 in.	0
7/8 in.	10–35
3/8 in.	30–50
No. 4	45–65
No. 40	70–85

All material retained on the No. 40 sieve shall have a Los Angeles Abrasion percent of wear not exceeding 40 when tested in accordance with ASTM C131 "Standard Test Method for Resistance to Degradation of Small-Size Coarse Aggregate by Abrasion and Impact in the Los Angeles Machine."

With prior written permission of the Engineer, additives may be used to meet the above requirements.

3. EQUIPMENT

Provide machinery, tools, and equipment necessary for proper execution of the work. Provide rollers in accordance with Item 210, "Rolling." Provide proof rollers in accordance with Item 216, "Proof Rolling," when directed.

3.1. SLURRY EQUIPMENT

Use slurry tanks equipped with agitation devices to slurry hydrated lime at the jobsite or any other approved location. The Engineer may approve other slurrying methods. Provide a pump for agitating the slurry when the distributor truck is not equipped with an agitator. Equip the distributor truck with a sampling device in accordance with Tex-600-J, Part I, when using commercial lime slurry.

3.2. PULVERIZATION EQUIPMENT

Provide pulverization equipment that has the following characteristics:

3.2.1. Cuts and pulverizes material uniformly to the proper depth with cutters that plane to a uniform surface over the entire width of the cut.

3.2.2. Shows a visible indication of the depth of cut at all times.

3.2.3. Mixes the materials uniformly.

4. CONSTRUCTION

4.1. METHODS

The subgrade shall be prepared in accordance with the pertinent item for subgrade. Immediately before placing the base material, the subgrade shall be checked as to conformity with the grade and section. Any deviation in excess of 1/2 inch in cross-section and in a length of 16 feet measured longitudinally shall be corrected by loosening, adding or removing material, reshaping and compacting by sprinkling and rolling. Sufficient subgrade shall be prepared in advance to insure satisfactory prosecution of the work.

The material for the first course shall be deposited on the subgrade in a lift not to exceed 6 inches in thickness. Material deposited upon the subgrade shall be spread and shaped the same day unless otherwise directed by the Engineer. The material shall be sprinkled, if directed and shall then be bladed, dragged and shaped to the typical sections as shown on the plans. All areas and most of segregated coarse or fine material shall be corrected or removed and replaced with well graded

material as directed by the Engineer. If additional binder is considered desirable or necessary after the material is spread and shaped, it shall be furnished and applied in the amount directed by the Engineer. Such binder material shall be carefully and evenly incorporated with the material in-place by scarifying harrowing, brooming or by other approved methods.

The course shall be sprinkled as required and compacted to the extent necessary to provide not less than 95 percent of modified proctor density (ASTM D1557 "Standard Test Methods for Laboratory Compaction Characteristics of Soil Using Modified Effort (56,000 ft-lbf/ft 3 (2,700 kN-m/m3))") at a moisture content ranging from optimum to 3 percent above optimum. In addition to the requirements specified for density, the full depth of the flexible base shown on the plans shall be compacted to the extent necessary to remain firm and stable under construction equipment. After each section of flexible base is completed, tests as necessary will be made by the Engineer. If the material fails to meet the density requirements, it shall be reworked as necessary to meet these requirements. Throughout this entire operation the shape of the course shall be maintained by blading, and the surface upon completion shall be smooth and in conformity with the typical sections shown on the plans and to the established lines and grades. In that area on which pavement is to be placed, any deviation in excess of 1/4 inch in cross-section and in length of 16 feet measured longitudinally shall be corrected by loosening, adding or removing material as required, reshaping and recompacting by sprinkling and rolling. Should the base course, due to any reason or cause, lose the required stability, density or finish before the surface is completed, it shall be recompacted and refinished at the sole expense of the Contractor.

Construction methods for succeeding courses shall be the same as prescribed for the first course. Prior to placing the surfacing on the completed base, the base shall be dry cured to the extent directed by the Engineer.

4.2. QUALITY ASSURANCE

The Materials Engineer will determine the Moisture-Density Relationship in accordance with ASTM D1557 on material secured from the source of supply, or the Contractor.

The Materials Engineer will determine the in-place density in accordance with ASTM D6938 "Standard Test Methods for In-Place Density and Water Content of Soil and Soil-Aggregate by Nuclear Methods (Shallow Depth)" or ASTM D1556 "Standard Test Method for Density and Unit Weight of Soil in Place by Sand-Cone Method." The minimum level of testing will consist of at least three tests for each 500 feet per lift per lane of roadway, or 4,000 square feet of completed base.

4.3. ACCEPTANCE REQUIREMENTS

The completed base course shall be checked for determining acceptance as provided herein.

Upon completion of compaction operations, the density of the completed course will be determined in accordance with ASTM D6938 or ASTM D1556. A minimum of one density test will be taken per 1,000 linear feet per roadway. The location of the test will be chosen randomly. If any density test is below requirements, two additional tests will be taken within 5 feet of the failing test location and the average of the three tests will be used as the value for the 1,000 foot location.

The density requirements as based on ASTM D1557, will be 95 percent of the maximum density.

If the density test value per 1,000 foot section is below 95 percent, a price adjustment will be supplied as itemized in Table 2.

The completed base course will not vary from plan thickness in excess of the following tolerances.

Table 2: Contract price adjustments for density test values

DENSITY TEST VALUE	% OF CONTRACT UNIT PRICE
95.0 and above	100
93.0 to 94.9	90
90.0 to 92.9	75
Below 90	50 or remove[1]

[1] At the option of the Engineer

Base course thickness deficiencies in excess of these tolerances shall be corrected, as specified herein, at the Contractor's expense.

- Underthickness: 1 inch
- Overthickness: 1-1/2 inches

If an individual test exceeds allowable tolerances, two additional tests will be taken within 5 feet of the failing test location and the average of the three tests (rounded off to the nearest 1/4 inch) will be used as the value for that location. Any failing areas will be isolated for purposes of correction. Base course thickness deficiencies in excess of the foregoing tolerances shall be corrected as follows.

If no grade adjustments are permitted, thickness deficiencies shall be corrected by removing and replacing the full depth of base course in deficient areas with one of the following materials:

- Item 231 "Cement Stabilized Crushed Aggregate Base Course"
- Item 250 "Hot Mix Asphaltic Concrete Base Course (Black Base)"

If grade adjustments are permitted, the Contractor shall have the option of correcting thickness deficiencies by furnishing and placing a supplemental layer of asphaltic concrete conforming to Item 250, for the full width of the base course, in lieu of removing and replacing deficient base course. The thickness of the supplemental layer of asphaltic concrete shall be as given in Table 3.

Table 3: Base course thickness correction

Underthickness (Inches)	Minimum thickness of supplemental asphaltic concrete (inches)
1-1/4 – 1-1/2	1
1-3/4 – 2	1-1/2
2-1/4 – 2-1/2	2
Over 2-1/2	Remove and replace

5. MEASUREMENT

Crushed Aggregate Base shall be measured by the square yard of material, furnished and compacted in place and to the thickness specified, or as shown on the plans.

6. PAYMENT

Payment for Crushed Aggregate Base, complete and in-place, shall be at the contract unit price per square yard of the specified thickness, which unit price shall include all costs of materials furnished, hauled, dumped, spread, shaped and compacted in maximum 6 inch lifts, including water for sprinkling. If necessary, adjustments will be made in the payment for this Item as outlined in Section 230.4..3..

END OF SECTION

SECTION 360
CONCRETE PAVEMENT

1. GENERAL

1.1. SCOPE

Construct hydraulic cement concrete pavement with or without curbs on the concrete pavement.

1.2. REFERENCED DOCUMENTS

ASTM Standards[1]:

E488– Standard Test Methods for Strength of Anchors in Concrete Elements

TxDOT Standard Specifications[2]:

Item 300– Asphalts, Oils, and Emulsions

Item 421– Hydraulic Cement Concrete

Item 422– Concrete Superstructures

Item 438– Cleaning and Sealing Joints

Item 440– Reinforcement for Concrete

Item 529– Concrete Curb, Gutter, and Combined Curb and Gutter

Item 585– Ride Quality for Pavement Surfaces

TxDOT Materials Specifications and Test Procedures:

DMS-4515– Multiple Piece Tie Bars for Concrete Pavements

DMS-4650– Hydraulic Cement Concrete Curing Materials and Evaporation Retardants

DMS-6100– Epoxies and Adhesives

DMS-6310– Joint Sealants and Fillers

Tex-418-A– Compressive Strength of Cylinder Concrete Specimens

Tex-422-A– Measuring Temperature of Freshly Mixed Hydraulic Cement Concrete

Tex-423-A– Determining Concrete Thickness by Direct Measurement

Tex-424-A– Obtaining and Testing of Drilled Cores of Concrete

Tex-426-A– Estimating Concrete Strength by the Maturity Method

[1]For referenced ASTM standards and test methods, visit www.astm.org
[2]For referenced TxDOT Standards, visit www.dot.state.tx.us/business/specifications.htm

Tex-427-A– Correlating Concrete Strength Tests

Tex-428-A– Determining the Coefficient of Thermal Expansion of Concrete

Tex-436-A– Measuring Texture Depth by the Sand Patch Method

Tex-448-A– Making and Curing Concrete Test Specimens

Tex-711-I– Sampling Multiple-Piece Tie Bars for Concrete Pavement

2. MATERIALS

Use materials from prequalified sources listed on the TxDOT website. Use materials from non-listed sources only when tested and approved before use. Allow 30 calendar days for the ENGINEER to sample, test, and report results for non-listed sources. Do not combine approved material with unapproved material.

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 TxDOT'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, "Hydrualic 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 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.

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. 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 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.

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.

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 stringless 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." with Tex-711-I, and tested in accordance with DMS-4515.

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 oth-

erwise 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 test-

ing. 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°
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.**

A. **Continuously Reinforced Concrete Pavement (CRCP).** Install additional longitudinal re-

inforcement through the bulkhead when shown on the plans. Protect the reinforcing steel immediately beyond the construction joint from damage, vibration, and impact.

B. **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.

C. **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 hours. if the specified strength is achieved.

A. **Strength Testing.** Test concrete specimens cured under the same conditions as the portion of the pavement involved.

B. **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 Item A, "Strength Testing," or Item B, "Maturity Method," of Section 360.4.11.4 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.

5. MEASUREMENT AND PAYMENT

Table 2: Deficient Thickness Price Adjustment Factor

Deficiency in Thickness[1] in.	Proportional Part of Contract Price Allowed (Adjustment Factor)
Not deficient	1.00
>0.00 – 0.20	1.00
>0.20 – 0.30	0.80
>0.30 – 0.40	0.72
>0.40 – 0.50	0.68
>0.50 – 0.75	0.57

[1] Determined by cores.

5.1. MEASUREMENT

5.1.1. **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.

5.1.2. **Curb.** Curb on concrete pavement will be measured by the foot in place.

5.2. PAYMENT

These prices are full compensation for materials, equipment, labor, tools, and incidentals.

5.2.1. **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 360.5.2.2, "Deficient Thickness Adjustment."

5.2.2. **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."

5.2.3. **Curb.** Work performed and furnished in accordance with this Item and measured as provided under "Measurement" will be paid for at the unit price bid for "Curb" of the type specified.

END OF SECTION

SECTION 400
EXCAVATION AND BACKFILL FOR STRUCTURES

1. GENERAL

1.1. SCOPE

Excavate for placement and construction of structures and backfill structures. Cut and restore pavement.

1.2. Referenced Documents

TxDOT Test Procedures[1]:

Tex-120-E Soil-Cement Testing

TxDOT Manuals[2]:

TMUTCD Texas Manual on Uniform Traffic Control Devices

2. MATERIALS

Furnish materials in accordance with the following specifications:

Item 110, "Excavation"

Item 132, "Embankment"

Item 401, "Flowable Backfill"

Item 402, "Trench Excavation Protection"

Item 403, "Temporary Special Shoring"

Item 416, "Drilled Shaft Foundations"

Item 420, "Concrete Substructures"

Item 421, "Hydraulic Cement Concrete"

DMS-4600, "Hydraulic Cement"

3. CONSTRUCTION

3.1. EXCAVATION

3.1.1. **General.** Excavate to the lines and grades shown on the plans or as directed. Provide slopes,

[1]For referenced TxDOT test procedures, visit www.txdot.gov/business/resources/testing.html
[2]For referenced TxDOT manuals, visit www.txdot.gov/government/enforcement/signage/tmutcd.html

benching, sheeting, bracing, pumping, and bailing as necessary to maintain the stability and safety of excavations up to 5 ft. deep. Excavation protection for excavations deeper than 5 ft. are governed by Item 402, "Trench Excavation Protection," and Item 403, "Temporary Special Shoring." Use satisfactory excavated material as backfill or as embankment fill in accordance with Item 132, "Embankment." Dispose of material not incorporated into the final project off the right of way in accordance with federal, state, and local regulations.

Keep any topsoil that has been removed separate, and replace it, as nearly as feasible, in its original position when excavating for installation of structures across private property or beyond the limits of the embankment. Restore the area to an acceptable condition.

Excavate drilled shafts in accordance with Item 416, "Drilled Shaft Foundations."

A. **Obstructions.** Remove obstructions to the proposed construction, including trees and other vegetation, debris, and structures, over the width of the excavation to a depth of 1 ft. below the bottom of excavation. Remove as required to clear the new structure and plug in an approved manner if abandoned storm drains, sewers, or other drainage systems are encountered. Restore the bottom of the excavation to grade by backfilling after removing obstructions in accordance with this Item. Dispose of surplus materials in accordance with federal, state, and local regulations.

B. **Excavation in Streets.** Cut pavement and base to neat lines when structures are installed in streets, highways, or other paved areas. Restore pavement structure after completion of excavation and backfilling.

   Maintain and control traffic in accordance with the approved traffic control plan and the TMUTCD.

C. **Utilities.** Conduct work with minimum disturbance of existing utilities, and coordinate work in or near utilities with the utility owners. Inform utility owners before work begins, allowing them enough time to identify, locate, reroute, or make other adjustments to utility lines.

   Avoid cutting or damaging underground utility lines that are to remain in place. Promptly notify the utility company if damage occurs. Provide temporary flumes across the excavation while open if an active sanitary sewer line is damaged during excavation, and restore the lines when backfilling has progressed to the original bedding lines of the cut sewer.

D. **De-watering.** Construct or place structures in the presence of water only if approved. Place precast members, pipe, and concrete only on a dry, firm surface. Remove water by bailing, pumping, well-point installation, deep wells, underdrains, or other approved method.

   Remove standing water in a manner that does not allow water movement through or alongside concrete being placed if structures are approved for placement in the presence of water. Pump or bail only from a suitable sump separated from the concrete work while placing structural concrete or for a period of at least 36 hr. thereafter. Pump or bail during placement of seal concrete only to the extent necessary to maintain a static head of water within the cofferdam. Pump or bail to de-water inside a sealed cofferdam only after the seal has aged at least 36 hr.

Place a stabilizing material in the bottom of the excavation if the bottom of an excavation cannot be de-watered to the point the subgrade is free of mud or it is difficult to keep reinforcing steel clean. Use flexible base, cement-stabilized base or backfill, lean concrete, or other approved stabilizing material. Provide concrete with at least 275 lb. of cement per cubic yard, if lean concrete is used, and place to a minimum depth of 3 in. Stabilizing material placed for the convenience of the Contractor will be at the Contractor's expense.

3.1.2. **Bridge Foundations and Retaining Walls.** Do not disturb material below the bottom of footing grade. Do not backfill to compensate for excavation that has extended below grade. Fill the area with concrete at the time the footing is placed if excavation occurs below the proposed footing grade. Additional concrete placed will be at the Contractor's expense.

Take core samples to determine the character of the supporting materials if requested. Provide an intact sample adequate to judge the character of the founding material. Take these cores when the excavation is close to completion. Cores should be approximately 5 ft. deeper than the proposed founding grade.

Remove loose material if the founding stratum is rock or another hard material, and clean and cut it to a firm surface that is level, stepped, or serrated, as directed. Clean out soft seams, and fill with concrete at the time the footing is placed.

Place the foundation once the Engineer has inspected the excavation and authorized changes have been made to provide a uniform bearing condition if the material at the footing grade of a retaining wall, bridge bent, or pier is a mixture of compressible and incompressible material.

3.1.3. **Cofferdams.** The term "cofferdam" designates any temporary or removable structure constructed to hold surrounding earth, water, or both out of the excavation whether the structure is formed of soil, timber, steel, concrete, or a combination of these. Use pumping wells or well points for de-watering cofferdams if required.

Submit details and design calculations for sheet-pile or other types of cofferdams requiring structural members bearing the seal of a licensed professional engineer for review before constructing the cofferdam. The Engineer reserves the right to reject designs. Design structural systems in accordance with Item 403, "Temporary Special Shoring". Interior dimensions of cofferdams must provide enough clearance for the construction, inspection, and removal of required forms and, if necessary, enough room to allow pumping outside the forms. Extend sheet-pile cofferdams well below the bottom of the footings, and make concrete seals as well braced and watertight as practicable.

Use Class E concrete for foundation seals unless otherwise specified. Place concrete foundation seals in accordance with Item 420, "Concrete Substructures." Seals placed for the convenience of the Contractor will be at the Contractor's expense. Make the excavation deep enough to allow for swelling of the material at the base of the excavation during pile-driving operations when the Engineer judges it to be impractical to de-water inside a cofferdam and a concrete seal is to be placed around piling driven within the cofferdam. Remove swelling material to the bottom of the seal grade after driving the piling. Remove the foundation material to exact footing

grades where it is possible to de-water inside the cofferdam without placing a seal after driving piling. Do not backfill a foundation to compensate for excavation that has been extended below grade; fill such areas below grade with concrete at the time the seals or footings are placed.

Remove cofferdams after completing the substructure without disturbing or damaging the structure unless otherwise provided.

3.1.4. **Culverts and Storm Drains.** When the design requires special bedding conditions for culverts or storm drains, an excavation diagram will be shown on the plans. Do not exceed these limits of excavation. Construct pipe structures in an open cut with vertical sides extending to a point 1 ft. above the pipe unless otherwise shown on the plans. When site conditions or the plans do not prohibit sloping the cut, the excavation may be stepped or laid back to a stable slope beginning 1 ft. above the pipe. Maintain the stability of the excavation throughout the construction period. Construct the embankment for pipe to be installed in fill above natural ground to an elevation at least 1 ft. above the top of the pipe, and then excavate for the pipe.

A. **Unstable Material.** Remove the material to a depth of no more than 2 ft. below the grade of the structure when unstable soil is encountered at established footing grade, unless the Engineer authorizes additional depth. Replace soil removed with stable material in uniform layers no greater than 8 in. deep (loose measurement). Each layer must have enough moisture to be compacted by rolling or tamping as required to provide a stable foundation for the structure.

Use special materials such as flexible base, cement-stabilized base, cement-stabilized backfill, or other approved material when it is not feasible to construct a stable foundation as outlined above.

B. **Incompressible Material.** Remove the incompressible material to 6 in. below the footing grade, backfill with an approved compressible material, and compact in accordance with Section 400.3.3., "Backfill," if rock, part rock, or other incompressible material is encountered at established footing grade while placing prefabricated elements.

3.2. **Shaping and Bedding.**

3.2.1. **General.** Place at least 2 in. of fine granular material for precast box sections on the base of the excavation before placing the box sections. Use bedding as Figure 1. Use Class C bedding unless otherwise shown on the plans. The Engineer may require the use of a template to secure reasonably accurate shaping of the foundation material. Undercut the excavation at least 4 in. where cement-stabilized backfill is indicated on the plans and backfill with stabilized material to support the pipe or box at the required grade.

3.2.2. **Optional Shaping and Bedding for Precast Pipe.** For precast concrete pipe, the beddings in accordance with ASTM C1479 are permissible.

3.3. **Backfill**

3.3.1. **General.** Backfill the excavation after placement of the permanent structure as soon as practical. Use backfill free from stones large enough to interfere with compaction; large or frozen

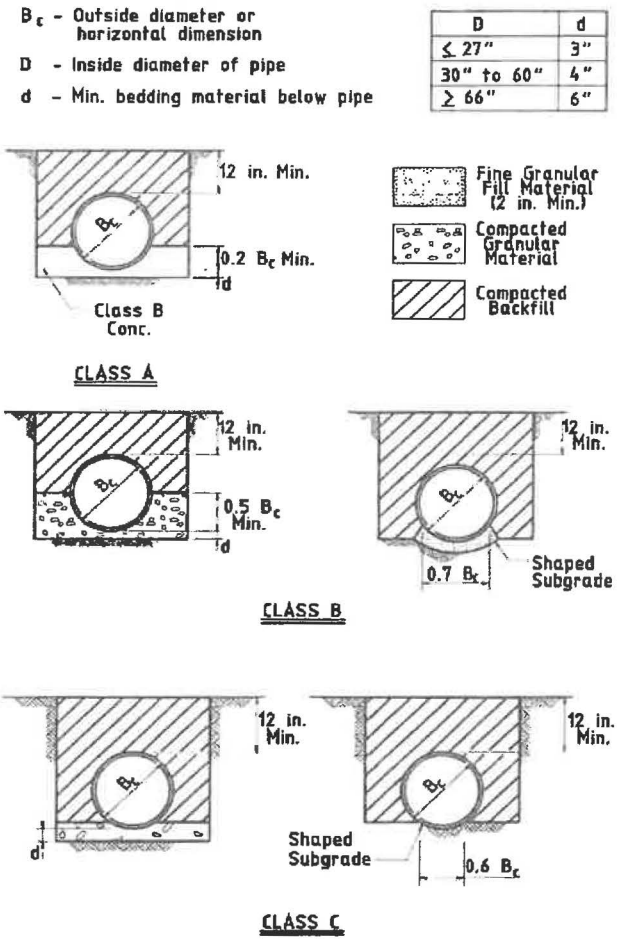

Figure 1: Bedding diagrams

lumps that will not break down readily under compaction; and wood or other extraneous material. Obtain backfill material from excavation or from other sources.

Place backfill in layers no greater than 10 in. deep (loose measurement) in areas not supporting a completed roadbed, retaining wall, or embankment. Place backfill in uniform layers no greater than 8 in. deep (loose measurement) in areas supporting a portion of a roadbed, retaining wall, or embankment. Compact each layer to meet the density requirements of the roadbed, retaining wall, embankment material, or as shown on the plans.

Bring each layer of backfill material to the moisture content needed to obtain the required density. Use mechanical tamps or rammers to compact the backfill. Rollers may be used to compact backfill if feasible.

Cohesionless materials may be used for backfilling. Use cohesionless materials that conform to

the requirements of Table 1.

Table 1: Cohesionless Material Gradation Limits

Sieve Size	Percent Retained
3 in.	0
#10	0–30[a]
#200	90-100

[a] No. 10 sieve requirements are 0 to 30% retained only when used as aggregate for cement-stabilized backfill.

Compact cohesionless materials using vibratory equipment, water-ponding, or a combination of both.

3.3.2. **Bridge Foundations, Retaining Walls, Manholes/Inlets, and Box Culverts.** Place backfill against the structure only after the concrete has reached the design strength required in Item 421, "Hydraulic Cement Concrete."

Backfill retaining walls with material meeting the requirements of Item 423, "Retaining Walls." Backfill around bridge foundations, manholes/inlets and culverts using material with particles no more than 4 in. in greatest dimension and a gradation that permits thorough compaction. Use rock or gravel mixed with soil if the percentage of fines is enough to fill all voids and ensure a uniform and thoroughly compacted mass of proper density.

Use mechanical tamps and rammers to avoid damage to the structure where backfill material is being placed too close to the structure to permit compaction with blading and rolling equipment.

Avoid wedging action of backfill against structures. Step or serrate slopes bounding the excavation to prevent such action. Place backfill uniformly around bridge foundations. Place backfill equally and in uniform layers along both sides of manholes/inlets and culverts.

The Engineer may require backfilling of structures excavated into hard, erosion-resistant material, and subject to erosive forces, with stone or lean concrete.

Box culverts may be opened to traffic as soon as enough backfill and embankment has been placed over the top to protect culverts against damage from heavy construction equipment. Repair damage to culvert caused by construction traffic at no additional expense to the Owner.

3.3.3. **Pipe.** Bring backfill material to the proper moisture condition after installing bedding and pipe as required and place it equally along both sides of the pipe in uniform layers no greater than 8 in. deep (loose measurement). Compact each lift mechanically. Thoroughly compact materials placed under the haunches of the pipe to prevent damage or displacement of the pipe. Place backfill in this manner to the top-of-pipe elevation. Place and compact backfill above the top of the pipe in accordance with Section 1, "General." The Engineer may reject backfill material containing more than 20% by weight of material retained on a 3 in. sieve with large lumps not easily broken down or that cannot be spread in loose layers. Material excavated by a trenching machine will generally meet the requirements of this Section as long as large stones are not present. Place and compact additional material where pipe extends beyond the toe of slope of the embankment and the depth of cover provided by backfill to the original ground level is less

than the minimum required by the specifications for the type of pipe involved until the minimum cover has been provided.

3.3.4. **Cement-Stabilized Backfill.** Backfill the excavation to the elevations shown with cement-stabilized backfill when shown on the plans. Use cement-stabilized backfill that contains aggregate conforming to the gradation limits shown in Table 1, water, and a minimum of 7% hydraulic cement based on the dry weight of the aggregate, in accordance with Tex-120-E.

Place cement-stabilized backfill equally along the sides of structures to prevent strain on or displacement of the structure. Fill voids when placing cement-stabilized backfill. Use hand-operated tampers if necessary to fill voids.

3.3.5. **Flowable Backfill.** Backfill the excavation with flowable backfill to the elevations indicated when shown on the plans. Prevent the structure from being displaced during the placement of the flowable fill, and prevent flowable fill from entering manholes/inlets and culverts, and drainage structures.

4. **MEASUREMENT** This is a plans quantity measurement Item. The quantity to be paid is the quantity shown in the proposal, unless modified by TxDOT Item 9.2., "Plans Quantity Measurement." Additional measurements or calculations will be made if adjustments of quantities are required.

4.1. **Structural Excavation.** Unless shown on the plans as a pay item, structural excavation quantities shown are for information purposes only. When structural excavation is specified as a pay item, structural excavation for pipe headwalls, inlets, manholes, culvert or storm drain extensions less than 15 ft. long, bridge abutments, retaining walls, and side road and private entrance pipe culverts will not be measured. No allowance will be made for variance from plans quantity incurred by an alternate bid. When specified as a pay item, structural excavation will be measured by the cubic yard as computed by the average end areas method or as shown on the plans. Excavation diagrams shown on the plans take precedence over the provisions of this Article.

4.1.1. **Boundaries of Measurement.**

A. **Pipe.**

- **Pipe up to 42 Inches.** For pipe up to 42 in. nominal or equivalent diameter, no material outside vertical planes 1 ft. beyond and parallel to the horizontal projection of the outside surfaces of the pipe will be included.
- **Pipe Larger than 42 Inches.** For pipes larger than 42 in. nominal or equivalent diameter, no material outside vertical planes located 2 ft. beyond and parallel to the horizontal projection of the outside surfaces of the pipe will be included. Quantities for excavation in fill above natural ground include 1 ft. above the top of the pipe regardless of the height of completed fill. Excavation for pipe will be measured between the extreme ends of the completed structure, including end appurtenances as shown on the plans and from centerline to centerline of structures such as inlets and manholes.

B. **Footings, Walls, Boxes, and Other Excavation.** No material outside vertical planes 1 ft. beyond and parallel to the edges of the footings or outside walls will be included, whether

a cofferdam or shoring is used. When plans provide the option of cast-in-place or precast boxes, measurement will be based on the cast-in-place option. Where excavation in addition to that allowed for the footings is required for other portions of the structure, measurement for the additional excavation will be limited laterally by vertical planes 1 ft. beyond the face of the member and parallel to it, and vertically to a depth of 1 ft. below the bottom of the member.

C. **Excavation near Roadways and Channels.** At structure sites other than culverts and pipe excavations, the measurement of structural excavation will include only material below or outside the limits of the completed road or channel excavation. Roadway and channel excavation will be paid under Item 110, "Excavation." For culverts except side road and private entrance culverts, excavation within the limits of the structure and below or outside the limits of the completed roadway excavation will be measured as structural excavation.

4.1.2. **Falsework.** No measurement will be made for excavation necessary for placing forms or falsework that exceed the limits given in Section 400.4.1.1., "Boundaries of Measurement."

4.1.3. **Swelling.** Measurement will not include materials removed below footing grades to compensate for anticipated swelling due to pile driving, nor will it include material required to be removed due to swelling beyond the specified limits during pile-driving operations.

4.1.4. **Cave-Ins.** Measurement will not include additional volume caused by slips, slides, cave-ins, silting, or fill material resulting from the action of the elements or the Contractor's operation.

4.1.5. **Undercut.** Where rock or other incompressible or unstable material is undercut to provide a suitable foundation for pipe or box sections, such material below grade directed to be removed will be measured for payment.

4.1.6. **Grade Change.** Additional measurement will be made of the volume of excavation involved in the lowering or raising of the elevation of a footing, foundation, or structure unit, when such grade change is authorized.

4.2. **Cement-Stabilized Backfill.** Cement-stabilized backfill will be measured by the cubic yard as shown on the plans.

4.3. **Cutting and Restoring Pavement.** Cutting and restoring pavement will be measured by the square yard as shown on the plans. Excavation below pavement or base will be measured as structural excavation of the pertinent type.

5. **MEASUREMENT**

5.1. **Structural Excavation.** Unless specified as a pay item, structural excavation and backfill performed, and material furnished in accordance with this Item will not be paid for directly, but will be subsidiary to pertinent Items.

When structural excavation is specified as a pay item, the excavation and backfill work performed, and materials furnished will be paid for at the unit price bid for "Structural Excavation," "Structural Excavation (Box)," "Structural Excavation (Pipe)," and "Structural Excavation (Bridge)." This price includes concrete to compensate for excavation that has extended below grade for bridge foundations

and retaining walls, and backfilling and compacting areas that were removed as part of structural excavation.

Cofferdams or other measures necessary for supporting excavations less than 5 ft. deep will not be measured or paid for directly, but will be subsidiary to the Contract.

Foundation seal concrete for cofferdams, when required, will be paid for as provided in the pertinent Items. If no direct method of payment is provided in the Contract, the work will be measured and paid for in accordance with TxDOT Item 9.7., "Payment for Extra Work and Force Account Method." Seal placed for the convenience of the Contractor will not be paid for.

Unless otherwise provided, stone or lean concrete backfill around structures as provided for in Section 400.3.3.2, "Bridge Foundations, Retaining Walls, Manholes and Inlets, and Box Culverts," will be measured and paid for as extra work in accordance with TxDOT Item 9.7., "Payment for Extra Work and Force Account Method."

When structural excavation is specified as a pay item, a partial payment of 50% of the bid price will be made for structural excavation completed to the satisfaction of the Engineer but not backfilled. The remaining amount will be paid upon completion of backfilling. When the Contractor elects to excavate beyond plan requirements, no measurement will be made of the additional volume.

5.2. **Removal and Replacement of Unsuitable or Incompressible Material.** Removal and replacement of material will be paid for if directed. Removal and replacement of material or placement of special material made necessary by the softening of founding material due to the Contractor's sequence of work or operation will be at the Contractor's expense. Special material used or additional excavation made for the Contractor's convenience will not be paid for.

5.2.1. **Structural Excavation as a Pay Item.** Where special materials are not required or specified, payment for the removal and replacement of unstable or incompressible material will be made at a price equal to 200% of the unit price bid per cubic yard for "Structural Excavation." When the Contractor elects to remove and replace material deeper than directed, no measurement will be made on that portion below the directed elevation. This price is full compensation for removing the unstable or incompressible material; furnishing, hauling, placing, and compacting suitable replacement material; and equipment, labor, tools, and incidentals.

When shown on the plans or when directed, for the use of special materials such as flexible base, cement-stabilized base, cement-stabilized backfill, or other special material, payment for excavation below footing grades will be made at the unit price bid for "Structural Excavation." Payment for furnishing, hauling, placing, and compacting the flexible base, cement-stabilized base, cement-stabilized backfill, or other special materials will be made at the unit price bid for these items in the Contract, or, if the required material is not a bid item, in accordance with TxDOT Item 9.7., "Payment for Extra Work and Force Account Method."

5.2.2. **Structural Excavation Not a Pay Item.** Where special materials for backfill are not required or specified, payment for the authorized removal and replacement of unstable or incompressible material will be measured and paid for at $18 per cubic yard of material removed. This price is full compensation for removing the unstable or incompressible material; furnishing, hauling,

placing, and compacting suitable replacement material; and equipment, labor, tools, and incidentals.

When shown on the plans or when directed, for the use of special materials such as flexible base, cement-stabilized base, cement-stabilized backfill, or other special material, excavation below the footing grades will be paid for at $12 per cubic yard. Payment for furnishing, hauling, placing, and compacting the flexible base, cement-stabilized base, cement-stabilized backfill, or other special materials will be made at the unit price bid for these items, or, if the required material is not a bid item, in accordance with TxDOT Item 9.7., "Payment for Extra Work and Force Account Method."

5.3. **Lowering of a Structure Foundation.** If the Engineer requires a structure foundation to be lowered to an elevation below the grade shown on the plans, overexcavation will be paid for in accordance with Table 2.

Table 2: Payment for Required Overexcavation

Variance of Revised Footing Grade from Plan Grade	Payment Terms	
	"Structural Excavation" is a Bid Item	"Structural Excavation" is Not a Bid Item
≤5 ft.	Unit price equal to 115% of unit price bid for "Structural Excavation"	$12 per cubic yard
>5 ft. and ≤10 ft.	Unit price equal to 125% of unit price bid for "Structural Excavation"	$15 per cubic yard
>10 ft.	In accordance with TxDOT Item 9.7., "Payment for Extra Work and Force Account Method."	

5.4. **Cement-Stabilized Backfill.** Cement-stabilized backfill will be paid for at the unit price bid for "Cement-Stabilized Backfill."

5.5. **Cutting and Restoring Pavement.** Cutting and restoring pavement will be paid for at the unit price bid for "Cutting and Restoring Pavement" of the type specified.

Work done to repair damage to base or pavement incurred outside the limits shown on the plans, or the limits authorized, will not be measured for payment.

The unit prices bid are full compensation for excavation, including removing obstructions and plugging drainage systems; bedding and backfilling, including placing, sprinkling, and compaction of material; soundings; cleaning and filling seams; constructing and removing cofferdams; de-watering, sheeting, or bracing excavations up to and including 5 ft. deep; pumps; drills; explosives; disposition of surplus material; cutting pavement and base to neat lines; and materials, hauling, equipment, labor, tools, and incidentals.

Flowable backfill will be paid for in accordance with TxDOT Item 401. Protection methods for open excavations deeper than 5 ft. will be measured and paid for as required in accordance with TxDOT Item 402 or Item 403.

END OF SECTION

SECTION 403
TEMPORARY SPECIAL SHORING

1. GENERAL

1.1. SCOPE

Furnish and install temporary shoring to hold the surrounding earth, water, or both out of the work area.

1.2. Referenced Documents

The following documents form a part of this specification to the extent specified herein.

1.2.1. **OSHA**[1], *Standards and Interpretations*, 29 CFR Part 1926, Subpart P, "Excavations"

1.2.2. **AASHTO**[2], *Standard Specifications for Highway Bridges* or *LRFD Bridge Design Specifications*

1.2.3. **AREMA,**[3], *A Manual for Railway Engineering*

2. MATERIALS

2.1. General

Furnish materials that meet the requirements of the following TxDOT[4] specifications:

Item 410, "Soil Nail Anchors"

Item 411, "Rock Nail Anchors"

Item 423, "Retaining Walls"

Furnish new or used materials. Furnish materials that meet the requirements of TxDOT Item 423, "Retaining Walls." when using temporary Mechanically Stabilized Earth (MSE) walls. Furnish materials that meet the requirements of TxDOT Item 410, "Soil Nail Anchors," or TxDOT Item 411, "Rock Nail Anchors," when using temporary nailed walls (rock or soil).

3. CONSTRUCTION

The Contractor is responsible for the temporary special shoring design unless complete details are included on the plans. Submit details and design calculations bearing the seal of a licensed professional engineer before constructing the shoring. The Engineer reserves the right to reject designs. Design the shoring to comply with OSHA Standards and Interpretations, 29 CFR Part 1926, Subpart P, "Excavations." Design structural systems to comply with AASHTO Standard Specifications for Highway Bridges or AASHTO LRFD Bridge Design Specifications. Design shoring subject to railroad loading to comply

[1]For referenced OSHA standards, visit https://www.osha.gov/laws-regs/regulations/standardnumber
[2]For referenced AASHTO standards, visit https://www.transportation.org
[3]For referenced AREMA standards, visit https://www.arema.org/
[4]For referenced TxDOT Standards, visit www.dot.state.tx.us/business/specifications.htm

with the AREMA Manual for Railway Engineering and any additional requirements of the railway being supported.

Provide vertical or sloped cuts, benches, shields, support systems, or other systems to provide the necessary protection in accordance with the approved design. Construct temporary MSE walls, when used, in accordance with TxDOT Item 423, "Retaining Walls." Construct temporary nailed walls (rock or soil), when used, in accordance with TxDOT Item 410, "Soil Nail Anchors," or TxDOT Item 411, "Rock Nail Anchors."

4. **MEASUREMENT**

This Item will be measured by the square foot of surface area of a vertical plane at the face of the shoring between the top of the ground being supported and the minimum protection grade line shown on the plans. If no minimum protection grade is shown on the plans, the lowest required excavated elevation will be used. Shoring projecting above the level of the ground being supported will not be measured. When excavation techniques (e.g., sloped cuts or benching) are used to provide the necessary protection, the surface area for payment will be calculated based on the area described by a vertical plane adjacent to the structure.

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 "Temporary Special Shoring." This price is full compensation for excavation and backfill; furnishing, placing and removing shoring, sheeting, or bracing; de-watering or diversion of water; jacking and jack removal; and equipment, labor, materials, tools, and incidentals.

No payment will be made for special shoring made necessary by the selection of an optional design or sequence of work that creates the need for shoring.

END OF SECTION

SECTION 420
CONCRETE SUBSTRUCTURES

1. GENERAL

1.1. SCOPE

Construct concrete substructures including footings, columns, caps, abutments, piers, culverts, other substructure elements, and other concrete structures as indicated.

2. MATERIALS

2.1. **Concrete.** Provide concrete in accordance with Item 421, "Hydraulic Cement Concrete." Provide the class of concrete for each type of structure or unit as shown on the plans or in conformance with pertinent governing specifications.

2.2. **Grout or Mortar.** Provide grout for dowelling anchors or precast connections in accordance with DMS-4675[1], "Cementitious Grouts and Mortars for Miscellaneous Applications."

2.3. **Latex Curing Materials.** Provide an acrylic-polymer latex admixture (acrylic resin emulsion in accordance with DMS-4640, "Chemical Admixtures for Concrete") suitable for producing polymer-modified concrete or mortar. Do not allow latex to freeze.

2.4. **Reinforcing Steel.** Provide reinforcing steel in accordance with Item 440, "Reinforcement for Concrete."

2.5. **Expansion Joint Material.** Provide materials in accordance with DMS-6310, "Joint Sealants and Fillers."

- Provide preformed fiber expansion joint material that conforms to the dimensions shown on the plans.
- Provide preformed bituminous fiber material unless otherwise specified.
- Provide asphalt board that conforms to dimensions shown on the plans.
- Provide re-bonded neoprene filler that conforms to the dimensions shown on the plans.

2.6. **Waterstop.** Provide rubber or polyvinyl chloride (PVC) waterstops in accordance with DMS-6160, "Water Stops, Nylon-Reinforced Neoprene Sheet, and Elastomeric Pads," unless otherwise shown on the plans.

2.7. **Curing Materials.** Provide membrane curing compounds in accordance with DMS-4650, "Hydraulic Cement Concrete Curing Materials and Evaporation Retardants."

[1] For referenced TxDOT Standards, visit https://www.txdot.gov/business/resources/txdot-specifications.html

Provide cotton mats that consist of a filling material of cotton "bat" or "bats" (at least 12 oz. per square yard) completely covered with unsized cloth (at least 6 oz. per square yard) stitched longitudinally with continuous parallel rows of stitching spaced at less than 4 in., or tuft both longitudinally and transversely at intervals less than 3 in. Provide cotton mats that are free of tears and in good general condition. Provide a flap at least 6 in. wide consisting of two thicknesses of the covering and extending along one side of the mat.

Provide polyethylene sheeting that is at least 4 mils thick and free of visible defects. Provide only clear or opaque white sheeting when the ambient temperature during curing exceeds 90 °F or when applicable to control temperature during mass pours.

Provide burlap-polyethylene mats made of burlap impregnated on one side with a film of opaque white pigmented polyethylene, free of visible defects. Provide laminated mats that have at least one layer of an impervious material such as polyethylene, vinyl plastic, or other acceptable material (either as a solid sheet or impregnated into another fabric) and are free of visible defects.

Provide burlap material that complies with AASHTO[2] M 182, Class 3 (10 oz. per square yard) with the following additions.

- Manila hemp may also be used to make burlap.
- Do not use burlap fabricated from bags.
- Do not use burlap containing any water-soluble ingredient that will retard the setting time of concrete.

Provide used burlap that complies with the requirements stated above and that has only been used previously for curing concrete. "Like new" cleanliness is not expected, but contamination with any substance foreign to the concrete curing process, such as grease or oil, will be cause for rejection.

2.8. **Epoxy.** Provide epoxy materials in accordance with DMS-6100, "Epoxies and Adhesives," unless otherwise specified.

3. EQUIPMENT

3.1. **Transporting and Placing Equipment.** Use appropriate transporting and placing equipment such as buckets, chutes, buggies, belt conveyors, pumps, or other equipment as necessary. Ensure concrete is not transported or conveyed by equipment made of aluminum.

Use tremies to control the fall of concrete or for underwater placement. Use tremies that are watertight and of large enough diameter to allow the placement of the concrete but less than 14 in. in diameter. Construct the tremie so the bottom can be sealed and opened once the tremie has been fully charged with concrete for underwater placements.

Use pumps with lines at least 5 in. inside diameter (ID) where Grade 2 or smaller coarse aggregate is used, and at least 8 in. ID for Grade 1 coarse aggregate.

3.2. **Vibrators.** Use immersion-type vibrators for consolidation of concrete. Provide at least one standby vibrator for emergency use. Furnish vibrator head covered by a rubberized or elastomeric cover when used near epoxy coated reinforcing steel.

[2]For referenced AASHTO standards, www.transportation.org

3.3. **Temperature Recording Equipment.** Use strip chart temperature-recording devices, recording maturity meters in accordance with Tex-426-A, or other approved devices that are accurate to within ±2°F within the range of 32–212°F for mass concrete operations, for cold weather placements, and as otherwise specified.

3.4. **Artificial Heating Equipment.** Use artificial heating equipment as necessary for maintaining the concrete temperatures in accordance with Section 420.4.7.11, "Placing Concrete in Cold Weather."

3.5. **Spraying Equipment.** Use mechanically powered pressure sprayers, either air or airless, with appropriate atomizing nozzles for the application of membrane curing. Use hand-pressurized spray equipment with two or three fan-spray nozzles if approved. Ensure the spray from each nozzle overlaps the spray from adjacent nozzles by approximately 50%.

3.6. **Concrete Testing Equipment.** Provide testing equipment for use by the Engineer in accordance with Section 421.3.3., "Testing Equipment."

4. **CONSTRUCTION**

Obtain approval for proposed construction methods before starting work. Approval of construction methods and equipment does not relieve the Contractor's responsibility for safety or correctness of methods, adequacy of equipment, or completion of work in full accordance with the Contract.

Unless otherwise shown on the plans, it is the Contractor's option to perform testing on structural concrete (structural classes of concrete are identified as shown in Table 8 of Section 421.4.1., "Classification of Concrete Mix Designs") to determine the in-situ strength to address the schedule restrictions in accordance with Section 420.4.1., "Schedule Restrictions." The Engineer may require the Contractor to perform this testing for concrete placed in cold weather. Make enough test specimens for Contractor-performed testing to ensure strength requirements are met for the operations listed in Section 420.4.1., "Schedule Restrictions." Make at least one set of test specimens for each element cast eachday. Cure these specimens under the same conditions as the portion of the structure involved for all stages of construction. Ensure safe handling, curing, and storage of all test specimens. Provide testing personnel, and sample and test the hardened concrete in accordance with Section 421.4.8., "Sampling and Testing of Concrete." The maturity method, Tex-426-A, may be used for in-situ strength determination for schedule restrictions if approved. Coring will not be allowed for in-situ strength determination for schedule restrictions. Provide the Engineer the opportunity to witness all testing operations. Report all test results to the Engineer.

If the Contractor does not wish to perform schedule restriction testing, the Engineer's 7-day lab-cured tests, performed in accordance with Section 421.5., "Acceptance of Concrete," will be used for schedule restriction determinations. The Engineer may require additional time for strength gain to account for field curing conditions such as cold weather.

4.1. **Schedule Restrictions.** Construct and open completed structures to traffic with the following limitations unless otherwise shown on the plans.

4.1.1. **Setting Forms.** Attain at least 2,500 psi compressive strength before erecting forms on concrete footings supported by piling or drilled shafts, or on individual drilled shafts. Erect forms on spread footings and culvert footings after the footing concrete has aged at least 2 curing days in accordance with Section 420.4.10., "Curing Concrete." Place concrete only after the forms and

reinforcing steel have been inspected by the Engineer. Support tie beam or cap forms by falsework on previously placed tie beams only if the tie beam concrete has attained a compressive strength of 2,500 psi and the member is properly supported to eliminate stresses not provided for in the design. Maintain curing as required until completion of the curing period. Place superstructure forms or falsework on the substructure only if the substructure concrete has attained a compressive strength of 3,000 psi.

4.1.2. **Removal of Forms and Falsework.** Keep in place weight-supporting forms and falsework for bridge components and culvert slabs until the concrete has attained a compressive strength of 2,500 psi in accordance with Section 420.4.11., "Removal of Forms and Falsework." Keep all forms for mass placements in place for 4 days following concrete placement unless otherwise approved based on the outcome of the heat control plan in accordance with Section 420.4.7.14, "Mass Placements."

4.1.3. **Placement of Superstructure Members.** Erect or place superstructure members or precast substructure members only after the substructure concrete has attained a compressive strength of 3,000 psi.

4.1.4. **Opening to Traffic.** Direct traffic culverts may be opened to construction traffic when the design strength specified in Section 421.4.1., "Classification of Concrete Mix Designs," has been attained if curing is maintained. Obtain approval before opening direct traffic culverts to the traveling public. Open other noncritical structural and nonstructural concrete for service upon the completion of curing unless otherwise specified or directed.

4.1.5. **Post-Tensioned Construction.** Ensure strength requirements shown on the plans for structural elements designed to be post-tensioned are met for stressing and staged loading of structural elements.

4.1.6. **Backfilling.** Backfill in accordance with Section 400.3.3., "Backfill."

4.2. **Plans for Falsework and Forms.** Submit plans for falsework and forms for the following items: vertical forms for piers and single column bents; load supporting forms for caps and tie-beams; form attachments for bridges to be widened; and other items as indicated or directed. Provide design calculations when requested. Show all essential details of proposed forms, falsework, and bracing. Have a licensed professional engineer design, seal, and sign these plans. Owner approval is not required, except as shown in Table 1 of Item 5, "Control of the Work," when forms or falsework are located such that public safety can be affected, but the Owner reserves the right to request modifications to the plans. The Contractor is responsible for the adequacy of these plans. Design job-fabricated formwork assuming a weight of 150 pcf for concrete, and include a live-load allowance of 50 psf of horizontal surface of the form. Do not exceed 125% of the allowable stresses used by TxDOT for the design of structures.

4.3. **Falsework.** Design and construct falsework to safely carry the maximum anticipated loads, including wind loads, and to provide the necessary rigidity. Consult AASHTO's Guide Design Specifications for Bridge Temporary Works and Construction Handbook for Bridge Temporary Works for falsework and shoring information not indicated below. Submit details in accordance with Section 420.4.2., "Plans for Falsework and Forms."

Design job-fabricated falsework assuming a weight of 150 pcf for concrete, and include a minimum live-load allowance of 50 psf of horizontal surface of the form. Do not exceed 125% of the allowable stresses used by TxDOT for the design of structures.

Do not exceed the manufacturer's maximum allowable working loads for moment and shear or end reaction for commercially produced structural units used in falsework. Include a minimum live-load allowance of 35 psf of horizontal form surface in determining the maximum allowable working load for commercially produced structural units.

Provide timber that is sound, in good condition, and free of defects that would impair its strength. Provide timber that meets or exceeds the species, size, and grade requirements shown on the submitted falsework plans.

Provide wedges made of hardwood or metal in pairs to adjust falsework to desired elevations to ensure even bearing. Do not use wedges to compensate for incorrectly cut bearing surfaces.

Use sills or grillages large enough to support the superimposed load without settlement. Take precautions to prevent settling of the supporting material unless the sills or grillages are founded on solid rock, shale, or other hard materials.

Place falsework that cannot be founded on a satisfactory spread footing on piling or drilled shafts with enough bearing capacity to support the superimposed load without settlement. Drive falsework piling to the required resistance determined by the applicable formula in Item 404, "Driving Piling." Design drilled shafts for falsework to carry the superimposed load using both skin friction and point bearing.

Weld in accordance with Item 448, "Structural Field Welding." Securely brace each falsework bent to provide the stiffness required, and securely fasten the bracing to each pile or column it crosses.

Remove falsework when it is no longer required or as shown on the submitted falsework plan. Pull or cut off foundations for falsework at least 2 ft. below finished ground level. Completely remove falsework, piling, or drilled shafts in a stream, lake, or bay to the approved limits to prevent obstruction to the waterway.

4.4. **Forms.** Submit formwork plans in accordance with Section 420.4.2.. "Plans for Falsework and Forms."

4.4.1. **General.** Provide forms of either timber or metal except where otherwise specified or permitted.

Design forms for the pressure exerted by a liquid weighing 150 pcf. Take the rate of concrete placement into consideration in determining the depth of the equivalent liquid. Include a minimum live-load allowance of 50 psf of horizontal surface for job-fabricated forms. Do not exceed 125% of the TxDOT's allowable stresses for the design of structures.

Do not exceed the manufacturer's maximum allowable working loads for moment and shear or end reaction for commercially produced structural units used for forms. Include a minimum live-load allowance of 35 psf of horizontal form surface in determining the maximum allowable working load for commercially produced structural units.

Provide steel forms for round columns unless otherwise approved. Refer to TxDOT Item 427,

"Surface Finishes for Concrete," for additional requirements for off-the-form finishes.

Provide commercial form liners for imprinting a pattern or texture on the concrete surface as shown on the plans and in accordance with TxDOT Item 427.4.3.5., "Form Liner Finish."

Provide forming systems that are practically mortar-tight, rigidly braced, and strong enough to prevent bulging between supports, and maintain them to the proper line and grade during concrete placement. Maintain forms in a manner that prevents warping and shrinkage. Do not allow offsets at form joints to exceed 1/16 in.

Use only material that is inert, non-biodegradable, and nonabsorptive for forms to be left in place. Construct all forms to permit their removal without marring or damaging the concrete. Clean all forms and footing areas of any extraneous matter before placing concrete. Provide openings in forms if needed for the removal of laitance or foreign matter.

Treat the facing of all forms with bond-breaking coating of composition that will not discolor or injuriously affect the concrete surface. Take care to prevent coating of the reinforcing steel.

Complete all preparatory work before requesting permission to place concrete.

Cease placement if the forms show signs of bulging or sagging at any stage of the placement, and remove the portion of the concrete causing this condition immediately as directed. Reset the forms and securely brace them against further movement before continuing the placement.

4.4.2. **Timber Forms.** Provide properly seasoned, good-quality lumber that is free of imperfections that would affect its strength or impair the finished surface of the concrete. Provide timber or lumber that meets or exceeds the requirements for species and grade shown on the submitted formwork plans.

Maintain forms or form lumber that will be reused so it stays clean and in good condition. Do not use any lumber that is split, warped, bulged, or marred, or that has defects in any way that will produce inferior work. Promptly remove such lumber from the work.

Provide form lining for all formed surfaces except:

- the inside of culvert barrels, inlets, manholes, and box girders;
- surfaces that are subsequently covered by backfill material or are completely enclosed; and
- any surface formed by a single finished board or by plywood.

Provide form lining of an approved type such as masonite or plywood. Do not provide thin membrane sheeting such as polyethylene sheets for form lining.

Use plywood at least 3/4 in. thick. Place the grain of the face plies on plywood forms parallel to the span between the supporting studs or joists unless otherwise shown on the submitted form drawings.

Use plywood for forming surfaces that remain exposed that meets the requirements for B-B Plyform Class I or Class II Exterior of the U.S. Department of Commerce Voluntary Product Standard PS 1.

Space studs and joists so the facing form material remains in true alignment under the im-

posed loads.

Space wales closely enough to hold forms securely to the designated lines, scabbed at least 4 ft. on each side of joints to provide continuity. Place a row of wales near the bottom of each placement.

Place facing material with parallel and square joints, securely fastened to supporting studs.

Place forms with the form panels symmetrical (long dimensions set in the same direction) for surfaces exposed to view and receiving only an ordinary surface finish in accordance with Section 4204.13, "Ordinary Surface Finish." Make horizontal joints continuous.

Make molding for chamfer strips or other uses of materials of a grade that will not split when nailed and can be maintained to a true line without warping. Dress wood molding on all faces. Fill forms at all sharp corners and edges with triangular chamfer strips measuring 3/4 in. on the sides unless otherwise shown on the plans.

Use metal form ties of an approved type or a satisfactory substitute of a type that permits ease of removal of the metal to hold forms in place. Cut back wire ties at least 1/2 in. from the face of the concrete.

Use devices to hold metal ties in place that can develop the strength of the tie and adjust to allow for proper alignment.

Entirely remove metal and wooden spreaders that separate the forms as the concrete is being placed.

Provide adequate cleanout openings for narrow walls and other locations where access to the bottom of the forms is not readily attainable.

Metal Forms. Requirements for timber forms regarding design, mortar tightness, filleted corners, beveled projections, bracing, alignment, removal, reuse, and wetting also apply to metal forms, except metal forms do not require lining unless as specifically shown on the plans.

Use form metal thick enough to maintain the true shape without warping or bulging. Countersink all bolt and rivet heads on the facing sides. Design clamps, pins, or other connecting devices to hold the forms rigidly together and to allow removal without damage to the concrete. Use metal forms that present a smooth surface and line up properly. Keep metal free of rust, grease, and other foreign materials.

4.5. **Drains.** Install and construct weep holes and roadway drains as shown on the plans.

4.6. **Placing Reinforcement and Post-Tensioning.** Place reinforcement in accordance with Item 440. Do not weld reinforcing steel supports to other reinforcing steel except where shown on the plans. Place post-tensioning ducts, anchorages, and other hardware in conformance with the approved prestressing details and in accordance with TxDOT Item 426, "Post-Tensioning." Keep ducts free of obstructions until all post-tensioning operations are complete.

4.7. **Placing Concrete.** Give the Engineer sufficient advance notice before placing concrete in any unit of the structure to permit the inspection of forms, reinforcing steel placement, and other preparations.

Do not place concrete when impending weather conditions would impair the quality of the finished work. Place concrete in early morning or at night or adjust the placement schedule for more favorable weather when conditions of wind, humidity, and temperature are such that concrete cannot be placed without the potential for weather-related distress.

Adequately illuminate the entire placement site as approved when mixing, placing, and finishing concrete in non-daylight hours.

Furnish adequate shelter to protect the concrete against damage from rainfall or freezing temperatures in accordance with this Item if changes in weather conditions require protective measures after work starts. Continue operations during rainfall only if approved. Use protective coverings for the material stockpiles. Cover aggregate stockpiles only to the extent necessary to control the moisture conditions in the aggregates.

Allow at least 1 curing day after the concrete has achieved initial set before placing strain on projecting reinforcement to prevent damage to the concrete.

4.7.1. **Placing Temperature.** Place concrete in accordance with the following temperature limits for the classes of concrete defined in Section 421.4.1., "Classification of Concrete Mix Designs."

- Place Class C, F, H, K, or SS concrete only when its temperature at time of placement is between 50 °F and 95 °F. Increase the minimum placement temperature to 60 °F if slag cement is used in the concrete.
- Place Class S concrete, used in this Item only as indicated for culvert top slabs, only when its temperature is between 50 °F and 85 °F. Increase the minimum placement temperature to 60 °F if slag cement is used in the concrete.
- Place Class A, B, and D concrete only when its temperature at the time of placement is greater than 50 °F.
- Place mass concrete in accordance with Section 420.4.7.14, "Mass Placements," only when its temperature at the time of placement is between 50 °F and 75 °F.

4.7.2. **Transporting Time.** Begin the discharge of concrete delivered in truck mixers within the times shown in Table 14 of Item 421.

4.7.3. **Workability of Concrete.** Place concrete with a slump as specified in Section 421.4.2.5., "Slump." Water may be added to the concrete before discharging any concrete from the truck to adjust for low slump, provided that the maximum mix design water-cement ratio is not exceeded. Mix concrete in accordance with Section 421.4.6., "Mixing and Delivering Concrete," after introduction of any additional water or chemical admixtures. Do not add water or chemical admixtures after any concrete has been discharged.

4.7.4. **Transporting Concrete.** Transport concrete by buckets, chutes, buggies, pumps, belt conveyors, or other methods.

Protect concrete transported by conveyors from sun and wind to prevent loss of slump and workability. Shade or wrap with wet burlap pipes through which concrete is pumped as necessary to prevent loss of slump and workability.

Arrange and use chutes, troughs, conveyors, or pipes so the concrete ingredients will not be separated. Terminate such equipment in vertical downspouts when necessary to prevent segregation. Extend open troughs and chutes, if necessary, down inside the forms or through holes left in the forms.

Keep all transporting equipment clean and free of hardened concrete coatings. Discharge water used for cleaning clear of the concrete.

4.7.5. **Preparation of Surfaces.** Thoroughly wet all forms and hardened concrete on which concrete is to be placed before placing concrete on them. Remove any remaining puddles of excess water before placing concrete. Provide surfaces that are in a moist, saturated surface-dry (SSD) condition when concrete is placed on them.

Ensure the subgrade or foundation is moist before placing concrete on grade. Lightly sprinkle the subgrade if dry.

4.7.6. **Expansion Joints.** Construct joints and devices to provide for expansion and contraction as shown on the plans.

Use light wire or nails to anchor any preformed fiber joint material to the concrete on one side of the joint.

Ensure finished joints conform to the plans with the concrete sections completely separated by the specified opening or joint material.

Remove all concrete within the joint opening soon after form removal and again where necessary after surface finishing to ensure full effectiveness of the joint.

4.7.7. **Construction Joints.** A construction joint is the joint formed by placing plastic concrete in direct contact with concrete that has attained its initial set. Monolithic placement means the manner and sequence of concrete placing do not create a construction joint.

Make construction joints of the type and at the locations shown on the plans. Additional joints in other members are not permitted without approval. Place authorized additional joints using details equivalent to those shown on the plans for joints in similar locations.

Make construction joints square and normal to the forms unless otherwise required. Use bulkheads in the forms for all vertical joints. Thoroughly roughen the top surface of a concrete placement terminating at a horizontal construction joint as soon as practical after initial set is attained.

Thoroughly clean the hardened concrete surface of all loose material, laitance, dirt, and foreign matter, and saturate it with water. Remove all free water and moisten the surface before concrete or bonding grout is placed against it. Ensure the surface of the existing concrete is in an SSD condition just before placing subsequent concrete. Wet the existing concrete by ponding water on the surface for 24 hr. before placing subsequent concrete. Use high-pressure water blasting if ponding is not possible to achieve SSD conditions 15–30 min. before placing the concrete. An SSD condition is achieved when the surface remains damp when exposed to sunlight for 15 min.

Draw forms tight against the existing concrete to avoid mortar loss and offsets at joints.

Bonding agents are not required unless indicated otherwise. Coat the joint surface with bonding mortar, grout, epoxy, or other material if a bonding agent is required as shown on the plans. Provide Type V epoxy in accordance with DMS-6100 for bonding fresh concrete to hardened concrete. Place the bonding epoxy on a clean, dry surface, and place the fresh concrete while the epoxy is still tacky. Place bonding mortar or grout on a surface that is SSD and place the concrete before the bonding mortar or grout dries. Place other bonding agents in conformance with the manufacturer's recommendations.

4.7.8. **Handling and Placing.** Minimize segregation of the concrete and displacement of the reinforcement when handling and placing concrete. Produce a uniform, dense compact mass.

Ensure concrete free falls no more than 5 ft. except in the case of drilled shafts, thin walls such as in culverts, or as allowed in conformance with other Items. Remove any hardened concrete splatter ahead of the plastic concrete.

Fill each part of the forms by depositing concrete as near to its final position as possible. Do not deposit large quantities of concrete at one point and run or move the concrete along to fill the forms.

Deposit concrete in the forms in layers of suitable depth but no more than 36 in. deep unless otherwise permitted.

Avoid cold joints in a monolithic placement. Sequence successive layers or adjacent portions of concrete so they can be vibrated into a homogeneous mass with the previously placed concrete before it sets. Allow no more than 1 hr. to elapse between adjacent or successive placements of concrete when re-vibration of the concrete is shown on the plans, except as otherwise allowed by an approved placing procedure. This time limit may be extended by 1/2 hr. if the concrete contains at least the minimum recommended dosage of a Type B or Type D admixture.

4.7.9. **Consolidation.** Carefully consolidate concrete and flush mortar to the form surfaces using immersion-type vibrators. Do not use vibrators that operate by attachment to forms or reinforcement except where approved on steel forms.

Vibrate the concrete immediately after deposit. Systematically space points of vibration to ensure complete consolidation and thorough working of the concrete around the reinforcement and embedded fixtures, and into the corners and angles of the forms. Insert the vibrators vertically where possible. Vibrate the entire depth of each lift, allowing the vibrator to penetrate several inches into the preceding lift. Do not use the vibrator to move the concrete to other locations in the forms. Do not drag the vibrator through the concrete. Thoroughly consolidate concrete along construction joints by operating the vibrator along and close to but not against the joint surface. Continue the vibration until the concrete surrounding reinforcements and fixtures is completely consolidated. Hand-spade or rod the concrete if necessary to ensure flushing of mortar to the surface of all forms.

4.7.10. **Installation of Dowels and Anchor Bolts.** When shown on the plans, provide an Adhesive Anchor Installer certified by ACI. Install dowels and anchor bolts by casting them in place or

by grouting with grout, epoxy, or epoxy mortar unless specified otherwise. Form or drill holes for grouting. Follow the manufacturer's recommended installation procedures for pre-packaged grout or epoxy anchor systems. Test anchors if required on the plans or in conformance with other Items.

Drill holes for anchor bolts to accommodate the bolt embedment required by the plans. Make holes for dowels at least 12 in. deep unless otherwise shown on the plans. Make the hole diameter at least twice the dowel or bolt diameter, but not exceeding the dowel or bolt diameter plus 1-1/2 in. when using cementitious grout or epoxy mortar. Make the hole diameter 1/16–1/4 in. greater than the dowel or bolt diameter when using neat epoxy unless specified otherwise by the epoxy manufacturer.

Thoroughly clean holes of all loose material, oil, grease, or other bond-breaking substance, and blow them clean with filtered compressed air. Use a wire brush followed by oil-free compressed air to remove all loose material from the holes, repeating as necessary until no more material is removed. Ensure holes are in a surface-dry condition when epoxy-type materials are used and in a surface-moist condition when cementitious grout is used. Develop and demonstrate for approval a procedure for cleaning and preparing the holes for installation of the dowels and anchor bolts. Completely fill the void between the hole and dowel or bolt with grouting material. Follow exactly the requirements for cleaning in conformance with the product specifications for pre-packaged systems.

Provide hydraulic cement grout for cast-in-place or grouted systems in accordance with DMS-4675. Provide a Type III epoxy in accordance with DMS-6100 when neat epoxy is used for anchor bolts or dowels. Provide Type VIII epoxy in accordance with DMS-6100 when an epoxy grout is used. Provide grout, epoxy, or epoxy mortar as the binding agent unless otherwise shown on the plans.

Provide other anchor systems as required on the plans.

4.7.11. **Placing Concrete in Cold Weather.** Protect concrete placed under weather conditions where weather may adversely affect results. Permission given by the Engineer for placing during cold weather does not relieve the Contractor of responsibility for producing concrete equal in quality to that placed under normal conditions. Remove and replace concrete as directed at the Contractor's expense if it is determined unsatisfactory due to poor conditions.

Do not place concrete in contact with any material coated with frost or with a temperature of 32 °F or lower. Do not place concrete when the ambient temperature in the shade is below 40 °F and falling unless approved. Place concrete when the ambient temperature in the shade is at least 35 °F and rising or above 40 °F.

Provide and install recording thermometers, maturity meters, or other suitable temperature-measuring devices to verify all concrete is effectively protected as follows.

- Maintain the temperature at all surfaces of concrete in bents, piers, culvert walls, retaining walls, parapets, wingwalls, top slabs of non-direct traffic culverts, and other similar formed concrete at or above 40 °F for 72 hr. from the time of placement.

- Maintain the temperature of all other concrete, including the bottom slabs (footings) of culverts, placed on or in the ground above 32°F for 72 hr. from the time of placement.

Use additional covering, insulated forms, or other means and, if necessary, supplement the covering with artificial heating. Avoid applying heat directly to concrete surfaces. Cure in accordance with Section 420.4.10., "Curing Concrete," during this period until all requirements for curing have been satisfied. Have all necessary heating and covering material ready for use before permission is granted to begin placement when impending weather conditions indicate the possible need for temperature protection.

4.7.12. **Placing Concrete in Hot Weather.** Keep the concrete at or below the maximum temperature at time of placement in accordance with Section 420.4.7.1, "Placing Temperature." Sprinkle and shade aggregate stockpiles or use ice, liquid nitrogen systems, or other approved methods as necessary to control the concrete temperature.

4.7.13. **Placing Concrete in Water.** Deposit concrete in water only when shown on the plans or with approval. Make forms or cofferdams tight enough to prevent any water current passing through the space in which the concrete is being deposited. Do not pump water during the concrete placing or until the concrete has set for at least 36 hr.

Place the concrete using a tremie or pump, or use another approved method, and do not allow it to fall freely through the water or disturb it after it is placed. Keep the concrete surface level during placement.

Support the tremie or operate the pump so it can be easily moved horizontally to cover all the work area and vertically to control the concrete flow. Keep the lower end of the tremie or pump hose submerged in the concrete. Use continuous placing operations until the work is complete.

Design the concrete mix in accordance with Item 421 with a minimum cement content of 650 lb. per cubic yard for concrete to be placed under water. Include an anti-washout admixture in the mix design as necessary to produce a satisfactory finished product.

4.7.14. **Mass Placements.** Develop and obtain approval for a heat control plan for monolithic placements designated on the plans as mass concrete to ensure the following during the heat dissipation period:

- the temperature differential between the central core of the placement and the exposed concrete surface does not exceed 35°F and
- the temperature at the central core of the placement does not exceed 160°F.

Use an approved method in accordance with ACI[3] 207, "Mass Concrete," to develop the heat control plan. Develop the heat control plan using historical temperature ranges for the anticipated time of the mass placement. Re-create the plan if the work schedule shifts by more than one month.

The heat control plan may include a combination of the following elements:

- selection of concrete ingredients including aggregates, gradation, and cement types, to min-

[3]For referenced ACI standards, visit www.concrete.org

imize heat of hydration;

- use of ice or other concrete cooling ingredients;
- use of liquid nitrogen dosing systems;
- controlling rate or time of concrete placement;
- use of insulation or supplemental external heat to control heat loss;
- use of supplementary cementing materials;
- use of a cooling system to control the core temperature; or
- vary the duration for which formwork remains in place.

Furnish and install two pairs of temperature-recording devices, maturity meters, or other approved equivalent devices. Install devices to measure the surface temperature no more than 3 in. from the surface. Install devices to measure the core temperature half the least dimension from the nearest surface near the point of maximum predicted heat. Use these devices to simultaneously measure the temperature of the concrete at the core and the surface. Maintain temperature control methods for 4 days unless otherwise approved in conformance with the submitted heat control plan. Do not use maturity meters to predict strength of mass concrete. Revise the heat control plan as necessary to maintain the temperature limitations shown above. If the core temperature exceeds 160°F, the mass concrete element will be subject to review and acceptance by the Engineer using forensic analyses to determine its potential reduction in service life or performance. Proceed with subsequent construction on the affected element only when notified regarding acceptance. Repair any resulting cracking if the temperature differential between the central core of the placement and the nearest concrete surface exceeds 35°F at no expense to the Owner and revise the heat control plan as necessary to prevent further occurrences.

4.7.15. **Placing Concrete in Foundation and Substructure.** Do not place concrete in footings until the depth and character of the foundation have been inspected and permission has been given to proceed.

Place concrete footings upon seal concrete after the cofferdams are free of water and the seal concrete is cleaned. Perform any necessary pumping or bailing during the concreting from a suitable sump located outside the forms.

Construct or adjust all temporary wales or braces inside cofferdams as the work proceeds to prevent unauthorized construction joints.

Omit forms when footings can be placed in a dry excavation without the use of cofferdams, if approved, and fill the entire excavation with concrete to the elevation of the top of footing.

Place concrete in columns monolithically between construction joints unless otherwise directed. Columns and caps or tie beams supported on them may be placed in the same operation or separately. Allow for settlement and shrinkage of the column concrete, if placed in the same operation, by placing it to the lower level of the cap or tie beam, and delay placement between 1 hr. and 2 hr. before proceeding with the cap or tie beam placement.

4.7.16. **Placing Concrete in Box Culverts.** Allow between 1 hr. and 2 hr. to elapse where the top slab and walls are placed monolithically in culverts more than 4 ft. in clear height before placing the top slab to allow for settlement and shrinkage in the wall concrete.

Accurately finish the footing slab at the proper time to provide a smooth, uniform surface. Finish top slabs that carry direct traffic in accordance with TxDOT Item 422, "Concrete Superstructures." Give top slabs of fill-type culverts a float finish.

4.8. **Extending Existing Substructures.** Verify pertinent dimensions and elevations of the existing structure before ordering any required materials.

4.8.1. **Removal.** Remove portions of the existing structure to the lines and dimensions shown on the plans or as directed. Dispose of these materials as shown on the plans or as directed. Repair any portion of the remaining structure damaged by the construction.

Do not use explosives to remove portions of the existing structure unless approved in writing. Do not use a demolition ball, other swinging weight, or impact equipment unless shown on the plans. Use pneumatic or hydraulic tools for final removal of concrete at the "break" line. Use removal equipment, as approved, that will not damage the remaining concrete.

4.8.2. **Reuse of Removed Portions of Structure.** Detach and remove all portions of the old structure that are to be incorporated into the extended structure to the lines and details as shown on the plans or as directed. Move the unit to be reused to the new location specified using approved methods. Place the reinforcement and extension concrete as shown on the plans.

4.8.3. **Splicing Reinforcing Steel.** Splice new reinforcing bars to exposed bars in the existing structure using lap splices in accordance with Item 440, unless otherwise shown on the plans. The new reinforcing steel does not need to be tied to the existing steel where spacing or elevation does not match that of the existing steel, provided the lap length is attained. Weld in accordance with Item 448 when welded splices are permitted. Install any required dowels in accordance with Section 420.4.7.10, "Installation of Dowels and Anchor Bolts."

4.8.4. **Concrete Preparation.** Roughen and clean concrete surfaces that are in contact with new construction before placing forms. Prepare these construction joint surfaces in accordance with Section 420.4.7.7, "Construction Joints."

4.9. **Treatment and Finishing of Horizontal Surfaces.** Strike off to grade and finish all unformed upper surfaces. Do not use mortar topping for surfaces constructed under this Section.

Float the surface with a suitable float after the concrete has been struck off.

Slope the tops of caps and piers between bearing areas from the center slightly toward the edge, and slope the tops of abutment and transition bent caps from the backwall to the edge, as directed, so water drains from the surface. Give the concrete a smooth trowel finish. Construct bearing areas for steel units in accordance with TxDOT Item 441.3.11.6., "Bearing and Anchorage Devices." Give the bearing area under the expansion ends of concrete slabs and slab and girder spans a steel-trowel finish to the exact grades required. Give bearing areas under elastomeric bearing pads or nonreinforced bearing seat buildups a textured, wood float finish. Do not allow the bearing area to vary from a level plane more than 1/16 in. in all directions.

Cast bearing seat buildups or pedestals for concrete units integrally with the cap or a construction joint. Provide a latex-based mortar, an epoxy mortar, or an approved proprietary bearing mortar for bearing seat buildups cast with a construction joint. Mix mortars in conformance with the manufacturer's recommendations. Construct pedestals of Class C concrete, reinforced as shown on the plans or as indicated in Figure 1 and Figure 2. The Engineer of Record will design pedestals higher than 12 in.

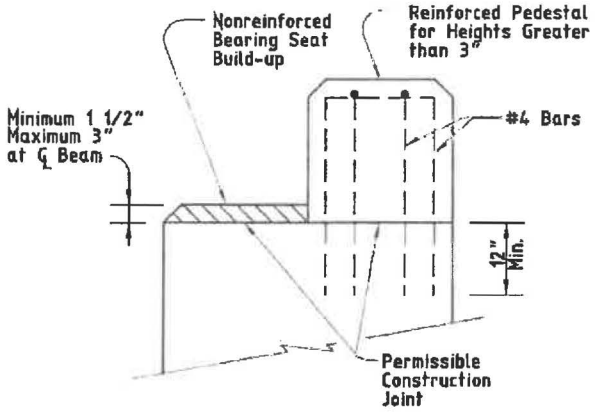

Figure 1: Section through bearing seat buildups

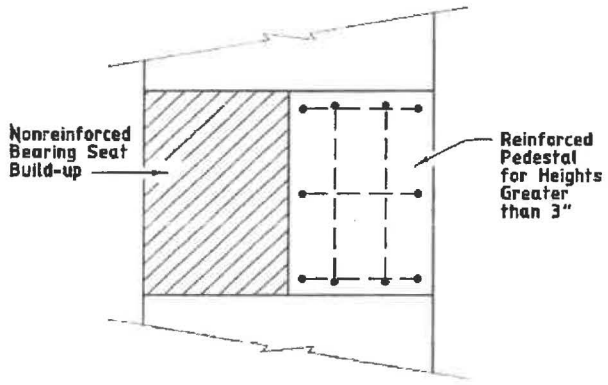

Figure 2: Plan view of bearing seat buildups

4.10. **Curing Concrete.** Obtain approval of the proposed curing methods, equipment, and materials before placing concrete. The Engineer may require the same curing methods for like portions of a single structure. Inadequate curing or facilities may delay all concrete placements on the project until remedial action is taken.

A curing day is a calendar day when the temperature, taken in the shade away from artificial heat,

is above 50°F for at least 19 hr. or, on colder days if the temperature of all surfaces of the concrete is maintained above 40°F, for the entire 24 hr. The required curing period begins when all concrete has attained its initial set unless specified otherwise. Tex-440-A may be used to determine when the concrete has attained its initial set.

Cure all concrete for 4 consecutive days except as allowed for the curing options listed below. Use form or membrane curing for vertical surfaces unless otherwise approved. Use only water curing for horizontal surfaces of high-performance concrete (HPC) or mass concrete. Use water or membrane curing for horizontal or unformed surfaces for all other concrete.

Use one of the following curing options for vertical surfaces, unless specified otherwise.

- Form cure for 48 hr. after placement.
- Form cure for 12 hr. after placement followed by membrane curing.
- For HPC, form cure for 48 hr. after placement followed by membrane curing.
- For mass concrete, form cure in conformance with the heat control plan followed by membrane curing if forms are removed before 4 days.

Apply membrane curing, if used, within 2 hr. of form removal.

Use only water curing in accordance with this Section for the top surface of any concrete unit upon which concrete is to be placed and bonded at a later interval (e.g., stub walls, caps with backwalls, and risers).

Cure all other concrete in conformance with the pertinent Items. Use the following methods for curing concrete in accordance with this Item.

4.10.1. **Form Curing.** When forms are left in intimate contact with the concrete, other curing methods are not required except for exposed surfaces and for cold weather protection. Use another approved curing method if forms are removed before the 4-day required curing period.

4.10.2. **Water Curing.** Keep all exposed surfaces of the concrete wet continuously for the required curing time. Use water curing in accordance with concrete mixing water in Section 421.2.5., "Water." Do not use seawater or water that stains or leaves an unsightly residue.

A. Blankets. Keep the concrete continuously wet by maintaining wet cotton or burlap mats in direct contact with the concrete for the required curing time. Weight the mats adequately to provide continuous contact with all concrete. Cover surfaces that cannot be cured by direct contact with mats, forming an enclosure well anchored to the forms or ground so outside air cannot enter the enclosure. Provide sufficient moisture inside the enclosure to keep all surfaces of the concrete wet.

B. Water Spray. Overlap sprays or sprinklers to keep all unformed surfaces continuously wet.

C. Ponding. Cover the surfaces with at least 2 in. of clean granular material, always kept wet, or at least 1 in. of deep water. Use a dam to retain the water or saturated granular material.

4.10.3. **Membrane Curing.** Choose either Type 1-D or Type 2 membrane-curing compound unless otherwise shown on the plans. Use the same type of curing compound on an individual member.

Apply membrane curing just after free moisture has disappeared at a rate of approximately 180 sq. ft. per gallon. Do not spray curing compound on projecting reinforcing steel or concrete that will later form a construction joint. Do not apply membrane curing to dry surfaces. Dampen formed surfaces and surfaces that have been given a first rub, so they are moist at the time of application of the membrane.

Leave the film unbroken for the minimum curing period specified when membrane is used for complete curing. Correct damaged membrane immediately by reapplication of membrane. Polyethylene sheeting, burlap-polyethylene mats, or laminated mats in close contact with the concrete surfaces are equivalent to membrane curing.

4 11 **Removal of Forms and Falsework.** Remove forms for vertical surfaces after the concrete has aged at least 12 hr. after initial set, provided the removal can be done without damage to the concrete, unless otherwise directed. Keep forms for mass placements in place for 4 days following concrete placement unless otherwise approved based on the outcome of the heat control plan in accordance with Section 420.4.7.14, "Mass Placements."

Leave in place weight-supporting forms and falsework spanning more than 1 ft. for all bridge components and culvert slabs except as directed otherwise until the concrete has attained a compressive strength of 2,500 psi. Remove forms for other structural components as necessary.

Remove inside forms (walls and top slabs) for box culverts and sewers after concrete has attained a compressive strength of 1,800 psi if an approved overhead support system is used to transfer the weight of the top slab to the walls of the box culvert or sewer before removal of the support provided by the forms.

Forms or parts of forms may be removed only if constructed to permit removal without disturbing forms or falsework required to be left in place for a longer period on other portions of the structure.

Remove all metal appliances used inside forms for alignment to a depth of at least 1/2 in. from the concrete surface. Make the appliances so metal may be removed without undue chipping or spalling of the concrete, and so it leaves a smooth opening in the concrete surface when removed. Do not burn off rods, bolts, or ties.

Remove all forms and falsework unless otherwise directed.

4.12. **Defective Work.** Repair defective work as soon as possible. Remove and replace at the expense of the Contractor any defect that cannot be repaired to the satisfaction of the Engineer.

4.13. **Ordinary Surface Finish.** Apply an ordinary surface finish to all concrete surfaces. Provide surfaces with uniform appearance. Address defects and surface irregularities not consistent with the intent of the expected finish by the following:

- Chip away all loose or broken material to sound concrete where porous, spalled, or honeycombed areas are visible after form removal.
- Repair spalls in accordance with the Concrete Repair Manual available on TxDOT's website.
- Clean and fill holes or spalls caused by the removal of metal appliances used inside forms, with latex grout, cement grout, or epoxy grout as approved. Do not blend the patch with the

surrounding concrete.

- Remove all fins, rust staining, runs, drips, or mortar from surfaces that will be exposed. Smooth all form marks and chamfer edges by grinding or dry-rubbing.
- Ensure all repairs are dense, well-bonded, and properly cured. Finish exposed large repairs to blend with the surrounding concrete where a higher class of finish is not specified.

Apply an ordinary surface finish as the final finish to the following exposed surfaces unless specified otherwise:

- inside and top of inlets,
- inside and top of manholes,
- inside of sewer appurtenances, and
- inside of culvert barrels.

Form marks and chamfer edges do not need to be smoothed for the inside of culvert barrels.

5. MEASUREMENT AND PAYMENT

5.1. Measurement

This Item will be measured by the cubic yard, square yard, foot, square foot, or each structure.

5.1.1. **General.** Concrete quantities will be based on the dimensions shown on the plans or those established in writing by the Engineer.

In determining quantities, no deductions will be made for chamfers less than 2 in. or for embedded portions of steel or prestressed concrete beams, piling, anchor bolts, reinforcing steel, drains, weep holes, junction boxes, electrical or telephone conduit, ducts and voids for prestressed tendons, or embedded portions of light fixtures.

Variation in concrete headwall quantity incurred when an alternate bid for pipe is permitted will not be cause for payment adjustment.

Quantities revised by a change in design, measured as specified, will be increased or decreased and included for payment.

5.1.2. **Plans Quantity.** Structure elements shown in Table 1and measured by the cubic yard are plans quantity measurement items. The quantity to be paid for plans quantity items is the quantity shown in the proposal, unless modified by TxDOT Item 9.2., "Plans Quantity Measurement." Additional measurements or calculations will be made if adjustments of quantities are required.

Table 1: Plans Quantity payment
(Cubic Yard Measurement Only)

Culverts and culvert wing walls	Abutments
Headwalls for pipe	Footings
Retaining walls	Pile bent caps
Inlets and manholes	Post-tensioned elements

Note–Other elements, including pier and bent concrete, may be paid for as "plans quantity" when shown on the plans.

No adjustment will be made for footings or other in-ground elements where the Contractor has been allowed to place concrete in an excavation without forms.

5.1.3. **Measured in Place.** Items not paid for as "plans quantity" will be measured in place.

5.2. **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 the class of concrete and element identified and by the special designation when appropriate. This price is full compensation for furnishing, hauling, and mixing concrete materials; furnishing, bending, fabricating, splicing, welding, and placing the required reinforcement; clips, blocks, metal spacers, ties, wire, or other materials used for fastening reinforcement in place; placing, finishing, and curing concrete; mass placement controls; applying ordinary surface finish; installing bridge identification numbers; furnishing and placing drains, metal flashing strips, and expansion joint material; excavation; subgrade preparation; and forms and falsework, and for equipment, labor, tools, and incidentals.

Price will be adjusted in accordance with Section 421.6., "Measurement and Payment," when required to address non-compliance of project acceptance testing.

Design and installation of foundations for falsework are at the Contractor's expense.

In addition to the work described above, for extending structures the unit prices bid for the various classifications of concrete shown are full compensation for removing and disposing of, if necessary, the designated portion of the existing structure; removing, stockpiling if necessary, and replacing headwall units for reuse; cleaning, bending, and cutting of exposed reinforcing steel; splicing of new reinforcing steel to existing reinforcing steel; installation of dowels; and cleaning and preparing existing concrete surfaces.

END OF SECTION

SECTION 421
HYDRAULIC CEMENT CONCRETE

1. GENERAL

1.1. SCOPE

Furnish hydraulic cement concrete for concrete pavements, concrete structures, and other concrete construction.

1.2. REFERENCED DOCUMENTS

ACI Standards[1]:

ACI 211 Recommended Practice

ASTM Standards and Test Methods[2]:

C31– Standard Practice for Making and Curing Concrete Test Specimens in the Field

C33– Standard Specification for Concrete Aggregates

C39– Standard Test Method for Compressive Strength of Cylindrical Concrete Specimens

C94– Standard Specification for Ready-Mixed Concrete

C114– Standard Test Methods for Chemical Analysis of Hydraulic Cement

C232– Standard Test Method for Bleeding of Concrete

C403– Standard Test Method for Time of Setting of Concrete Mixtures by Penetration Resistance

C457– Standard Test Method for Microscopical Determination of Parameters of the Air-Void System in Hardened Concrete

C685– Standard Specification for Concrete Made by Volumetric Batching and Continuous Mixing

C1202– Standard Test Method for Electrical Indication of Concrete's Ability to Resist Chloride Ion Penetration

C1260– Standard Test Method for Potential Alkali Reactivity of Aggregates (Mortar-Bar Method)

C1293– Standard Test Method for Determination of Length Change of Concrete Due to Alkali-Silica Reaction

C1567– Standard Test Method for Determining the Potential Alkali-Silica Reactivity of Combinations of Cementitious Materials and Aggregate (Accelerated Mortar-Bar Method)

[1]For referenced ACI standards, www.concrete.org
[2]For referenced ASTM standards and test methods, visit www.astm.org

C1603– Standard Test Method for Measurement of Solids in Water

C1610– Standard Test Method for Static Segregation of Self-Consolidating Concrete Using Column Technique

C1611– Standard Test Method for Slump Flow of Self-Consolidating Concrete

C1621– Standard Test Method for Passing Ability of Self-Consolidating Concrete by J-Ring

TxDOT Standard Specifications[3]:

Item 360– Concrete Pavement

Item 361– Repair of Concrete Pavement

Item 416– Drilled Shaft Foundations

TxDOT Materials Specifications and Test Procedures:

DMS-4600– Hydraulic Cement

DMS-4610– Fly Ash

DMS-4620– Slag Cement

DMS-4630– Silica Fume

DMS-4635– Metakaolin

DMS-4640– Chemical Admixtures for Concrete

DMS-4675– Cementitious Grouts and Mortars for Miscellaneous Applications

Tex-203-F– Sand Equivalent Test

Tex-401-A– Sieve Analysis of Fine and Coarse Aggregate

Tex-402-A– Fineness Modulus of Fine Aggregate

Tex-406-A– Material Finer than 75 μM (No. 200) Sieve in Mineral Aggregates (Decantation Test for Concrete Aggregates)

Tex-408-A– Organic Impurities in Fine Aggregate for Concrete

Tex-409-A– Free Moisture and Water Absorption in Aggregate for Concrete

Tex-410-A– Abrasion of Coarse Aggregate Using the Los Angeles Machine

Tex-411-A– Soundness of Aggregate Using Sodium Sulfate or Magnesium Sulfate

Tex-413-A– Determining Deleterious Material in Mineral Aggregate

Tex-414-A– Air Content of Freshly Mixed Concrete by the Volumetric Method

Tex-415-A– Slump of Hydraulic Cement Concrete

Tex-416-A– Air Content of Freshly Mixed Concrete by the Pressure Method

Tex-422-A– Measuring Temperature of Freshly Mixed Hydraulic Cement Concrete

[3]For referenced TxDOT Standards, visit www.dot.state.tx.us/business/specifications.htm

Tex-424-A– Obtaining and Testing of Drilled Cores of Concrete

Tex-425-A– Determining Moisture Content in Fine Aggregate by the "Speedy" Moisture Method

Tex-470-A– Optimized Aggregate Gradation for Hydraulic Cement Concrete Mix Designs

Tex-471-A– Lithium Dosage Determination Using Accelerated Mortar Bar Testing

Tex-472-A– Uniformity of Concrete

2. MATERIALS

Use materials from prequalified sources listed on the TxDOT website. Provide coarse and fine aggregates from sources listed in the TxDOT Concrete Rated Source Quality Catalog (CRSQC). Use materials from non-listed sources only when tested and approved by the ENGINEER before use. Allow 30 calendar days for the ENGINEER to sample, test, and report results for non-listed sources. Do not combine approved material with unapproved material.

2.1. CEMENT

Furnish cement conforming to DMS-4600.

- **Fly Ash.** Furnish fly ash, ultra-fine fly ash (UFFA), and modified Class F fly ash (MFFA) conforming to DMS-4610.
- **Slag Cement.** Furnish slag cement conforming to DMS-4620.
- **Silica Fume.** Furnish silica fume conforming to DMS-4630.
- **Metakaolin.** Furnish metakaolin conforming to DMS-4635

2.2. CEMENTITIOUS MATERIAL

Cementitious materials are the cement and supplementary cementing materials used in concrete.

2.3. CHEMICAL ADMIXTURES

Furnish admixtures conforming to DMS-4640.

2.4. WATER

Furnish mixing and curing water that is free from oils, acids, organic matter, or other deleterious substances. Water from municipal supplies approved by the Texas Department of Health will not require testing. Provide test reports showing compliance with Table 1 before use when using water from other sources.

Water that is a blend of concrete wash water and other acceptable water sources, certified by the concrete producer as complying with the requirements of both Table 1 and Table 2, may be used as mix water. Test the blended water weekly for 4 weeks for compliance with Table 1 and Table 2 or provide previous test results. Then test every month for compliance. Provide water test results upon request.

Do not use mix water that has an adverse effect on the air-entraining agent, on any other chemical admixture, or on strength or time of set of the concrete. Use mixing and curing water free of iron and other impurities that may cause staining or discoloration when using white hydraulic cement.

2.5. AGGREGATE

2.5.1. **Coarse Aggregate.** Provide coarse aggregate consisting of durable particles of gravel, crushed

Table 1: Chemical Limits for Mix Water

Contaminant	Test Method	Maximum Concentration (ppm or mg/L)
Chloride (Cl)	ASTM C114	
Prestressed Concrete		500
Bridge decks & superstructure		500
All other concrete		1,000
Sulfate (SO_4)	ASTM C114	2,000
Alkalies ($Na_2O + 0.658K_2O$)	ASTM C114	600
Total solids	ASTM C1603	50,000

Table 2: Acceptance Criteria for Questionable Water Supplies

Property	Test Method	Limits
Compressive strength, min % control at 7 days	ASTM C31, ASTM C39[1,2]	90
Time of set, deviation from control, h:min.	ASTM C403	From 1:00 early to 1:30 later

[1] Base comparisons on fixed proportions and the same volume of test water compared to the control mix using 100% potable water or distilled water.
[2] Base comparisons on sets consisting of at least 2 standard specimens made from a composite sample.

blast furnace slag, recycled crushed hydraulic cement concrete, crushed stone, or combinations which are free from frozen material and from injurious amounts of salt, alkali, vegetable matter, or other objectionable material, either free or as an adherent coating. Provide coarse aggregate of uniform quality throughout.

Provide coarse aggregate with the requirements listed in Table 3 unless otherwise shown on the plans.

Table 3: Coarse Aggregate Requirements

Description	Test Method	Limit
Weight of Clay Lumps, % Max	Tex-413-A	0.25
Weight of Shale, % Max		1.0
Weight of Laminate and Friable Particle, % Max		5.0
L.A. Abrasion Wear, % Max	Tex-410-A	40
5-Cycle Magnesium Sulfate Soundness[1,2], non-air-entrained concrete, % Max	Tex-411-A	25
5-Cycle Magnesium Sulfate Soundness[1,3], air-entrained concrete, % Max		18
Loss by Decantation, % Max	Tex-406-A	1.5

[1] Recycled crushed hydraulic cement concrete is not subject to 5-cycle magnesium sulfate soundness requirements.
[2] Allowed when air-entrained concrete is used at the Contractor's option.
[3] Only when air-entrained concrete is required by the plans

Increase the loss by decantation limit to 3.0% for all classes of concrete and 5.0% for Class A, B, and P if the material finer than the No. 200 sieve is determined to be at least 85% calcium carbonate in accordance with Tex-406-A, Part III, in the case of coarse aggregates made primarily from crushing stone unless otherwise shown on the plans. Provide test results upon request.

Provide coarse aggregate or combination of aggregates conforming to the gradation requirements shown in Table 4 when tested in accordance with Tex-401-A unless otherwise specified.

2.5.2. **Fine Aggregate.** Provide fine aggregate consisting of clean, hard, durable particles of natural,

Table 4: Coarse Aggregate Gradation Chart

Aggregate Grade No.[1]	Maximum Nominal Size	Percent Passing on Each Sieve								
		2-1/2"	2"	1-1/2"	1"	3/4"	1/2"	3/8"	#4	#8
1	2"	100	80–100	50–85		20–40			0–10	
2	1-1/2"		100	95–100		35–70		10–30	0–10	
3	1-1/2"		100	95–100		60–90	25–60		0–10	
4(57)	1"			100	95–100		25–60		0–10	0–5
5(67)	3/4"				100	90–100		20–55	0–10	0–5
6(7)	1/2"					100	90–100	40–70	0–15	0–5
7	3/8"						100	70–95	0–25	
8	3/8"						100	95–100	20–65	0–10

[1] Corresponding ASTM C33 gradation shown in parentheses.

manufactured sand, recycled crushed hydraulic cement concrete, slag, lightweight aggregate, or a combination thereof. Provide fine aggregate free from frozen material and from injurious amounts of salt, alkali, vegetable matter, or other objectionable material.

Provide fine aggregates with the requirements in Table 5 unless otherwise shown on the plans.

Table 5: Fine Aggregate Requirements

Description	Test Method	Limit
Weight of Clay Lumps, % Max	Tex-413-A	0.50
Organic Impurities[1]	Tex-408-A	Color not darker than standard
Sand Equivalent	Tex-203-F	80
Fineness Modulus	Tex-402-A	2.3 to 3.1

[1] Only when air-entrained concrete is specified.

Provide fine aggregate or combinations of aggregates conforming to the gradation requirements shown in Table 6 when tested in accordance with Tex-401-A unless otherwise specified.

Table 6: Fine Aggregate Gradation (Grade 1)

Sieve Size	Percent Passing
3/8"	100
#4	95–100
#8	80–100
#16	50–85
#30	25–65
#50	10–35[1]
#100	0–10
#200	0-3[2]

[1] 6–35 when sand equivalent value is greater than 85.
[2] 0–6 for manufactured sand.

2.5.3. **Intermediate Aggregate.** Provide intermediate aggregate consisting of clean, hard, durable particles of natural, manufactured sand, slag, recycled crushed hydraulic cement concrete, lightweight aggregate, or a combination thereof when optimized aggregate gradation (OAG) concrete is specified or when used at the CONTRACTOR's option. Provide intermediate aggregate free from frozen material and injurious amounts of salt, alkali, vegetable matter, or other objectionable material.

Provide intermediate aggregate with the requirements in Table 7.

Table 7: Intermediate Aggregate Requirements

Description	Test Method	Limit
Weight of Clay Lumps, % Max	Tex-413-A	0.50
L.A. Abrasion Wear, % Max	Tex-410-A	40
5-Cycle Magnesium Sulfate Soundness,[1,2,3] non-air-entrained concrete, % Max	Tex-411-A	25
5-Cycle Magnesium Sulfate Soundness,[1,2,4] air-entrained concrete, % Max		18
Organic Impurities[5]	Tex-408-A	Color not darker than standard
Loss by Decantation, % Max	Tex-406-A	1.5

[1] Only applies to the portion retained on the No. 4 sieve, if more than 30% of the intermediate aggregate is retained on the No. 4 sieve.
[2] Recycled crushed hydraulic cement concrete is not subject to 5-cycle magnesium sulfate soundness requirements.
[3] Allowed when air-entrained concrete is used at the Contractor's option.
[4] Only when air-entrained concrete is required by the plans.
[5] Only applies to the portion passing the 3/8 in. sieve, if more than 30% of the intermediate aggregate is passing the 3/8 in. sieve.

For the portion retained on the No. 4 sieve, if more than 30% of the intermediate aggregate is retained on the No. 4 sieve, and in the case of aggregates made primarily from crushing stone, unless otherwise shown on the plans, the loss by decantation may be increased to 3.0% for all classes of concrete and 5.0% for Class A, B, and P if the material finer than the No. 200 sieve is determined to be at least 85% calcium carbonate in accordance with Tex-406-A, Part III. Provide test results upon request.

2.6. MORTAR AND GROUT

Furnish pre-packaged grouts conforming to DMS-4675 when specified for applications other than post-tension grouting. Section 421.4.2.6, "Mix Design Options," does not apply for mortar and grout.

2.7. STORAGE OF MATERIALS

2.7.1. **Cement and Supplementary Cementing Materials.** Store all cement and supplementary cementing materials in weatherproof enclosures that will protect them from dampness or absorption of moisture.

When permitted, small quantities of packaged cementitious material may be stored in the open, on a raised platform, and under waterproof covering for up to 48 hr.

2.7.2. **Aggregates.** Handle and store concrete aggregates in a manner that prevents contamination with foreign materials. Clear and level the sites for the stockpiles of all vegetation if the aggregates are stored on the ground and do not use the bottom 6-in. layer of aggregate without cleaning the aggregate before use.

Maintain separate stockpiles and prevent intermixing when conditions require the use of 2 or more grades of coarse aggregates. Separate the stockpiles using physical barriers where space is limited. Store aggregates from different sources in different stockpiles unless the ENGINEER authorizes pre-blending of the aggregates. Minimize segregation in stockpiles. Remix and test stockpiles when segregation is apparent.

Sprinkle stockpiles to control moisture and temperature as necessary. Maintain reasonably uniform moisture content in aggregate stockpiles.

2.7.3. **Chemical Admixtures.** Store admixtures in accordance with manufacturer's recommendations and prevent admixtures from freezing.

3. EQUIPMENT

3.1. CONCRETE PLANTS AND MIXING EQUIPMENT

Except for volumetric stationary plant or truck (auger) mixers, each plant and truck mixer must be currently certified by the National Ready Mixed Concrete Association (NRMCA) or have an inspection report signed and sealed by a licensed professional engineer showing concrete measuring, mixing, and delivery equipment meets all requirements of ASTM C94. A new certification or signed and sealed report is required every time a plant is moved. Plants with a licensed professional engineer's inspection require re-inspection every 2 yrs. Provide a copy of the certification or the signed and sealed inspection report to the ENGINEER. Remove equipment or facilities from service until corrected when they fail to meet specification requirements.

When allowed on the plans or by the ENGINEER, for concrete classes not identified as structural concrete in Table 8 or for Class C concrete not used for bridge-class structures, the ENGINEER may inspect and approve all plants and trucks instead of the NRMCA or non-Department engineer-sealed certifications. The criteria and frequency of ENGINEER approval of plants and trucks is the same used for NRMCA certification.

Inspect and furnish inspection reports on the condition of blades and fins and their percent wear from the original manufacturer's design for truck mixers and agitators annually. Repair mixing equipment exhibiting 10% or more wear before use. If an inspection within 12 mo. is not practical, a 2-mo. grace period (for a maximum of 14 mo. between inspections) is permitted.

3.1.1. **Scales.** Check all scales before beginning of operations, after each move, or whenever their accuracy or adequacy is questioned, and at least once every 6 mo. Immediately correct deficiencies, and recalibrate. Provide a record of calibration showing scales in compliance with ASTM C94 requirements. Check batching accuracy of volumetric water batching devices at least every 90 days. Check batching accuracy of chemical admixture dispensing devices at least every 6 mo. Perform daily checks as necessary to ensure measuring accuracy.

3.1.2. **Volumetric Mixers.** Provide volumetric mixers with rating plates defining the capacity and the performance of the mixer in accordance with the Volumetric Mixer Manufacturers Bureau or equivalent. Provide volumetric mixers that comply with ASTM C685. Provide test data showing mixers meet the uniformity test requirements of Tex-472-A.

Unless allowed on the plans or by the ENGINEER, volumetric truck (auger) mixers may not supply classes of concrete identified as structural concrete in Table 8.

3.1.3. **Agitators and Truck and Stationary Mixers.** Provide stationary and truck mixers capable of combining the ingredients of the concrete into a thoroughly mixed and uniform mass and capable of discharging the concrete so at least 5 of the 6 requirements of Tex-472-A are met.

Perform concrete uniformity tests on mixers or agitators in accordance with Tex-472-A as directed, to resolve issues of mix uniformity and mixer performance.

Perform the mixer or agitator uniformity test at the full rated capacity of the equipment. Remove all equipment that fails the uniformity test from service.

Inspect and maintain mixers and agitators. Keep them free of concrete buildup, and repair or replace worn or damaged blades or fins.

Ensure all mixers have a plate affixed showing manufacturer's recommended operating speed and rated capacity for mixing and agitating.

3.2. HAULING EQUIPMENT

Provide hauling equipment capable of maintaining the mixed concrete in a thoroughly mixed and uniform mass, and discharging the concrete with a satisfactory degree of uniformity.

Provide equipment with smooth, mortar-tight metal containers equipped with gates that prevent accidental discharge of the concrete when using non-agitating equipment for transporting concrete.

Maintain hauling equipment clean and free of built-up concrete.

3.3. TESTING EQUIPMENT

Furnish and maintain the following in accordance with the pertinent test procedure unless otherwise shown on the plans or specified:

- sieves necessary to perform aggregate gradation analysis when optimized aggregate gradation is specified,
- equipment necessary to perform Tex-415-A and Tex-422-A,
- equipment necessary to perform Tex-409-A or Tex-425-A,
- test molds,
- curing facilities,
- maturity meters if used, and
- wheelbarrow or other container acceptable for the sampling of the concrete.

Provide strength-testing equipment when required in accordance with the Contract-controlling test unless shown otherwise.

4. CONSTRUCTION

4.1. CLASSIFICATION OF CONCRETE MIX DESIGNS

Provide classes of concrete meeting the requirements shown in Table 8.

A higher-strength class of concrete with equal or lower water-to-cementitious material (w/cm) ratio may be substituted for the specified class of concrete when approved.

4.2. MIX DESIGN PROPORTIONING

Furnish mix designs using ACI 211, Tex-470-A, or other approved procedures for the classes of concrete listed in Table 8 unless a design method is indicated on the plans. Perform mix design proportioning by absolute volume method unless otherwise approved. Perform cement replacement using equivalent weight method unless otherwise approved.

Do not exceed the maximum w/cm ratio listed in Table 8 when designing the mixture.

Table 8: Concrete Classes

Class of Concrete	Design Strength,[1] Min f'_c (psi)	Max w/cm Ratio	Coarse Aggregate Grades [2,3,4]	Cement Types	Mix Design Options	Exceptions to Mix Design Options	General Usage[5]
A	3,000	0.60	1–4,8	I,II,I/II,IL, IP,IS, IT,V	1,2,4,& 7	When the cementitious material content does not exceed 520 lb./cu. yd., Class C fly ash may be used instead of Class F fly ash.	Curb, gutter, curb & gutter, conc. retards, sidewalks, driveways, back-up walls, anchors, non-reinforced drilled shafts
B	2,000	0.60	2–7				Riprap, traffic signal controller foundations, small roadside signs, and anchors
C[6]	3,600	0.45	1–6	I,II,I/II,IP, IS,IT[7],V	1–8		Drilled shafts, bridge substructure, bridge railing, culverts except top slab of direct traffic culverts, headwalls, wing walls, inlets, manholes, concrete traffic barrier (cast-in-place)
E	3,000	0.50	2–5	I,II.I/II,IL,IP, IS,IT[7],V	1–8	When the cementitious material content does not exceed 520 lb./cu. yd., Class C fly ash may be used instead of Class F fly ash.	Seal Concrete
F[6]	Note 8	0.45	2–5	I,II,I/II,IP, IS,IT[7],V			Railroad structures; occasionally for bridge piers, columns, or bents
H[6]	Note 8	0.45	3–6	I,II,I/II,III, IP,IS, IT[7],V	1–5	Do not use Type III cement in mass placement concrete. Up to 20% of blended cement may be replaced with listed SCMs when Option 4 is used for precast concrete.	Precast concrete, post-tension members
S[6]	4,000	0.45	2–5	I,II,I/II,IP, IS,IT[7],V	1–8		Bridge slabs, top slabs of direct traffic culverts, approach slabs
P	See Item 360 "Concrete Pavement"	0.50	2–3	I,II,I/II,IL, IP,IS, IT,V	1–8	When the cementitious material content does not exceed 520 lb./cu. yd., Class C fly ash may be used instead of Class F fly ash.	Concrete Pavement
CO[6]	4,600	0.40	6	I,II,I/II,IP, IS,IT[7],V	1–8		Bridge deck concrete overlay
LMC[6]	4,000	0.40	6–8				Latex-modified concrete overlay
SS[6]	3,600	0.45	4–6			Use a minimum cementitious material content of 658 lb./cu. yd. of concrete	Slurry displacement shafts, underwater drilled shafts
K[6]	Note 8	0.40	Note 8	I,II,I/II,III, IP,IS,IT[7],V			Note 8
HES	Note 8	0.45	Note 8	I,IL,II, I/II,III		Mix design options do not apply. 700 lb. of cementitious material per cubic yard limit does not apply.	Concrete pavement, concrete pavement repair

Continued on next page.

Table 8. *Continued from previous page.*

Class of Concrete	Design Strength,[1] Min f'_c (psi)	Max w/cm Ratio	Coarse Aggregate Grades [2,3,4]	Cement Types	Mix Design Options	Exceptions to Mix Design Options	General Usage[5]
"X" (HPC) [6,9,10]	Note 11	0.45	Note 11	I,II,I/II, III,IP,IS, IT[7],V	1–5 & 8	Maximum fly ash replacement for Options 1 and 3 may be increased to 45%. Up to 20% of a blended cement may be replaced with listed SCMs for Option 4. Do not use Option 8 for precast concrete.	
"X" (SRC) [6,9,10]	Note 11	0.45	Note 11	I/II,II,IP, IS,IT[7],V	1–4 & 7	Do not use Class C Fly Ash Type III-MS may be used where allowed. Type I and Type III cements may be used with Options 1–3, with a maximum w/cm of 0.40. Up to 20% of blended cement may be replaced with listed SCMs when Option 4 is used for precast concrete. Do not use Option 7 for precast concrete.	

[1] Only applies to the portion retained on the No. 4 sieve, if more than 30% of the intermediate aggregate is retained on the No. 4 sieve.
[2] Recycled crushed hydraulic cement concrete is not subject to 5-cycle magnesium sulfate soundness requirements.
[3] Allowed when air-entrained concrete is used at the Contractor's option.
[4] Only when air-entrained concrete is required by the plans.
[5] Only applies to the portion passing the 3/8 in. sieve, if more than 30% of the intermediate aggregate is passing the 3/8 in. sieve.
[6] Structural concrete classes.
[7] Do not use Type IT cements containing > 5% limestone.
[8] As shown on the plans or specified.
[9] "X" denotes class of concrete shown on the plans or specified.
[10] (HPC): High Performance Concrete, (SRC): Sulfate Resistant Concrete.
[11] Same as class of concrete shown on the plans.

4.2.1. **Cementitious Materials.** Do not exceed 700 lb. of cementitious material per cubic yard of concrete unless otherwise specified or approved.

- Use cement of the same type and from the same source for monolithic placements.
- Do not use supplementary cementing materials when white hydraulic cement is specified.

4.2.2. **Aggregates.** Recycled crushed hydraulic cement concrete may be used as a coarse or fine aggregate in Class A, B, E, and P concrete. Limit recycled crushed concrete fine aggregate to a maximum of 20% of the fine aggregate.

Use light-colored aggregates when white hydraulic cement is specified.

Use fine aggregate with an acid insoluble residue of at least 60% by weight when tested in accordance with Tex-612-J in all concrete subject to direct traffic.

Use the following equation to determine if the aggregate combination meets the acid insoluble residue requirement when blending fine aggregate or using an intermediate aggregate:

$$\frac{(A_1 \times P_1) + (A_2 \times P_2) + (A_{ia} \times P_{ia})}{100} \geq 60\%$$

where:
A_1 = acid insoluble (%) of fine aggregate 1
A_2 = acid insoluble (%) of fine aggregate 2
A_ia = acid insoluble (%) of intermediate aggregate passing the 3/8 in. sieve
P_1 = percent by weight of fine aggregate 1 of the fine aggregate blend
P_2 = percent by weight of fine aggregate 2 of the fine aggregate blend
P_ia = percent by weight of intermediate aggregate passing the 3/8 in. sieve

Alternatively to the above equation, blend fine aggregate with a micro-deval loss of less than 12%, when tested in accordance with Tex-461-A, with at least 40% of a fine aggregate with an acid insoluble residue of at least 60%.

4.2.3. **Chemical Admixtures.** Do not use Type C, Type E, Type F, or Type G admixtures in Class S bridge deck concrete. Do not use chemical admixtures containing calcium chloride in any concrete.

Use a 30% calcium nitrite solution when a corrosion-inhibiting admixture is required. The corrosion-inhibiting admixture must be set neutral unless otherwise approved. Dose the admixture at the rate of gallons of admixture per cubic yard of concrete shown on the plans.

4.2.4. **Air Entrainment.** Use an approved air-entraining admixture when air-entrained concrete is specified, or when an air-entraining admixture is used at the CONTRACTOR's option, and do not exceed the manufacturer's recommended dosage. Ensure the minimum entrained air content is at least 3.0% for all classes of concrete except Class P when air-entrained concrete is specified, during trial batch, or when providing previous field data.

4.2.5. **Slump.** Provide concrete with a slump in accordance with Table 9 unless otherwise specified. When approved, the slump of a given concrete mix may be increased above the values shown in Table 9 using chemical admixtures, provided the admixture-treated concrete has the same or

lower water-to-cementitious material ratio and does not exhibit segregation or excessive bleeding. Request approval to exceed the slump limits in Table 9 sufficiently in advance for proper evaluation by the ENGINEER.

Perform job-control testing of slump in accordance with Item A of Section 421.4.8.3, "Job-Control Testing."

Table 9: Placement Slump Requirements

General Usage[1]	Placement Slump Range,[2] in.
Walls (over 9 in. thick), caps, columns, piers, approach slabs, concrete overlays	3 to 5
Bridge slabs, top slabs of direct traffic culverts, latex-modified concrete for bridge deck overlays	3 to 5-1/2
Inlets, manholes, walls (less than 9 in. thick), bridge railing, culverts, concrete traffic barrier, concrete pavement (formed), seal concrete	4 to 5-1/2
Precast concrete	4 to 9
Underwater concrete placements	6 to 8-1/2
Drilled shafts, slurry displaced and underwater drilled shafts	See Item 416, "Drilled Shaft Foundations."
Curb, gutter, curb and gutter, concrete retards, sidewalk, driveways, anchors, riprap, small roadside sign foundations, concrete pavement repair, concrete repair	As approved

[1] For information only.
[2] For fiber reinforced concrete, perform slump before addition of fibers.

4.2.6. **Mix Design Options.**

A. **Option 1.** Replace 20% to 35% of the cement with Class F fly ash.

B. **Option 2.** Replace 35% to 50% of the cement with slag cement or MFFA.

C. **Option 3.** Replace 35% to 50% of the cement with a combination of Class F fly ash, slag cement, MFFA, UFFA, metakaolin, or silica fume; however, no more than 35% may be fly ash, and no more than 10% may be silica fume.

D. **Option 4.** Use Type IP, Type IS, or Type IT cement as allowed in Table 5 for each class of concrete. Up to 10% of a Type IP, Type IS, or Type IT cement may be replaced with Class F fly ash, slag cement, or silica fume. Use no more than 10% silica fume in the final cementitious material mixture if the Type IT cement contains silica fume, and silica fume is used to replace the cement.

E. **Option 5.** Replace 35% to 50% of the cement with a combination of Class C fly ash and at least 6% of silica fume, UFFA, or metakaolin. However, no more than 35% may be Class C fly ash, and no more than 10% may be silica fume.

F. **Option 6.** Use a lithium nitrate admixture at a minimum dosage determined by testing conducted in accordance with Tex-471-A. Before use of the mix, provide an annual certified test report signed and sealed by a licensed professional engineer, from a laboratory on the TxDOT MPL, certified by the Construction Division as being capable of testing according to Tex-471-A.

G. **Option 7.** Ensure the total alkali contribution from the cement in the concrete does not exceed 3.5 lb. per cubic yard of concrete when using hydraulic cement not containing SCMs calculated as follows:

$$\text{lb. alkali per cu. yd.} = \frac{(\text{lb. cement per cu. yd.}) \times (\%Na_2O \text{ equivalent in cement})}{100}$$

In the above calculation, use the maximum cement alkali content reported on the cement mill certificate.

H. **Option 8.** Perform annual testing as required for any deviations from Options 1–5 or use mix design options listed in Table 10. Laboratories performing ASTM C1260, ASTM C1567, and ASTM C1293 testing must be listed on the TxDOT MPL. Before use of the mix, provide a certified test report signed and sealed by a licensed professional engineer demonstrating the proposed mixture conforms to the requirements of Table 10.

- Moisture cure specimens 56 days at 73°F
- Moisture cure specimens 7 days at 73°F followed by 21 days at 100°F.

Table 10: Option 8 Testing and Mix Design Requirements

Scenario	ASTM C1260 Result		Testing Requirements for Mix Design Materials or Prescriptive Mix Design Options[1]
	Mix Design Fine Aggregate	Mix Design Coarse Aggregate	
A	>0.10%	>0.10%	Determine the dosage of SCMs needed to limit the 14-day expansion of each aggregate[2] to 0.08% when tested individually in accordance with ASTM C1567; or Use a minimum of 40% Class C fly ash with a maximum CaO[3] content of 25%.
B	≤ 0.10%	≤ 0.10%	Use a minimum of 40% Class C fly ash with a maximum CaO[3] content of 25%; or Use any ternary combination which replaces 35% to 50% of cement.
	≤ 0.10%	ASTM C1293 1yr. Expansion ≤ 0.04%	Use a minimum of 20% of any Class C fly ash; or Use any ternary combination which replaces 35% to 50% of cement.
C	≤ 0.10%	>0.10%	Determine the dosage of SCMs needed to limit the 14-day expansion of coarse and intermediate[2] aggregate to 0.08% when tested individually in accordance with ASTM C1567; or Use a minimum of 40% Class C fly ash with a maximum CaO[3] content of 25%.
D	>0.10%	≤ 0.10%	Use a minimum of 40% Class C fly ash with a maximum CaO[3] content of 25%; or Use any ternary combination which replaces 35% to 50% of cement.
	>0.10%	ASTM C1293 1yr. Expansion ≤ 0.04%	Determine the dosage of SCMs needed to limit the 14-day expansion of fine aggregate to 0.08% when tested in accordance with ASTM C1567.

[1] Do not use Class C fly ash if the ASTM C1260 value of the fine, intermediate, or coarse aggregate is 0.30% or greater, unless the fly ash is used as part of a ternary system.
[2] Intermediate size aggregates will fall under the requirements of mix design coarse aggregate.
[3] Average the CaO content from the previous ten values as listed on the mill certificate.

4.2.7. **Optimized Aggregate Gradation (OAG) Concrete.** The gradation requirements in Table 3 and Table 4 do not apply when OAG concrete is specified or used by the CONTRACTOR unless otherwise shown on the plans. Use Tex-470-A to establish the optimized aggregate gradation. Use at least 420 lb. per cubic yard of cementitious material when OAG concrete is used unless

otherwise approved. Use a coarse aggregate with a maximum nominal size of 1-1/2 in. for Class P concrete. Use a coarse aggregate for all other classes of concrete with a maximum nominal size not larger than:

- 1/5 the narrowest dimension between sides of forms, or
- 1/3 the depth of slabs, or
- 3/4 the minimum clear spacing between individual reinforcing bars or wires, bundles of bars, individual tendons, bundled tendons, or ducts.

Make necessary adjustments to individual aggregate stockpile proportions during OAG concrete production when the gradation deviates from the optimized gradation requirements.

4.2.8. **Self-Consolidating Concrete (SCC).** Provide SCC meeting the following requirements shown in Table 11 when approved for use in precast concrete. Use concrete with a slump flow that can be placed without vibration and will not segregate or excessively bleed.

Request approval to exceed the slump flow limits sufficiently in advance for proper evaluation by the ENGINEER.

Table 11: Mix Design Requirements for SCC

Tests	Test Method	Acceptable Limits
Slump Flow for Precast Concrete	ASTM C1611	22 to 27[1]
T_{50}, sec	ASTM C1611	2 to 7
VSI Rating	ASTM C1611	0 or 1
Passing Ability, in.	ASTM C1621	≤2
Segregation Column, %	ASTM C1610	≤10
Bleeding, %	ASTM C232	≤2.5

[1] These slump flow limits are generally acceptable for most applications. However, slump flow limits may be adjusted during mix design approval process and when approved by the Engineer.

4.3. CONCRETE TRIAL BATCHES

Perform preliminary and final trial batches when required by the plans, or when previous satisfactory field data is not available. Submit previous satisfactory field data to the ENGINEER showing the proposed mix design conforms to specification requirements when trial batches are not required and before concrete is placed.

Perform preliminary and final trial batches for all self-consolidating concrete mix designs.

4.3.1. **Preliminary Trial Batches.** Perform all necessary preliminary trial batch testing when required, and provide documentation including mix design, material proportions, and test results substantiating the mix design conforms to specification requirements.

4.3.2. **Final Trial batches.** Make all final trial batches using the proposed ingredients in a mixer that is representative of the mixers to be used on the job when required. Make the batch size at least 50% of the mixer's rated capacity. Perform fresh concrete tests for air content and slump, and make, cure, and test strength specimens for compliance with specification requirements. Test at least one set of design strength specimens, consisting of 2 specimens per set, at 7-day, 28-day, and at least one additional age unless otherwise directed. Before placing, provide the ENGINEER the option of witnessing final trial batches, including the testing of the concrete. If not provided this option, the ENGINEER may require additional trial batches, including testing,

before the concrete is placed.

Conduct all testing listed in Table 11 when performing trial batches for self-consolidating concrete. Make an additional mixture with 3% more water than the preliminary trial batch. Make necessary adjustments to the mix design if this additional mixture does not meet requirements of Table 11. Cast and evaluate mock-ups for precast concrete that are representative of the actual product as directed. Provide the ENGINEER the option of witnessing final trial batches, including the testing of the concrete and the casting of the mock-ups before placement. If not provided this option, the ENGINEER may require additional trial batches, including testing and mock-ups, before the concrete is placed.

Establish 7-day compressive strength target values using the following formula for each Class A, B, and E concrete mix designs to be used:

$$\text{Target value} = \text{Minimum design strength} \times \frac{\text{7-day avg. trial batch strength}}{\text{28-day avg. trial batch strength}}$$

Submit previous satisfactory field data, data from a new trial batch, or other evidence showing the change will not adversely affect the relevant properties of the concrete when changes are made to the type, brand, or source of aggregates, cement, SCM, water, or chemical admixtures. Submit the data for approval before making changes to the mix design. A change in vendor does not necessarily constitute a change in materials or source. The ENGINEER may waive new trial batches when there is a prior record of satisfactory performance with the ingredients. Dosage changes of chemical admixtures used in the trial batches will not require a re-evaluation of the mix design.

The CONTRACTOR has the option of performing trial batches in conjunction with concrete placements except for SCC mixtures, when new trial batches are required during the course of the project. If the concrete fails to meet any requirement, the ENGINEER will determine acceptability and payment adjustments.

Establish the strength– maturity relationship in accordance with Tex-426-A when the maturity method is specified or permitted. When using the maturity method, any changes in any of the ingredients, including changes in proportions, will require the development of a new strength–maturity relationship for the mix.

4.3.3. **Mix Design of Record.** Once a trial batch or previously satisfactory field data substantiates the mix design, the proportions and mixing methods used become the mix design of record. Do not exceed mix design water-to-cementitious material ratio.

4.4. PRODUCTION TESTING

4.4.1. **Aggregate Moisture Testing.** Determine moisture content per Tex-409-A or Tex-425-A for coarse, intermediate, and fine aggregates at least twice a week, when there is an apparent change, or for new shipments of aggregate. When aggregate hoppers or storage bins are equipped with properly maintained electronic moisture probes for continuous moisture determination, moisture tests per Tex-409-A or Tex-425-A are not required. Electronic moisture probes, however, must be verified at least every 90 days against Tex-409-A and be accurate to within 1.0% of the actual moisture content.

When producing SCC, and when aggregate hoppers or storage bins are not equipped with electric moisture probes, determine the moisture content of the aggregates before producing the first concrete batch each day. Thereafter, determine the moisture content every 4 hr. or when there is an apparent change while SCC is being produced.

4.4.2. **Aggregate Gradation Testing.** Perform a sieve analysis in accordance with Tex-401-A on each stockpile used in the blend at least one day before producing OAG concrete when producing optimized aggregate gradation concrete. Perform sieve analysis on each stockpile after every 10,000 cubic yards of OAG concrete produced. Provide sieve analysis data to the ENGINEER.

4.5. MEASUREMENT OF MATERIALS

4.5.1. **Non-Volumetric Mixers.** Measure aggregates by weight. Correct batch weight measurements for aggregate moisture content. Measure mixing water, consisting of water added to the batch, ice added to the batch, water occurring as surface moisture on the aggregates, and water introduced in the form of admixtures, by volume or weight. Measure ice by weight. Measure cement and supplementary cementing materials in a hopper and on a separate scale from those used for other materials. Measure the cement first when measuring the cumulative weight. Measure concrete chemical admixtures by weight or volume. Measure batch materials within the tolerances of Table 12.

Table 12: Mix Design Batching Tolerances–Non-Volumetric Mixers

Material	Tolerance (%)
Cement, wt.	-1 to +3
SCM, wt.	-1 to +3
Cement + SCM (cumulative weighing), wt.	-1 to +3
Water, wt. or volume	±3[1]
Fine aggregate, wt.	±2
Coarse aggregate, wt.	±2
Fine + coarse aggregate (cumulative weighing), wt.	±1
Chemical admixtures, wt. or volume	±3

[1] Allowable deviation from target weight not including water withheld or moisture in the aggregate. The Engineer will verify the water-to-cementitious material ratio is within specified limits.

Ensure the quantity measured, when measuring cementitious materials at less than 30% of scale capacity, is accurate to not less than the required amount and not more than 4% in excess. Ensure the cumulative quantity, when measuring aggregates in a cumulative weigh batcher at less than 30% of the scale capacity, is measured accurate to ±0.3% of scale capacity or ±3% of the required cumulative weight, whichever is less.

Measure cement in number of bags under special circumstances when approved. Use the weights listed on the packaging. Weighing bags of cement is not required. Ensure fractional bags are not used except for small hand-mixed batches of approximately 5 cu. ft. or less and when an approved method of volumetric or weight measurement is used.

4.5.2. **Volumetric Mixers.** Provide an accurate method of measuring all ingredients by volume, and calibrate equipment to assure correct measurement of materials within the specified tolerances. Base tolerances on volume–weight relationship established by calibration, and measure the

various ingredients within the tolerances of Table 13. Correct batch measurements for aggregate moisture content.

Table 13: Mix Design Batching Tolerances–Volumetric Mixers

Material	Tolerance (%)
Cement, wt.	0 to +4
SCM, wt.	0 to +4
Fine aggregate, wt.	±2
Coarse aggregate, wt.	±2
Admixtures, wt. or volume	±3
Water, wt. or volume	±1

4.6. MIXING AND DELIVERING CONCRETE

4.6.1. **Mixing Concrete.** Operate mixers and agitators within the limits of the rated capacity and speed of rotation for mixing and agitation as designated by the manufacturer of the equipment. Provide concrete in a thoroughly mixed and uniform mass with a satisfactory degree of uniformity when tested in accordance with Tex-472-A.

Do not top-load new concrete onto returned concrete.

Adjust mixing times and batching operations as necessary when the concrete contains silica fume to ensure the material is completely and uniformly dispersed in the mix. The dispersion of the silica fume within the mix will be verified by the Construction Division, Materials and Pavements Section, using cylinders made from trial batches. Make necessary changes to the batching operations, if uniform dispersion is not achieved, until uniform and complete dispersion of the silica fume is achieved.

Mix concrete by hand methods or in a small motor-driven mixer when permitted, for small placements of less than 2 cu. yd. For such placements, proportion the mix by volume or weight.

4.6.2. **Delivering Concrete.** Deliver concrete to the project in a thoroughly mixed and uniform mass, and discharge the concrete with a satisfactory degree of uniformity. Conduct testing in accordance with Tex-472-A when there is a reason to suspect the uniformity of concrete and as directed.

Maintain concrete delivery and placement rates sufficient to prevent cold joints.

Adding chemical admixtures or the portion of water withheld is only permitted at the jobsite, under the supervision of the ENGINEER, to adjust the slump or slump flow of the concrete. Do not add water or chemical admixtures to the batch after more than an amount needed to conduct slump testing has been discharged. Turn the drum or blades at least 30 additional revolutions at mixing speed to ensure thorough and uniform mixing of the concrete. When this water is added, do not exceed the approved mix design water-to-cementitious material ratio.

Before unloading, furnish the delivery ticket for the batch of concrete. The ENGINEER will verify all required information is provided on the delivery tickets. The ENGINEER may suspend concrete operations until the corrective actions are implemented if delivery tickets do not provide the required information. The ENGINEER will verify the design water-to-cementitious material ratio is not exceeded.

Begin the discharge of concrete delivered in truck mixers within the times listed in Table 14. Concrete may be discharged after these times provided the concrete temperature and slump meet the requirements listed in this Item and other pertinent Items. Perform these tests with certified testing personnel per Section 421.4.8.1, "Certification of Testing Personnel." Provide the ENGINEER the option of witnessing testing of the concrete. If not provided this option, the ENGINEER may require additional testing before the concrete is placed.

Table 14: Concrete Discharge Times

Fresh Concrete Temperature, °F	Max Time After Batching for Concrete Not Containing Type B or D Admixtures, min.	Max Time After Batching for Concrete Containing Type B or D Admixtures[1], min.
90 and above	45	75
75≤T<90	60	90
T<75	90	120

[1] Concrete must contain at least the minimum manufacturer's recommended dosage of Type B or D admixture.

4.7. PLACING, FINISHING, AND CURING CONCRETE

Place, finish, and cure concrete in accordance with the pertinent Items.

4.8. SAMPLING AND TESTING OF CONCRETE

Unless otherwise specified, all fresh and hardened concrete is subject to testing as follows:

4.8.1. **Certification of Testing Personnel.** CONTRACTOR personnel performing testing must be either ACI-certified or qualified by a TxDOT-recognized equivalent written and performance testing program for the tests being performed. Personnel performing these tests are subject to TxDOT approval. Use of a commercial laboratory is permitted at the CONTRACTOR's option. All personnel performing testing using the maturity method must be qualified by a training program recognized by TxDOT before using this method on the job.

4.8.2. **Fresh Concrete.** Provide safe access and assistance to the ENGINEER during sampling. Fresh concrete will be sampled for testing at the discharge end if using belt conveyors or pumps. When it is impractical to sample at the discharge end, a sample will be taken at the time of discharge from the delivery equipment and correlation testing will be performed and documented to ensure specification requirements are met at the discharge end.

4.8.3. **Testing of Fresh Concrete.** Test for the fresh properties listed in Table 15.

Table 15: Fresh Concrete Tests

Control Placements	Frequency
Slump[1]	Tex-415-A
Temperature[1]	Tex-422-A
Air Content[1,2]	Tex-414-A, Tex-416-A, or ASTM C457

[1] Job-control testing performed by the Contractor.
[2] Only required when air-entrained concrete is specified on the plans.

Concrete with a slump lower than the minimum placement slump in Table 9 after the addition of all water withheld, or concrete exhibiting segregation and excessive bleeding will be rejected.

A. **Job-Control Testing.** Perform job-control testing as specified in Table 16 unless otherwise specified. Provide the ENGINEER the opportunity to witness the testing. The ENGINEER may require a retest if not given the opportunity to witness. Immediately notify the ENGINEER of any nonconformity issues. Furnish a copy of all test results to the ENGINEER daily.

Table 16: Job-Control Testing Frequencies

Control Placements	Frequency
Bridge Deck Placements	Test the first few loads, then every 60 cu. yd. or fraction thereof.
All Other Structural Class Concrete Placements	One test every 60 cu. yd. or fraction thereof per class per day.
Non-Structural Class Concrete Placements	One test every 180 cu. yd. or fraction thereof.

Immediately resample and retest the concrete slump when the concrete exceeds the slump range at time of placement. If the concrete exceeds the slump range after the retest, and is used at the CONTRACTOR's option, the ENGINEER will make strength specimens as specified in Section 421.5., "Acceptance of Concrete."

B. **Strength Specimen Handling.** Remove specimens from their molds and deliver TxDOT test specimens to curing facilities within 24 to 48 hr. after molding, in accordance with pertinent test procedures unless otherwise shown on the plans or directed. Clean and prepare molds for reuse if necessary.

5. **ACCEPTANCE OF CONCRETE**

The ENGINEER will sample and test the fresh and hardened concrete for acceptance. The test results will be reported to the CONTRACTOR and the concrete supplier. Investigate the quality of the materials, the concrete production operations, and other possible problem areas to determine the cause for any concrete that fails to meet the required strengths as outlined below. Take necessary actions to correct the problem including redesign of the concrete mix. The ENGINEER may suspend all concrete operations under the pertinent Items if the CONTRACTOR is unable to identify, document, and correct the cause of the low strengths in a timely manner. Resume concrete operations only after obtaining approval for any proposed corrective actions. Concrete failing to meet the required strength as outlined below will be evaluated using the procedures listed in Section 421.6., "Measurement and Payment."

5.1. STRUCTURAL CLASS OF CONCRETE

For concrete classes identified as structural concrete in Table 8, the ENGINEER will make and test 7-day and 28-day specimens. Acceptance will be based on attaining the design strength given in Table 8.

5.2. CLASS P AND CLASS HES

The ENGINEER will base acceptance in accordance with Item 360, "Concrete Pavement," and Item 361, "Repair of Concrete Pavement."

5.3. ALL OTHER CLASSES OF CONCRETE

For concrete classes not identified as structural concrete in Table 8, the ENGINEER will make and

test 7-day specimens. The ENGINEER will base acceptance on the 7-day target value established in accordance with Section 421.4.3., "Concrete Trial Batches."

6. **MEASUREMENT AND PAYMENT**

The work performed, materials furnished, equipment, labor, tools, and incidentals will not be measured or paid for directly but will be subsidiary to pertinent Items.

The following procedure will be used to evaluate concrete where one or more project acceptance test specimens fail to meet the required design strength specified in this Item or on the plans:

- The concrete for a given placement will be considered structurally adequate and accepted at full price if the average of all test results for specimens made at the time of placement meets the required design strength provided no single test result is less than 85% of the required design strength.
- The ENGINEER will perform a structural review of the concrete to determine its adequacy to remain in service if the average of all test results for specimens made at the time of placement is less than the required design strength or if any test results are less than 85% of the required design strength. If the in-situ concrete strength is needed for the structural review, take cores at locations designated by the ENGINEER in accordance with Tex-424-A. The ENGINEER will test the cores. The coring and testing will be at the CONTRACTOR's expense.
- If all of the tested cores meet the required design strength, the concrete will be paid for at full price.
- If any of the tested cores do not meet the required design strength, but the average strength attained is determined to be structurally adequate, the ENGINEER will determine the limits of the payment adjustment using the following formula:

$$A = B_p\left[\quad 5.37\left(\frac{S_a}{S_s}\right)^2 + 11.69\left(\frac{S_a}{S_s}\right) - 5.32\right]$$

where:

A = Amount to be paid per unit of measure for the entire placement in question

S_a = Actual average strength from cylinders or cores. Use values from cores, if taken.

S_s = Minimum required strength (specified)

B_p = Unit Bid Price

- If the structural review determines the concrete is not adequate to remain in service, the ENGINEER will determine the limits of the concrete to be removed.
- The decision to reject structurally inadequate concrete or to apply the payment adjustment factor will be made no later than 56 days after placement.

END OF SECTION

SECTION 432
RIPRAP

1. GENERAL

1.1. SCOPE

Furnish and place concrete, stone, cement-stabilized, or special riprap.

1.2. REFERENCED DOCUMENTS

TxDOT Test Procedures[1]:

Tex-401-A– Sieve Analysis of Fine and Coarse Aggregate

Tex-403-A– Saturated Surface-Dry Specific Gravity and Absorption of Aggregates

Tex-411-A– Soundness of Aggregate Using Sodium Sulfate or Magnesium Sulfate

2. MATERIALS

Furnish materials in accordance with the following specifications:

Item 247, "Flexible Base"

Item 420, "Concrete Substructures"

Item 421, "Hydraulic Cement Concrete"

Item 431, "Pneumatically Placed Concrete"

Item 440, "Reinforcement for Concrete"

DMS-6200, "Filter Fabric"

2.1. CONCRETE RIPRAP

Use Class B Concrete unless otherwise shown on the plans.

2.2. PNEUMATICALLY PLACED CONCRETE RIPRAP

Use Class II concrete that meets Item 431, "Pneumatically Placed Concrete", unless otherwise shown.

2.3. STONE RIPRAP

Unless otherwise shown on the plans, use durable natural stone with a minimum bulk specific gravity of 2.40 as determined by Tex-403-A. Provide stone that, when tested in accordance with Tex-411-A, has a maximum weight loss of 18% after 5 cycles of magnesium sulfate solution and 14% after 5 cycles of sodium sulfate solution.

[1] For referenced TxDOT Test Procedures, visit www.txdot.gov/business/resources/testing.html

For all types of stone riprap perform a size verification test on the first 5,000 SY of finished riprap stone at a location determined by the Engineer. Weigh each stone in a square test area with the length of each side of the square equal to 3 times the specified riprap thickness. The weight of the stones, excluding spalls, should be as specified below. Additional tests may be required. Do not place additional riprap until the initial 5,000 SY of riprap has been approved.

When specified, provide grout or mortar in accordance with Item 421,"Hydraulic Cement Concrete." Provide grout with a consistency that will flow into and fill all voids.

Provide filter fabric in accordance with DMS-6200, "Filter Fabric." For protection stone riprap, provide Type 2 filter fabric unless otherwise shown on the plans. For Type R, F, or Common stone riprap, provide Type 2 filter fabric when shown on the plans.

2.3.1. **Type R.** Use stones between 50 and 250 lb. with a minimum of 50% of the stones heavier than 100 lb.

2.3.2. **Type F.** Use stones between 50 and 250 lb. with a minimum of 40% of the stones heavier than 100 lb. Use stones with at least 1 broad flat surface.

2.3.3. **Common.** Use stones between 50 and 250 lb. Use stones that are at least 3 in. in their least dimension. Use stones that are at least twice as wide as they are thick. When shown on the plans or approved, material may consist of broken concrete removed under the Contract or from other approved sources. Before placement of each piece of broken concrete, cut exposed reinforcement flush with all surfaces.

2.3.4. **Protection.** Use boulders or quarried rock that meets the gradation requirements of Table 1. Both the width and the thickness of each piece of riprap must be at least 1/3 of the length. When shown on the plans or as approved, material may consist of broken concrete removed under the Contract or from other approved sources. Before placement of each piece of broken concrete, cut exposed reinforcement flush with all surfaces. Determine gradation of the finished, in-place, riprap stone under the direct supervision of the ENGINEER in accordance with Tex-411-A, Part II.

Table 1: In-Place Protection Gradation Requirements

Thickness (in.)	Max. Size (lb.)	90% Size[a] (lb.)	50% Size[a] (lb.)	8% Size[a], Min. (lb.)
12	200	80–180	30–75	3
15	320	170–300	60–165	20
18	530	290–475	105–220	22
21	800	460–720	175–300	25
24	1,000	550–850	200–325	30
30	2,600	1,150–2,250	400–900	40

[a] As defined in Tex-401-A.

Provide bedding stone that meets the gradation requirements of Table 2 or as otherwise shown on the plans. Determine size distribution in accordance with Tex-411-A, Part I.

Table 2: Protection Riprap Bedding Material Gradation Requirements

Sieve Size (Sq. Mesh)	% by Weight Passing
3 in.	100
1-1/2 in.	50–80
3/4 in.	20–60
No. 4	0–15
No. 10	0–5

2.4. CEMENT-STABILIZED RIPRAP

Provide aggregate that meets Item 247, "Flexible Base," for the type and grade shown on plans. Use cement-stabilized riprap with 7% hydraulic cement by dry weight of the aggregate.

2.5. SPECIAL RIPRAP

Furnish materials for special riprap according to the plans.

3. CONSTRUCTION

Dress slopes and protected areas to the line and grade shown on the plans before the placement of riprap. Place riprap and toe walls according to details and dimensions shown on the plans or as directed.

3.1. CONCRETE RIPRAP

Reinforce concrete riprap with 6 × 6 - W2.9 × W2.9 welded wire fabric or with No. 3 or No. 4 reinforcing bars spaced at a maximum of 18 in. in each direction unless otherwise shown. Alternative styles of welded wire fabric that provide at least 0.058 sq. in. of steel per foot in both directions may be used if approved. A combination of welded wire fabric and reinforcing bars may be provided when both are permitted. Provide a minimum 6-in. lap at all splices. At the edge of the riprap, provide a minimum horizontal cover of 1 in. and a maximum cover of 3 in. Place the first parallel bar at most 6 in. from the edge of concrete. Use approved supports to hold the reinforcement approximately equidistant from the top and bottom surface of the slab. Adjust reinforcement during concrete placement to maintain correct position.

As directed, sprinkle or sprinkle and consolidate the subgrade before the concrete is placed. All surfaces must be moist when concrete is placed.

After placing the concrete, compact and shape it to conform to the dimensions shown on plans. After it has set sufficiently to avoid slumping, finish the surface with a wood float to secure a smooth surface or broom finish as approved.

Immediately after the finishing operation, cure the riprap according to Item 420, "Concrete Structures."

3.2. STONE RIPRAP

Provide the following types of stone riprap when shown on the plans:

3.2.1. **Dry riprap.** Dry riprap is stone riprap with voids filled with only spalls or small stones.

3.2.2. **Grouted riprap.** Grouted riprap is Type R, F, or Common stone riprap with voids grouted after

all the stones are in place.

3.2.3. **Mortared riprap.** Mortared riprap is Type F stone riprap laid and mortared as each stone is placed.

Use spalls and small stones lighter than 25 lb. to fill open joints and voids in stone riprap, and place to a tight fit.

Do not place mortar or grout when the air temperature is below 35° F. Protect work from rapid drying for at least 3 days after placement.

Unless otherwise approved, place filter fabric with the length running up and down the slope. Ensure fabric has a minimum overlap of 2 ft. Secure fabric with nails or pins. Use nails at least 2 in. long with washers or U-shaped pins with legs at least 9 in. long. Space nails or pins at a maximum of 10 ft. in each direction and 5 ft. along the seams. Alternative anchorage and spacing may be used when approved.

3.2.1. **Type R.** Include all information necessary for casting wall elements, including railing and coping when prefabricated. Show shape and dimensions of panels; size, quantity, and details of the reinforcing steel; quantity, type, size, and details of connection and lifting hardware; and additional necessary details.

3.2.2. **Type F.**

A. **Dry Placement.** Set the flat surface on a prepared horizontal earth bed, and overlap the underlying course to secure a lapped surface. Place the large stones first, roughly arranged in close contact. Fill the spaces between the large stones with suitably sized stones placed to leave the surface evenly stepped and conforming to the contour required. Place stone to drain water down the face of the slope.

B. **Grouting.** Size, shape, and lay large flat-surfaced stones to produce an even surface with minimal voids. Place stones with the flat surface facing upward parallel to the slope. Place the largest stones near the base of the slope. Fill spaces between the larger stones with stones of suitable size, leaving the surface smooth, tight, and conforming to the contour required. Place the stones to create a plane surface with a maximum variation of 6 in. in 10 ft. from true plane. Provide the same degree of accuracy for warped and curved surfaces. Prevent earth, sand or foreign material from filling the spaces between the stones. After the stones are in place, wet them thoroughly, fill the spaces between them with grout, and pack. Sweep the surface with a stiff broom after grouting.

C. **Mortaring.** Lap courses as described for dry placement. Before placing mortar, wet the stones thoroughly. As the larger stones are placed, bed them in fresh mortar and shove adjacent stones into contact with one another. After completing the work, spread all excess mortar forced out during placement of the stones uniformly over them to fill all voids completely. Point up all joints roughly either with flush joints or with shallow, smooth-raked joints as directed.

3.2.3. **Common.** Place stones on a bed excavated for the base course. Bed the base course of stone well into the ground with the edges in contact. Bed and place each succeeding course in even

contact with the preceding course. Use spalls and small stones to fill any open joints and voids in the riprap. Ensure the finished surface presents an even, tight surface, true to the line and grades of the typical sections.

When the plans require grouting common stone riprap, prevent earth, sand, or foreign material from filling the spaces between the stones. After the stones are in place, wet them thoroughly, fill the spaces between them with grout, and pack. Sweep the surface with a stiff broom after grouting.

3.2.4. **Protection.** Place riprap stone on the slopes within the limits shown on the plans. Place stone for riprap on the bedding material to produce a reasonably well-graded mass of riprap with the minimum practicable percentage of voids. Construct the riprap to the lines and grades shown on the plans or staked in the field. A tolerance of +6 in. and -0 in. from the slope line and grades shown on the plans is allowed in the finished surface of the riprap. Place riprap to its full thickness in a single operation. Avoid displacing the bedding material. Ensure that the entire mass of stones in their final position is free from objectionable pockets of small stones and clusters of larger stones. Do not place riprap in layers, and do not place it by dumping it into chutes, dumping it from the top of the slope, pushing it from the top of the slope, or any method likely to cause segregation of the various sizes. Obtain the desired distribution of the various sizes of stones throughout the mass by selective loading of material at the quarry or other source or by other methods of placement that will produce the specified results. Rearrange individual stones by mechanical equipment or by hand if necessary to obtain a reasonably well-graded distribution of stone sizes.

3.3. PNEUMATICALLY PLACED CONCRETE RIPRAP, CLASS II

Meet Item 431, "Pneumatically Placed Concrete." Provide reinforcement following the details on the plans and Item 440, "Reinforcing Steel." Support reinforcement with approved supports throughout placement of concrete.

Give the surface a wood-float finish or a gun finish as directed. Immediately after the finishing operation, cure the riprap with membrane-curing compound in accordance with Item 420, "Concrete Structures."

3.4. CEMENT-STABILIZED RIPRAP

Follow the requirements of the plans and the provisions for concrete riprap except when reinforcement is not required. The ENGINEER will approve the design and mixing of the cement-stabilized riprap.

3.5. SPECIAL RIPRAP

Construct special riprap according to the plans.

4. MEASUREMENT AND PAYMENT

4.1. MEASUREMENT

This Item will be measured by the cubic yard of material complete in place. Volume will be computed on the basis of the measured area in place and the thickness and toe wall width shown on the plans.

For stone riprap for protection, the quantity of the bedding material to be paid for will be measured

by the cubic yard as computed from the measured area in place and the bedding thickness shown on the plans.

4.2. 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 "Riprap" of the type, thickness, and void-filling technique (Dry, Grout, Mortar) specified, as applicable. This price is full compensation for furnishing, hauling, and placing riprap and for filter fabric, expansion joint material, concrete and reinforcing steel, grout and mortar, scales, test weights, equipment, labor, tools, and incidentals.

Payment for excavation of toe wall trenches, for all necessary excavation below natural ground or bottom of excavated channel, and for shaping of slopes for riprap will be included in the unit price bid per cubic yard of riprap.

When bedding is required for protection stone riprap, payment will be made at the unit price for "Bedding Material" of the thickness specified. This price is full compensation for furnishing, hauling, placing, and maintaining the bedding material until placement of the riprap cover is completed and accepted; excavation required for placement of bedding material; and equipment, scales, test weights, labor, tools, and incidentals. No payment will be made for excess thickness of bedding nor for material required to replace embankment material lost by rain wash, wind erosion, or otherwise.

END OF SECTION

SECTION 440
REINFORCEMENT FOR CONCRETE

1. GENERAL

1.1. SCOPE

Furnish and place reinforcement of the type, size, and details shown on the plans.

1.2. REFERENCED DOCUMENTS

AASHTO Standards[1]:

LRFD– Bridge Design Guide Specifications for GFRP-Reinforced Concrete Bridge Decks and Traffic Railings

ASTM Standards[2]:

A36– Carbon Structural Steel

A615– Deformed and Plain Carbon-Steel Bars for Concrete Reinforcement

A675– Steel Bars, Carbon, Hot-Wrought, Special Quality, Mechanical Properties

A706– Deformed and Plain Low-Alloy Steel Bars for Concrete Reinforcement

A775– Epoxy-Coated Steel Reinforcing Bars

A884– Epoxy-Coated Steel Wire and Welded Wire Reinforcement

A934– Epoxy-Coated Prefabricated Steel Reinforcing Bars

A955– Deformed and Plain Stainless Steel Bars for Concrete Reinforcement

A996– Rail-Steel and Axle-Steel Deformed Bars for Concrete Reinforcement

A1035– Deformed and Plain, Low-Carbon, Chromium, Steel Bars for Concrete Reinforcement

A1055– Zinc and Epoxy Dual-Coated Steel Reinforcing Bars

A1064– Carbon-Steel Wire and Welded Wire Reinforcement, Plain and Deformed, for Concrete

D3963– Fabrication and Jobsite Handling of Epoxy-Coated Steel Reinforcing Bars

CRSI Methods[3]:

CRSI– Manual of Standard Practice

[1] For referenced AASHTO standards, www.transportation.org
[2] For referenced ASTM standards, visit www.astm.org
[3] For referenced CRSI manuals, visit www.resources.crsi.org

TxDOT Standard Specifications[4]:

Item 448– Structural Field Welding

TxDOT Procedures:

DMS-7320– Qualification Procedure for Reinforcing Steel Producing Mills

DMS-7330– Qualification Procedure for Reinforcing Steel Epoxy Coating Applicators

DMS-8130– Epoxy Powder Coating for Reinforcing Steel

DMS-4510– Mechanical Couplers for Reinforcing Steel

DMS-4550– Fibers for Concrete

2. MATERIALS

Use deformed steel bar reinforcement unless otherwise specified or allowed.

2.1. APPROVED MILLS

Before furnishing steel, producing mills of reinforcing steel must be pre-approved in accordance with DMS-7320 by the TxDOT Construction Division. TxDOT's MPL has a list of approved producing mills. Reinforcing steel obtained from unapproved sources will not be accepted.

Contact TxDOT's Construction Division with the name and location of the producing mill for stainless reinforcing steel, low carbon/chromium reinforcing steel, or dual-coated reinforcing steel at least 4 weeks before ordering any material.

2.2. DEFORMED STEEL BAR REINFORCEMENT

Provide deformed reinforcing steel conforming to one of the following:

- ASTM A615, Grades 60, 75, or 80;
- ASTM A996, Type A, Grade 60;
- ASTM A996, Type R, Grade 60, permitted in concrete pavement only (Furnish ASTM A996, Type R bars as straight bars only and do not bend them. Bend tests are not required.); or
- ASTM A706, Grades 60 or 80.

Provide the grade of reinforcing steel shown on the plans. Provide Grade 60 if no grade is shown. The nominal size, area, and weight of reinforcing steel bars this Item covers are shown in Table 1.

Table 1: Reinforcing Steel Bar Sizes

Bar Size Number	Diameter (in.)	Area (sq. in.)	Weight per Foot (lbs.)
3	0.375	0.11	0.376
4	0.500	0.20	0.668
5	0.625	0.31	1.043
6	0.750	0.44	1.502
7	0.875	0.60	2.044
8	1.000	0.79	2.670
9	1.128	1.00	3.400
10	1.270	1.27	4.303
11	1.410	1.56	5.313
14	1.693	2.25	7.650
18	2.257	4.00	13.60

[4]For referenced TxDOT Standards, visit www.dot.state.tx.us/business/specifications.htm

Table 2: Wire Sizes

Size Number[A]	Diameter (in.)	Area (sq. in.)
31	0.628	0.310
30	0.618	0.300
28	0.597	0.280
26	0.575	0.260
24	0.553	0.240
22	0.529	0.220
20	0.505	0.200
18	0.479	0.180
16	0.451	0.160
14	0.422	0.140
12	0.391	0.120
10	0.357	0.100
8	0.319	0.080
7	0.299	0.070
6	0.276	0.060
5.5	0.265	0.055
5	0.252	0.050
4.5	0.239	0.045
4	0.226	0.040
3.5	0.211	0.035
2.9	0.192	0.029
2.5	0.178	0.025
2	0.160	0.020
1.4	0.134	0.014
1.2	0.124	0.012
0.5	0.080	0.005

[A] Size numbers are the nominal cross-sectional area of the wire in hundredths of a square inch. Fractional sizes between the sizes listed above are also available and acceptable for use.

2.3. SMOOTH STEEL BAR REINFORCEMENT

Provide smooth bars for concrete pavement with a yield strength of at least 60 ksi and meeting ASTM A615. Provide steel conforming to ASTM A615 or meet the physical requirements of ASTM A36 for smooth bars that are larger than No. 3. Designate smooth bars by size number up to No. 4 and by diameter in inches above No. 4.

2.4. SPIRAL REINFORCEMENT

Provide bars or wire for spiral reinforcement of the grade and minimum size or gauge shown on the plans.

2.5. WELDABLE REINFORCING STEEL

Provide reinforcing steel conforming to ASTM A706 or with a maximum carbon equivalent (C.E.) of 0.55% if welding of reinforcing steel is required or desired. Provide a report showing the percentages of elements necessary to establish C.E. for reinforcing steel that does not meet ASTM A706, in order to be structurally welded. These requirements do not pertain to miscellaneous welds on reinforcing steel as defined in Section 448.4.2.1.1., "Miscellaneous Welding Applications."

Calculate C.E. using the following formula:

$$C.E. = \%C + \frac{\%Mn}{6} + \frac{\%Cu}{40} + \frac{\%Ni}{20} + \frac{\%Cr}{10} + \frac{\%Mo}{50} + \frac{\%V}{10}$$

Do not weld stainless reinforcing steel without permission from the ENGINEER. Provide stainless reinforcing steel suitable for welding, if required, and submit welding procedures and electrodes to the ENGINEER for approval.

2.6. WELDED WIRE REINFORCEMENT

Provide welded wire reinforcement (WWR) conforming to ASTM A1064. Observe the relations shown in Table 2 among size number, diameter in inches, and area when ordering wire by size numbers, unless otherwise specified. Precede the size number for deformed wire with "D" and for smooth wire with "W."

Designate WWR as shown in the following example: 6 × 12 – W16 × W8 (indicating 6-in. longitudinal wire spacing and 12-in. transverse wire spacing with smooth No. 16 wire longitudinally and smooth No. 8 wire transversely).

2.7. EPOXY COATING

Provide epoxy coated reinforcing steel as shown on the plans. Before furnishing epoxy coated reinforcing steel, an epoxy applicator must be pre-approved in accordance with DMS-7330. TxDOT's MPL has a list of approved applicators.

Furnish coated reinforcing steel meeting the requirements in Table 3.

Table 3: Epoxy Coating Requirements for Reinforcing Steel

Material	Specification
Bar	ASTM A775 or A934
Wire or WWR	ASTM A884 Class A or B
Mechanical couplers	As shown on the plans
Hardware	As shown on the plans

2.8. MECHANICAL COUPLERS

Use couplers of the type specified in DMS-4510, Article 4510.5.A, "General Requirements," when mechanical splices in reinforcing steel bars are shown on the plans.

Furnish only couplers pre-qualified in accordance with DMS-4510. Ensure sleeve-wedge type couplers are not used on coated reinforcing. Sample and test couplers for use on individual projects in accordance with DMS-4510. Furnish couplers only at locations shown on the plans.

Furnish couplers for stainless reinforcing steel with the same alloy designation as the reinforcing steel.

2.9. FIBERS

Supply fibers conforming to DMS-4550 at the minimum dosage listed in the TxDOT MPL when allowed by the plans. Use non-metallic fibers when shown on the plans.

2.10. STAINLESS REINFORCING STEEL

Provide deformed steel bars of the types listed in Table 4 and conforming to ASTM A955, Grade 60 or higher when stainless reinforcing steel is required on the plans.

Table 4: Acceptable Types of Deformed Stainless Steel Bar

UNS Designation	S31653	S31803	S24100	S32304
AISI Type	316LN	2205	XM-28	2304

2.11. LOW CARBON/CHROMIUM REINFORCING STEEL

Provide deformed steel bars conforming to ASTM A1035, Grade 100 when low carbon/chromium reinforcing steel is required on the plans.

2.12. DUAL-COATED REINFORCING STEEL

Provide deformed bars conforming to ASTM A1055, Grade 60 or higher when dual-coated reinforcing steel is required on the plans.

2.13. GLASS FIBER REINFORCED POLYMER BARS (GFRP)

Provide bars conforming to the AASHTO LRFD *Bridge Design Guide Specifications for GFRP-Reinforced Concrete Bridge Decks and Traffic Railings*, Section 4, "Material Specifications" when GFRP bars are required on the plans. Provide sample certification demonstrating the GFRP bar supplier has produced bar that meets the Material Specifications 2 mo. before fabrication. Furnish certification upon shipment that the GFRP bar supplied meets the Material Specifications.

3. CONSTRUCTION

3.1. BENDING

Bending. Fabricate reinforcing steel bars as prescribed in the CRSI Manual of Standard Practice to the shapes and dimensions shown on the plans. Fabricate in the shop if possible. Field-fabricate, if permitted, using a method approved by the ENGINEER. Replace improperly fabricated, damaged, or broken bars at no additional expense to the Department. Repair damaged or broken bars embedded in a previous concrete placement using a method approved by the ENGINEER.

Unless otherwise shown on the plans, the inside diameter of bar bends, in terms of the nominal bar diameter (d), must be as shown in Table 5.

Table 5: Minimum Inside Diameter of Bar Bends

Bend	Bar Size Number	Pin Diameter
Bends of 90° and greater in stirrups, ties, and other secondary bars that enclose another bar in the bend	3,4,5	4d
	6,7,8	6d
Bends in main bars and in secondary bars not covered above	3 through 8	6d
	9,10,11	8d
	14,18	10d

Bend-test representative specimens as described for smaller bars in the applicable ASTM specification where bending No. 14 or No. 18 Grade 60 bars is required. Make the required 90° bend around a pin with a diameter of 10 times the nominal diameter of the bar.

Bend stainless reinforcing steel in accordance with ASTM A955.

3.2. TOLERANCES

Fabrication tolerances for bars are shown in Figure 1.

3.3. STORAGE

Store reinforcement above the ground on platforms, skids, or other supports, and protect it from damage and deterioration. Ensure reinforcement is free from dirt, paint, grease, oil, and other foreign materials when it is placed in the work. Use reinforcement free from defects such as cracks and delaminations. Rust, surface seams, surface irregularities, or mill scale will not be cause for rejection if the minimum cross-sectional area of a hand wire-brushed specimen meets the requirements for the size of steel specified.

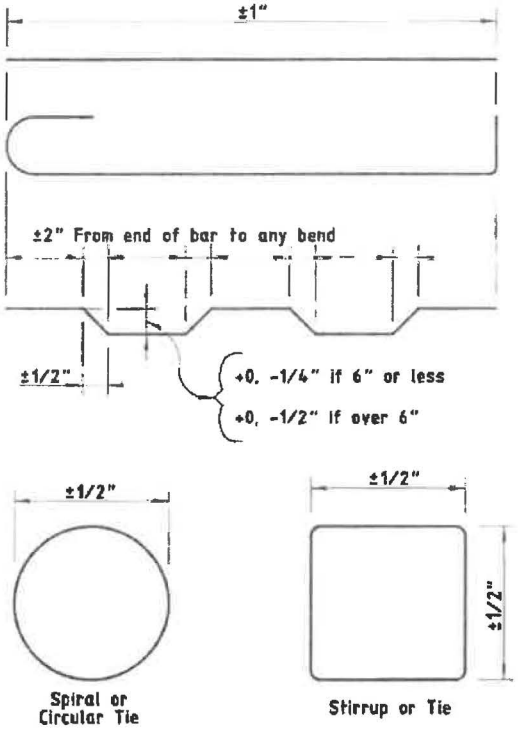

Figure 1: Fabrication Tolerances for Bars

Do not allow stainless reinforcing steel to be in direct contact with uncoated reinforcing steel, nor with galvanized reinforcing steel. This does not apply to stainless steel wires and ties. Store stainless reinforcing steel separately, off the ground on wooden supports.

3.4. SPLICES

Lap-splice, weld-splice, or mechanically splice bars as shown on the plans. Additional splices not shown on the plans will require approval. Splices not shown on the plans will be permitted in slabs no more than 15 in. in thickness, columns, walls, and parapets.

Table 6: Minimum Lap Requirements for Steel Bar Sizes through No. 11

Bar Size Number	Uncoated Lap length	Coated Lap Length
3	1 ft. 4 in.	2 ft. 0 in.
4	1 ft. 9 in.	2 ft. 4 in.
5	2 ft. 2 in.	3 ft. 4 in.
6	2 ft. 7 in.	3 ft. 4 in.
7	3 ft. 5 in.	5 ft. 4 in.
8	4 ft. 6 in.	6 ft. 4 in.
9	5 ft. 8 in.	8 ft. 4 in.
10	7 ft. 3 in.	10 ft. 4 in.
11	8 ft. 11 in.	13 ft. 4 in.

3.4.1. Lap-splice, weld-splice, or mechanically splice bars as shown on the plans. Additional splices not shown on the plans will require approval. Splices not shown on the plans will be permitted in

slabs no more than 15 in. in thickness, columns, walls, and parapets. permitted, in accordance with Table 6. Maintain the specified concrete cover and spacing at splices, and place the lap-spliced bars in contact, securely tied together.

3.4.2. Do not lap No. 14 or No. 18 bars.

3.4.3. Lap spiral steel at least 1 turn.

3.4.4. Splice WWR using a lap length that includes the overlap of at least 2 cross wires plus 2 in. on each sheet or roll. Splices using bars that develop equivalent strength and are lapped in accordance with Table 6 are permitted.

3.4.5. Lap the existing longitudinal bars with the new bars as shown in Table 6 for box culvert extensions with less than 1 ft. of fill. Lap at least 1 ft.-0 in. for extensions with more than 1 ft. of fill.

3.4.6. Ensure welded splices conform to the requirements of the plans and of Item 448, "Structural Field Welding." Field-prepare ends of reinforcing bars if they will be butt-welded. Delivered bars must be long enough to permit weld preparation.

3.4.7. Install mechanical coupling devices in accordance with the manufacturer's recommendations at locations shown on the plans. Protect threaded male or female connections, and ensure the threaded connections are clean when making the connection. Do not repair damaged threads.

3.4.8. Mechanical coupler alternate equivalent strength arrangements, to be accomplished by substituting larger bar sizes or more bars, will be considered if approved in writing before fabrication of the systems.

3.5. PLACING

Place reinforcement as near as possible to the position shown on the plans. Do not vary bars from plan placement by more than 1/12 of the spacing between bars in the plane of the bar parallel to the nearest surface of concrete. Do not vary bars from plan placement by more than 1/4 in. in the plane of the bar perpendicular to the nearest surface of concrete. Provide a minimum 1-in. clear cover of concrete to the nearest surface of bar unless otherwise shown on the plans.

For bridge slabs, the clear cover tolerance for the top mat of reinforcement is -0, +1/2 in.

Locate the reinforcement accurately in the forms, and hold it firmly in place before and during concrete placement by means of bar supports that are adequate in strength and number to prevent displacement and keep the reinforcement at the proper distance from the forms. Provide bar supports in accordance with the CRSI Manual of Standard Practice. Use Class 1 supports, approved plastic bar supports, precast mortar, or concrete blocks when supports are in contact with removable or stay-in-place forms. Use Class 3 supports in slab overlays on concrete panels or on existing concrete slabs. Bar supports in contact with soil or subgrade must be approved.

Use Class 1A supports with epoxy coated reinforcing steel. Provide epoxy or plastic coated tie wires and clips for use with epoxy coated reinforcing steel.

Use mortar or concrete with a minimum compressive strength of 5,000 psi for precast bar supports. Provide a suitable tie wire in each block for anchoring to the bar.

Place individual bar supports in rows at 4-ft. maximum spacing in each direction. Place continuous type bar supports at 4-ft. maximum spacing. Use continuous bar supports with permanent metal deck forms.

The exposure of the ends of longitudinals, stirrups, and spacers used to position the reinforcement in concrete pipe and storm drains is not cause for rejection.

Tie reinforcement for bridge slabs and top slabs of direct traffic culverts at all intersections, except tie only alternate intersections where spacing is less than 1 ft. in each direction. Tie the bars at enough intersections to provide a rigid cage of reinforcement for reinforcement cages for other structural members. Fasten mats of WWR securely at the ends and edges.

Clean mortar, mud, dirt, debris, oil, and other foreign material from the reinforcement before concrete placement. Do not place concrete until authorized.

Stop placement until corrective measures are taken if reinforcement is not adequately supported or tied to resist settlement, reinforcement is floating upward, truss bars are overturning, or movement is detected in any direction during concrete placement.

3.6. HANDLING, PLACING, AND REPAIRING EPOXY COATED STEEL

3.6.1. **Handling.** Provide systems for handling coated reinforcing steel with padded contact areas. Pad bundling bands or use suitable banding to prevent damage to the coating. Lift bundles of coated reinforcement with a strongback, spreader bar, multiple supports, or a platform bridge. Transport the bundled reinforcement carefully, and store it on protective cribbing. Do not drop or drag the coated reinforcement.

3.6.2. **Placing.** Do not flame-cut coated reinforcement. Saw or shear-cut only when approved. Coat cut ends as specified in Section 3, "Repairing Coating."

Do not weld or mechanically couple coated reinforcing steel except where specifically shown on the plans. Remove the epoxy coating at least 6 in. beyond the weld limits before welding and 2 in. beyond the limits of the coupler before assembly. Clean the steel of oil, grease, moisture, dirt, welding contamination (slag or acid residue), and rust to a near-white finish after welding or coupling. Check the existing epoxy for damage. Remove any damaged or loose epoxy back to sound epoxy coating.

Coat the splice area after cleaning with epoxy repair material to a thickness of 7 to 17 mils after curing. Apply a second application of repair material to the bar and coupler interface to ensure complete sealing of the joint.

3.6.3. **Repairing Coating.** Use material that complies with the requirements of this Item and ASTM D3963 for repairing of the coating. Make repairs in accordance with procedures recommended by the manufacturer of the epoxy coating powder. Apply at least the same coating thickness as required for the original coating for areas to be patched. Repair all visible damage to the coating.

Repair sawed and sheared ends, cuts, breaks, and other damage promptly before additional oxidation occurs. Clean areas to be repaired to ensure they are free from surface contaminants. Make repairs in the shop or field as required.

3.7. HANDLING AND PLACING STAINLESS REINFORCING STEEL

Handle, cut, and place stainless reinforcing steel bar using tools that are not used on carbon steel. Do not use carbon steel tools, chains, slings, etc. when handling stainless steel. Use only nylon or polypropylene slings. Cut stainless steel reinforcing using shears, saws, abrasive cutoff wheels, or torches. Remove any thermal oxidation using pickling paste. Do not field bend stainless steel reinforcing without approval.

Use 16 gauge fully annealed stainless steel tie wire conforming to the material properties listed in Paragraph 2.10., "Stainless Reinforcing Steel." Support all stainless reinforcing steel on solid plastic, stainless steel, or epoxy coated steel chairs. Do not use uncoated carbon steel chairs in contact with stainless reinforcing steel.

3.8. BENDING, HANDLING, REPAIRING, AND PLACING GFRP BARS

Fabricate, handle, repair, and place GFRP bars in accordance with the AASHTO LRFD *Bridge Design Guide Specifications for GFRP-Reinforced Concrete Bridge Decks and Traffic Railings*, Section 5, "Construction Specifications".

4 MEASUREMENT AND PAYMENT

The work performed, materials furnished, equipment, labor, tools, and incidentals will not be measured or paid for directly but will be considered subsidiary to pertinent Items.

END OF SECTION

SECTION 496
REMOVING STRUCTURES

1. GENERAL

1.1. SCOPE

Remove and either dispose of or salvage structures.

2. CONSTRUCTION

2.1. Removal.

2.1.1. Pipes. Avoid damaging appurtenances determined by the Engineer to be salvageable.

2.1.2. 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.

2.1.3. Steel Structures. Dismantle steel to be retained by the Owner or re-rected 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.

2.1.4. 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.

2.2. Salvage. Avoid damage to materials shown on the plans to be salvaged. Deliver materials to be retained by the Owner to the location shown on the plans. Block up salvaged steel materials off the ground.

2.3. Disposal. Avoid damage to materials shown on the plans to be salvaged. Deliver materials to be retained by the Owner to the location shown on the plans. Block up salvaged steel materials off the ground.

2.4. 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 AND PAYMENT

3.1. MEASUREMENT

This Item will be measured by each structure.

3.2. 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 and backfill, equipment, labor, tools, and incidentals.

END OF SECTION

SECTION 506
TEMPORARY EROSION, SEDIMENTATION AND ENVIRONMENTAL CONTROLS

1. GENERAL

1.1. Scope

Install, maintain, and remove erosion, sedimentation, and environmental control measures to prevent or reduce the discharge of pollutants and protect environmental resources in accordance with the Stormwater Pollution Prevention Plan (SWP3) and environmental layout shown on the plans. Control measures are defined as Best Management Practices (BMPs) used to prevent or reduce the discharge of pollutants and measures to protect environmental resources. 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 List. Perform work in a manner to prevent degradation of receiving waters, protect environmental resources, facilitate project construction, and comply with applicable federal, state, and local regulations. Ensure the installation and maintenance of control measures are performed in conformance with the manufacturer's or designer's specifications.

2. **MATERIALS** Furnish materials that meet the requirements of the following TxDOT[1] specifications:

Item 161, "Compost"

Item 432, "Riprap"

Item 556, "Pipe Drains"

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.

- **1, 2, and 4 Rock Filter Dams.** Use 3–6-in. aggregate.
- **Type 3 Rock Filter Dams.** Use 4–8-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:

[1]For referenced TxDOT Standards, visit www.dot.state.tx.us/business/specifications.htm

- 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 as shown on the plans. Recycled and other materials meeting these requirements are allowed if approved. Furnish concrete in accordance with Item 432.

2.3. **Temporary Paved Flumes.** Furnish asphalt concrete, hydraulic cement concrete, or other comparable non-erodible material as shown on 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 as shown on the plans and in accordance with 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 of adherent coatings such as salt, alkali, dirt, clay, loam, shale, soft or flaky materials, and organic and injurious matter. Use 4–8-in. aggregate for Type 1. Use 2–4-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 using 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 and as 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 (UV) stability exceeding 70%.

Use natural coarse sand or manufactured sand meeting the gradation shown in Table 1 to fill sandbags. Filled sandbags must be 24–30 in. long, 16–18 in. wide, and 6–8 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 geotextile fabric.

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 (Standard Wire 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 shown on the plans. Permit no more than 5% of the material to escape from the containment mesh. Furnish compost in accordance with Item 161.

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 as shown on the plans or as directed. Stuff containment mesh densely so logs do not deform.

3. CONSTRUCTION

3.1. **Contractor Responsibilities.** Implement the SWP3 for the project site in accordance with the plans and specifications, and as directed. Coordinate stormwater management with all other work on the project. Develop and implement an SWP3 for project-specific material supply plants within and outside the Owner's property in conformance with the specific or general stormwater permit requirements. Prevent water pollution from stormwater associated with construction activity from entering any surface water or private property on or adjacent to the project site.

3.2. **Implementation.** The Contractor, or Contractor's representative, must be accessible by telephone and able to respond to project-related stormwater management or other environmental emergencies 24 hr. per day.

3.2.1. **Commencement.** Implement the SWP3 as shown on the plans and as directed. Recommendations proposed by the Contractor for changes will be allowed as approved. 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.

3.2.2. **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 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.

3.3. **General.**

3.3.1. **Temporary Alterations or Control Measure Removal.** Altering or removal of control measures is allowed when control measures are restored within the same working day.

3.3.2. **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 approved by the Engineer.

3.3.3. **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. The Engineer may accept the work before vegetative cover of 70% density of existing adjacent undisturbed areas.

3.3.4. **Restricted Activities and Required Precautions.** Do not discharge onto the ground or into surface waters any pollutants such as chemicals, raw sewage, fuels, lubricants, coolants, hydraulic fluids, bitumens, or any other petroleum product. Operate and maintain equipment onsite to prevent actual or potential water pollution. Manage, control, and dispose of litter onsite 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 with specified concrete truck washout protection measures in place. 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). Immediately address chemical and hydrocarbon spills caused by the Contractor. Keep a spill kit onsite. 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.

3.4. **Installation, Maintenance, and Removal Work.** Perform work in accordance with the SWP3, in conformance with manufacturers' guidelines. 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 Engineer 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 within the timeframe specified is when site conditions are considered "too wet to work." Take immediate action if a correction is deemed critical as directed. When corrections are not made within the established timeframe, 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 with the SWP3 or the plans.

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 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.

3.4.1. **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 using wire ties, or hog rings for Type 2 and Type 3, or as directed.

Place rock filter dams perpendicular to the flow of the stream or channel unless otherwise directed. Construct filter dams in accordance with the following criteria unless otherwise shown on the plans.

A. **Type 1 (Non-Reinforced).**

Height. At least 18 in. measured vertically from existing ground to top of filter dam.

Top Width and Slopes. At least 2 ft.

Slopes. No steeper than 2:1.

B. **Type 2 (Reinforced).**

Height. At least 18 in. measured vertically from existing ground to top of filter dam.

Top Width and Slopes. At least 2 ft.

Slopes. No steeper than 2:1.

C. **Type 3 (Reinforced).**

Height. At least 36 in. measured vertically from existing ground to top of filter dam.

Top Width and Slopes. At least 2 ft.

Slopes. No steeper than 2:1.

D. **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 4–5-in. spacing for vertical filling. Pull the end lacing rod at one end until tight, wrap around the end, and twist four times. Fill with stone at the filling end, pull the rod tight, cut the wire with approximately 6 in. remaining, and twist wires four 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.

E. **Type 5.** Provide rock filter dams as shown on the plans.

3.4.2. **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 at most 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 TxDOT Item 432, when shown on the plans.

3.4.3. **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.

3.4.4. **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.

A. **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.

Type 1. Construct to a depth of at least 8 in. using crushed aggregate as shown on the plans or as directed.

Type 2. Construct using railroad ties and timbers as shown on the plans or as directed.

B. **Short-Term.**

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.

Type 4. Construct as shown on the plans or as directed.

3.4.5. **Earthwork for Erosion Control.** Perform excavation and embankment operations to minimize erosion and to remove collected sediments from other erosion control devices.

A. **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.

B. **Excavation of Sediment and Debris.** Remove sediment and debris when accumulation affects the performance of the devices, after a rain, and when directed.

3.4.6. **Construction Perimeter Fence.** Construct, align, and locate fencing as shown on the plans or as directed.

A. **Installation of Posts.** Embed posts 18 in. deep or adequately anchor in rock, with a spacing of 8–10 ft.

B. **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.

C. **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.

3.4.7. **Sandbags for Erosion Control.** Construct a berm or dam of sandbags that will intercept sediment-laden stormwater 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.

3.4.8. **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, in accordance with this Section, or as directed.

A. **Installation of Posts.** Embed posts at least 18 in. deep or adequately anchor, if in rock, with a spacing of 6–8 ft., and install on a slight angle toward the runoff source.

B. **Fabric Anchoring.** Dig trenches along the uphill side of the fence to anchor 6–8 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.

C. **Fabric and Net Reinforcement Attachment.** Attach the reinforcement to wooden posts using staples, or to steel posts using T-clips, in at least four 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 using hog rings or cord every 15 in. or less.

D. **Fabric and Net Splices.** Locate splices at a fence post with a minimum lap of 6 in. attached in at least six 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 one patch every 15–20 ft.),
- posts without bends, and
- backing without holes.

3.4.9. **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 resulting from normal rain events, to prevent damage to the logs, and as approved, such that flow is not allowed under the logs. Temporarily removing and replacing biodegradable erosion logs to facilitate daily work is allowed at the Contractor's expense.

3.4.10. **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 at least 12 in. long × 2–4 in. wide × 1/2–2 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.

3.5. **Monitoring and Documentation.** Monitor the control measures daily as long as there are BMPs in place or soil disturbing activities are evident to ensure compliance with the SWP3. 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 in accordance with 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, the 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.

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.

4.1.1. **Installation.** Measurement will be made in final position.

4.1.2. **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.**

4.5.1. **In Place.**

Excavation. Excavation will be measured by the cubic yard in its original position and the volume computed by the method of average end areas.

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 which 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. **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 will be subsidiary to this Item.

5. **PAYMENT**

The following will not be paid for directly, but will be subsidiary to pertinent Items:

- erosion control measures for Contractor project-specific locations (PSLs) inside and outside the right of way (e.g., 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 will be subsidiary.

Furnishing and installing pipe for outfalls associated with sediment traps and ponds will not be paid for directly, but will be 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 and slope as 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 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.

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 will be 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 TxDOT Item 432.

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 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."

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 will be 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."

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 Engineer.

This price is full compensation for excavation, embankment, and re-grading, including dewatering for removal of accumulated sediment, and the 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 will be 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 will be 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.

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 will be 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.

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 will be subsidiary to this Item.

END OF SECTION

SECTION 529
CONCRETE CURB

1. GENERAL

1.1. SCOPE

Construct hydraulic cement concrete curb, gutter, and combined curb and gutter.

2. MATERIALS

Furnish materials conforming to the following:

TxDOT Standard Specifications[1]:

Item 360– Concrete Pavement

Item 420– Concrete Substructures

Item 421– Hydraulic Cement Concrete

Item 440– Reinforcement for Concrete

Use Class A concrete unless otherwise shown on the plans. Use Grade 8 course 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 The TxDOT 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.

[1] For referenced TxDOT Standards, visit www.dot.state.tx.us/business/ specifications.htm

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 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 AND PAYMENT

4.1. MEASUREMENT

This Item will be measured by the foot.

4.2. 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)," of the type specified. This price is full compensation for surface preparation of curb foundation, equipment, labor, materials, tools, and incidentals.

END OF SECTION

SECTION 531
SIDEWALKS

1. GENERAL

1.1. SCOPE

Construct hydraulic cement concrete sidewalks.

2. MATERIALS

Furnish materials conforming to the following:

TxDOT Standard Specifications[1]:

Item 360– Concrete Pavement

Item 420– Hydraulic Concrete Substructures

Item 421– Hydraulic Cement Concrete

Item 440– Reinforcement for Concrete

Use Class A concrete unless otherwise shown on the plans. Use Grade 8 course aggregate for extruded class A concrete. Use other grades if approved.

3. CONSTRUCTION

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. Hand-tamp and sprinkle foundation when placement is directly on subgrade or foundation materials. Remove and dispose of existing concrete in accordance with Item 104, "Removing Concrete." Provide a clean surface for concrete placement directly on the surface material or pavement.

Mix and place concrete in accordance with the pertinent Items. Hand-finishing is allowed for any method of construction. Finish exposed surfaces to a uniform transverse broom finish surface. Curb ramps must include a detectable warning surface and conform to details shown on the plans. Install joints as shown on the plans. Ensure that abrupt changes in sidewalk elevation do not exceed 1/4 in., sidewalk cross slope does not exceed 2%, curb ramp grade does not exceed 8.3%, and flares adjacent to the ramp do not exceed 10% slope. Ensure that the sidewalk depth and reinforcement are not less than the driveway cross-sectional details shown on the plans where a sidewalk crosses a concrete driveway.

Provide finished work with a well-compacted mass, a surface free from voids and honeycomb, and the required true-to-line shape and grade. Cure for at least 72 hr. in accordance with Item 420, "Concrete Substructures."

[1] For referenced TxDOT Standards, visit www.dot.state.tx.us/business/ specifications.htm

3.1. **Conventionally Formed Concrete.** Provide pre-molded or board expansion joints of the thickness shown on the plans for sidewalk section lengths greater than 8 ft. but less than 40 ft., unless otherwise directed. Terminate workday production at an expansion joint.

3.1. **Extruded or Slipformed Concrete.** Provide any additional surface finishing immediately after extrusion or slipforming as required on the plans. Construct joints at locations as shown on the plans or as directed.

4. MEASUREMENT AND PAYMENT

4.1. MEASUREMENT

Sidewalks will be measured by the square yard of surface area.

4.2. 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 Sidewalks" of the depth specified. This price is full compensation for surface preparation of sidewalk foundation; materials; removal and disposal of existing concrete; excavation, hauling and disposal of excavated material; drilling and doweling into existing concrete curb, sidewalk, and pavement; repair of adjacent street or pavement structure damaged by these operations; and equipment, labor, materials, tools, and incidentals.

END OF SECTION

SECTION 321723
PAVEMENT MARKINGS

1. GENERAL

1.1. SCOPE

Apply permanent striping and symbols to finished pavement to delineate parking spaces, usage and walkways.

1.2. REFERENCED DOCUMENTS

ASTM Standards[1]:

D6628– Standard Specifications for Color of Pavement Marking Materials

International Concrete Repair Institute (ICRI) Standards[2]:

03732– Selecting and Specifying Concrete Surface Preparation for Sealers, Coatings, and Polymer Overlays

1.3. SUBMITTALS

Submit the following in accordance with Section 01300 "Submittals":

1.3.1. Product Data

- Waterborne Paint

1.3.2. Test Reports

- Waterborne Paint

1.3.3. Certificates

- Waterborne Paint

1.3.4. Manufacturer's Instructions

- Waterborne Paint

1.4. DELIVERY AND STORAGE

Deliver paint materials in original sealed containers that plainly show the designated name, specification number, batch number, color, date of manufacture, manufacturer's directions, and name of manufacturer.

1.5. SITE CONDITIONS

1.5.1. Weather Limitations for Application

[1]For referenced ASTM standards and test methods, visit www.astm.org
[2]For referenced ICRI Standards, visit www.icri.org

A. Apply pavement markings to clean, dry surfaces, and unless otherwise approved, only when the air and pavement surface temperature is at least 5 degrees F above the dew point and the air and pavement temperatures are within the limits recommended by the pavement marking manufacturer. Allow pavement surfaces to dry after water has been used for cleaning or rainfall has occurred prior to striping or marking. Test the pavement surface for moisture before beginning work each day and after cleaning. Do not commence marking until the pavement is sufficiently dry and the pavement condition has been approved by the ENGINEER. Employ the "plastic wrap method" to test the pavement for moisture as specified in paragraph 321723.4.1.1.B.

2. MATERIALS

Use non-reflectorized waterborne paint for automotive parking areas. The maximum allowable VOC content of pavement markings is 150 grams per liter. Color of markings are indicated on the drawings and must conform to ASTM D6628 for roads and automotive parking areas. Provide materials conforming to the requirements specified herein.

2.1. WATERBORNE PAINT

3. EQUIPMENT

3.1. APPLICATION EQUIPMENT

Provide and maintain machines, tools, and equipment used in the performance of the work in satisfactory operating condition, or remove them from the work site. Provide mobile and maneuverable application equipment to the extent that straight lines can be followed and normal curves can be made in a true arc.

3.1.1. Paint Application Equipment

A. Hand-Operated, Push-Type Machines

Provide hand-operated push-type applicator machine of a type commonly used for application of water based paint to pavement surfaces for small marking projects, such as legends and cross- walks, automotive parking areas, or surface painted signs. Provide applicator machine equipped with the necessary tanks and spraying nozzles capable of applying paint uniformly at coverage specified. Hand operated spray guns may be used in areas where push-type machines cannot be used.

4. EXECUTION

4.1. EXAMINATION

4.1.1. Testing for Moisture

A. Test the pavement surface for moisture before beginning pavement marking after each period of rainfall, fog, high humidity, or cleaning, or when the ambient temperature has fallen below the dew point. Do not commence marking until the pavement is sufficiently dry and the pavement condition has been approved by the ENGINEER or authorized representative.

B. Employ the "plastic wrap method" to test the pavement for moisture as follows: Cover the pavement with 12 inch by 12 inch section of clear plastic wrap and seal the edges with

tape. After 15 minutes, examine the plastic wrap for any visible moisture accumulation inside the plastic. Do not begin marking operations until the test can be performed with no visible moisture accumulation inside the plastic wrap. Re-test surfaces when work has been stopped due to rain.

4.2. EXTERIOR SURFACE PREPARATION

Allow new pavement surfaces to cure for a period of not less than 30 days before application of marking materials. Thoroughly clean surfaces to be marked before application of the paint. Remove dust, dirt, and other granular surface deposits by sweeping, blowing with compressed air, rinsing with water, or a combination of these methods as required.

- For Portland Cement Concrete pavement, grinding, light shot blasting, or light scarification, to a resulting profile equal to ICRI 03732 CSP 2, CSP 3, and CSP 4, respectively, can be used in addition to water blasting on most pavements, to either remove existing coatings, or for surface preparation.

4.2.1. Early Painting of Rigid Pavements

Pretreat rigid pavements that require early painting with an aqueous solution containing 3 percent phosphoric acid and 2 percent zinc chloride. Apply the solution to the areas to be marked.

4.3. APPLICATION

Apply pavement markings to dry pavements only.

4.3.1. Waterborne Paint Apply paint with approved equipment at rate of coverage specified herein. Provide guidelines and templates as necessary to control paint application. Take special precautions in marking numbers, letters, and symbols. Manually paint numbers, letters, and symbols. Sharply outline all edges of markings. The maximum drying time requirements of the paint specifications will be strictly enforced, to prevent undue softening of bitumen, and pickup, displacement, or discoloration by tires of traffic. If there is a deficiency in drying of the markings, painting operations must cease until the cause of the slow drying is determined and corrected.

A. Automotive Parking Areas

Apply paint at a rate of 105 plus or minus 5 square feet per gallon.

4.4. FIELD QUALITY CONTROL

4.4.1. Sampling and Testing

As soon as the paint materials are available for sampling, obtain by random selection from the sealed containers, two quart samples of each batch in the presence of the ENGINEER. One quart will be for sampling and testing by the CONTRACTOR and one quart will be for retention by the OWNER. Accomplish adequate mixing prior to sampling to ensure a uniform, representative sample. A batch is defined as that quantity of material processed by the manufacturer at one time and identified by number on the label. Clearly identify samples by designated name, specification number, batch number, project contract number, intended use, and quantity involved.

Test samples by an approved laboratory. If a sample fails to meet specification, replace the material in the area represented by the samples and retest the replacement material as specified above. Submit certified copies of the test reports, prior to the use of the materials at the jobsite. Include in the report of test results a listing of any specification requirements not verified by the test laboratory.

4.4.2. Material Inspection

Examine material at the job site to determine that it is the material referenced in the report of test results or certificate of compliance. Provide test results substantiating conformance to the specified requirements with each certificate of compliance.

4.4.3. Dimensional Tolerances

Apply all markings in the standard dimensions provide in the drawings. New markings may deviate a maximum of 10 percent larger than the standard dimension. The maximum deviation allowed when painting over an old marking is up to 20 percent larger than the standard dimensions.

4.4.4. Bond Failure Verification

Inspect newly applied markings for signs of bond failure based on visual inspection.

5. MEASUREMENT AND PAYMENT

Separate measurement or payment will not be made for Work required under this Section. All costs in connection with the Work specified herein will be considered to be included with the related item of Work in the Bid Schedule, or incidental to the Project.

END OF SECTION

SECTION 02336
LIME STABILIZED SUBGRADE

1. GENERAL

1.1. SCOPE

Construct a base course composed of lime stabilized subgrade material with the following methods:

- Application of lime slurry to subgrade.
- Mixing, compaction, and curing of lime slurry, water, and subgrade into a stabilized foundation.

1.2. REFERENCED DOCUMENTS

ASTM Standard Test Methods[1]:

D 698– Standard Test Method for Laboratory Compaction Characteristics of Soil Using Standard Effort (12,400 ft-lbf/ft3 (600 kN-m/m3).

D 4318– Standard Test Method for Liquid Limit, Plastic Limit, and Plasticity Index of Soils.

D 6938– Standard Test Methods for In-Place Density and Water Content of Soil and Soil-Aggregate by Nuclear Methods (Shallow Depth).

TxDOT Standard Test Procedures[2]:

Tex-101-E (Part III)– Preparing Soil and Flexible Base Materials for Testing.

Tex-140-E– Measuring Thickness of Pavement Layer.

Tex-600-J– Sampling and Testing Hydrated Lime, Quicklime, and Commercial Lime Slurry.

1.3. SUBMITTALS

1.3.1. Conform to requirements of Section 01300 - Submittals.

1.3.2. Submit certification that hydrated lime, quicklime, or commercial lime slurry complies with specifications.

1.3.3. Submit weight tickets, certified by supplier, with each bulk delivery of lime to work site.

1.4. DELIVERY, STORAGE AND HANDLING

1.4.1. Bagged lime shall bear manufacturer's name, product identification, and certified weight. Bags varying more than 5 percent of certified weight may be rejected; average weight of 50 random bags in each shipment shall not be less than certified weight.

1.4.2. Store lime in weatherproof enclosures. Protect lime from ground dampness.

[1] For referenced ASTM test procedures, visit https://www.astm.org/

[2] For referenced TxDOT Standards, visit www.dot.state.tx.us/business/specifications.htm

2. PRODUCTS

2.1. WATER

Use clean, clear water, free from oil, acids, alkali, or vegetation.

2.2. LIME

2.2.1. **Type A - Hydrated Lime.** Dry material consisting essentially of calcium hydroxide or mixture of calcium hydroxide and an allowable percentage of calcium oxide as listed in chemical composition chart.

2.2.2. **Type B - Commercial Lime Slurry.** Liquid mixture consisting essentially of lime solids and water in slurry form. Water or liquid portion shall not contain dissolved material in sufficient quantity to be injurious or objectionable for purpose intended.

2.2.3. **Type C - Quicklime.** Dry material consisting essentially of calcium oxide. Furnish quicklime in either of the following grades:

- **Grade DS.** Pebble quicklime of gradation suitable for use in preparation of slurry for wet placing.
- **Grade S.** Finely-graded quicklime for use in preparation of slurry for wet placing. Donor use grade S quicklime for dry placing.

2.2.4. Conform to the requirements in

2.2.5. Deliver lime slurry to job site as commercial lime, or prepare at job site by using hydrated lime or quicklime. Provide slurry free of liquids other than water and of consistency that can be handled and uniformly applied without difficulty.

2.2.6. Lime containing magnesium hydroxide is prohibited.

2.3. SOIL

Soil to receive lime treatment may include borrow or existing subgrade material, existing pavement structure, or combination of all three. Where existing pavement or base material is encountered, pulverized or scarify material so that 100 percent of sampled material passes 2- inch sieve.

3. EXECUTION

3.1. EXAMINATION

3.1.1. Verify compacted subgrade will support imposed loads.

3.1.2. Verify subgrade lines and grades.

3.2. PREPARATION

3.2.1. Complete backfill of utilities prior to stabilization.

3.2.2. Cut material to bottom of subgrade using an approved cutting and pulverizing machine meeting following requirements:

A. Cutters accurately provide smooth surface over entire width of cut to plane of secondary grade.

B. Provide cut to depth as specified or shown in the Drawings.

3.2.3. Alternatively, scarify or excavate to bottom of stabilized subgrade. Remove material or windrow to expose secondary grade. Obtain uniform stability.

3.2.4. Correct wet or unstable material below secondary grade by scarifying, adding lime, and compacting as directed by Project Manager.

3.2.5. Pulverize existing material so that 100 percent passes a 1-3/4-inch sieve.

3.3. LIME SLURRY APPLICATION

3.3.1. Apply slurry with distributor truck equipped with an agitator to keep lime and water in consistent mixture. Make successive passes over measured section of roadway to attain proper moisture and lime content. Limit spreading to an area where preliminary mixing operations can be completed on same working day.

3.3.2. Minimum lime content shall be 5 percent of dry unit weight of subgrade as determined by ASTM D 698.

3.4. PRELIMINARY MIXING

3.4.1. Use approved single-pass or multiple-pass rotary speed mixers to mix soil, lime, and water to required depth. Obtain homogeneous friable mixture free of clods and lumps.

3.4.2. Shape mixed subgrade to final lines and grades.

3.4.3. Eliminate following operations and final mixing if pulverization requirements of Paragraph 3.5.3 can be met during preliminary mixing:

A. Seal subgrade as precaution against heavy rainfall by rolling lightly with light pneumatic rollers.

B. Cure soil lime material for 24 to 72 hours or as required to obtain optimum hydration. Keep subgrade moist during cure.

3.5. FINAL MIXING

3.5.1. Use approved single-pass or multiple-pass rotary speed mixers to uniformly mix cured soil and lime to required depth.

3.5.2. Add water to bring moisture content of soil mixture to optimum or above.

3.5.3. Mix and pulverize until all material passes 1-3/4-inch sieve; minimum of 85 percent, excluding non-slacking fractions, passes 3/4-inch sieve; and minimum of 60 percent excluding non-slacking fractions passes No. 4 sieve. Test according to TxDOT Tex-101-E, Part III using dry method.

3.5.4. Shape mixed subgrade to final lines and grades.

3.5.5. Do not expose hydrated lime to open air for 6 hours or more during interval between application and mixing. Avoid excessive hydrated lime loss due to washing or blowing.

3.6. COMPACTION

3.6.1. Aerate or sprinkle to attain optimum moisture content to 3 percent above optimum, as determined by ASTM D 698 on material sample from roadway after final mix with lime.

3.6.2. Start compaction immediately after final mixing.

3.6.3. Spread and compact in two or more equal layers where total compacted thickness is greater than equipment manufacturer's recommended range of mixing and compaction.

3.6.4. Compact with approved heavy pneumatic or vibrating rollers, or combination of tamping rollers and light pneumatic rollers. Begin compaction at bottom and continue until entire depth is uniformly compacted.

3.6.5. Do not allow stabilized subgrade to mix with underlying material. Correct irregularities or weak spots immediately by replacing material and recompacting.

3.6.6. Compact subgrade to minimum density of 95 percent of maximum dry density, according to ASTM D 698, at moisture content of optimum to 3 percent above optimum, unless otherwise indicated on Drawings:

3.6.7. Seal with approved light pneumatic tired rollers. Prevent surface hair line cracking. Rework and recompact at areas where hairline cracking develops.

3.7. CURING

3.7.1. Moist cure for minimum of 3 days before placing base or surface course, or opening to traffic. Subgrade may be opened to traffic after 2 days when adequate strength has been attained to prevent damage. Restrict traffic to light pneumatic rollers or vehicles weighing less than 10 tons.

3.7.2. Keep subgrade surface damp by sprinkling. Roll with light pneumatic roller to keep surface knit together.

3.7.3. Place base or surface within 14 days after final mixing and compaction. Restart compaction and moisture content of base material when time is exceeded.

3.8. TOLERANCES

3.8.1. Completed surface: smooth and conforming to typical section and established lines and grades.

3.8.2. Top of compacted surface: Plus or minus 1/4 inch in cross section or in 16-foot length.

3.8.3. Depth of lime stabilization shall be plus or minus one inch of specified depth for each 500 square yard section of compacted subgrade.

3.9. FIELD QUALITY CONTROL

3.9.1. Test soils, lime, and mixtures as follows:

A. Tests and analysis of soil materials will be performed in accordance with ASTM D 4318, using the wet preparation method.

B. Sampling and testing of lime slurry shall be in accordance with TxDOT Tex-600-J, except using a lime slurry cup.

C. Sample mixtures of hydrated lime or quicklime in slurry form will be tested to establish compliance with specifications.

D. Moisture-density relationship will be established on material sampled from roadway, after stabilization with lime and final mixing, in accordance with ASTM 698, Moist preparation Method.

3.9.2. In-place depth will be evaluated for each 500 square yard section of compacted subgrade and determined in accordance with TxDOT Tex-140-E in hand excavated holes. For each 500 square yard section of compacted subgrade, 3 phenolphthalein tests will be performed. Average stabilization depth for the 500 square yard section of compacted subgrade will be based on average depth for three tests.

3.9.3. Perform compaction testing in accordance with ASTM D 6938. Three tests will be performed for each 500 square yard section of compacted subgrade.

3.9.4. Pulverization analysis will be performed as required by Paragraph 3.5.3 on material sampled during mixing of each production area. Three tests will be performed per 500 square yard section of compacted subgrade or a minimum of once daily.

3.10. REWORK OF FAILED SECTIONS

3.10.1. Rework sections that do not meet specified thickness.

3.10.2. Perform the following steps when more than 72 hours have lapsed since completion of compaction.

A. Moist cure for minimum of 3 days after compaction to required density.

B. Add lime at rate of 25 percent of specified rate at no additional cost to County.

C. Moisture density test of reworked material must be completed by laboratory before field compaction testing can be completed.

3.11. PROTECTION

3.11.1. Maintain stabilized subgrade to lines and grades and in good condition until placement of base or surface course. Protect asphalt membrane from being picked up by traffic.

3.11.2. Repair defects immediately by replacing material to full depth.

4. MEASUREMENT AND PAYMENT

4.1. **Unit Prices**

4.1.1. Measurement and payment for lime stabilized subgrade is on a square yard basis compacted in place to proper density. Separate measurement will be made for each required thickness of subgrade course.

A. Limits of measurement shall match actual pavement replaced, but no greater than maximum pavement replacement limits shown on Drawings. Limits for measurement will be extended to include installed lime stabilized subgrade material that extends 2 foot beyond outside edge of pavement to be replaced, except where proposed pavement section shares common longitudinal or transverse edge with existing pavement section. No payment will be made for lime stabilized subgrade in areas beyond these limits.

B. Limits of measurement and payment shall match pavement replacement limits shown on Drawings, except as noted in Paragraph 4.1.1.A, or as approved by Project Manager.

4.1.2. Measurement and payment for lime is by ton of 2000 pounds dry weight basis. Calculate weight of dry solids for lime slurry based on percentage by dry weight solids.

4.2. **Stipulated Price (Lump Sum).** If Contract is Stipulated Price Contract, payment for Work in this Section is included in total Stipulated Price.

END OF SECTION

SECTION 6200
FILTER FABRIC

1. GENERAL

1.1. SCOPE

This Specification governs the sampling, testing, and material requirements of filter fabrics.

1.2. UNITS OF MEASUREMENT

The values given in parentheses (if provided) are not standard and may not be exact mathematical conversions. Use each system of units separately. Combining values from the two systems may result in nonconformance with the standard.

1.3. DEFINITIONS

Filter Fabric– a special fabric usually used in drainage applications to allow water flow without clogging or binding by soil particles.

- Type 1 a standard weight fabric for retaining walls and soil separation.
- Type 2 a high strength fabric for rock riprap or other severe use.

1.4. REFERENCED DOCUMENTS

ASTM Standards[1]:

ASTM D4491– Standard Test Methods for Water Permeability of Geotextiles by Permittivity
ASTM D4533– Standard Test Method for Trapezoid Tearing Strength of Geotextiles
ASTM D4632– Standard Test Method for Grab Breaking Load and Elongation of Geotextiles
ASTM D4751– Standard Test Methods for Determining Apparent Opening Size of a Geotextile

TxDOT Procedures[2]:

Tex-616-J– Construction Fabrics
Tex-735-I– Sampling Construction Fabrics

2. SAMPLING AND TESTING

Sample in accordance with Tex-735-I. Perform testing in accordance with test methods listed in Table 1.

3. MATERIAL REQUIREMENTS

3.1. GENERAL REQUIREMENTS

Both types of filter fabric have the following qualities:

3.1.1. The fabric consists exclusively of manmade thermoplastic fibers, is a non-woven geotextile fabric, and forms a mat of uniform quality.

[1]For referenced ASTM standards, visit www.astm.org
[2]For referenced TxDOT test procedures, visit www.txdot.gov/business/resources/testing.html

3.1.2. Fabric fibers are continuous and random throughout the fabric.

3.1.3. The fabric is mildew resistant and rot-proof, and is satisfactory for use in a wet soil and aggregate environment.

3.2. PHYSICAL REQUIREMENTS. The fabric must conform to the requirements listed in Table 1 when tested in accordance with the test methods specified, as required for the work.

Table 1: Filter Fabric Requirements

Physical Property	Test Method	Type 1	Type 2
Fabric weight– ambient temp., air-dried, tension-free sample	Tex-616-J	136.0 g/m^2 (4 oz/yd^2) min.	203.0 g/m^2 (6 oz/yd^2) min.
Permittivity	ASTM D4491	1.0 min	0.5 min
Tensile Strength	ASTM D4632	445 N (100 lbs) min.	890 N (200 lbs) min.
Apparent opening size	ASTM D4751	70–100	80–120
Elongation at yield, %	ASTM D4632	20–100	20–100
Trapezoidal tear	ASTM D4533	156 N (35 lbs) min.	334 N (75 lbs) min.

4. PACKAGING

- Provide fabric in the length and width specified on the plans, specified in the purchase order as approved.
- Wind fabric onto suitable cylindrical forms or cores to and in handling and unrolling.
- Package fabric individually in a suitable container to protect the geotextile from damage due to ultraviolet light and moisture during normal storage and handling.

5. IDENTIFICATION

Identify each roll with a tag or label affixed to the outside of the roll on one end. List the following information on the tag or label:

- Unique roll number, serially designated;
- Lot number or control numbers, if any;
- Name of fabric producer;
- Style or catalog designation of the fabric, if any;
- Roll width in meters (inches); and
- Roll length in meters (yards).

6. MEASUREMENT AND PAYMENT

Measurement and payment of all materials governed by this specification and utilized in the performance of work specified in the contract will not be measured and paid for directly under this item but will be considered subsidiary to pertinent Items.

END OF SECTION

SECTION 16010
BASIC ELECTRICAL REQUIREMENTS

PART 1 GENERAL

1.01 SECTION INCLUDES

A. Basic requirements specifically applicable to the work of Division 16 - Electrical Requirements.

B. The Contractor shall furnish equipment, materials, and labor for assembly and installation plus check-out and start-up of the complete electrical system as shown on the Drawings and stipulated in the Specifications.

1.02 REFERENCES

A. As a minimum requirement, the electrical system shall be constructed in accordance with:

1. American National Standards Institute/National Fire Protection Association (ANSI/NFPA), No. 70 - National Electrical Code (NEC).

2. Accepted Codes of the City of Dickinson, Texas (COD), Galveston County (GC) and the Texas Parks & Wildlife Department (TPWD).

3. Other applicable Codes and Standards as referenced in other Specifications.

B. Comply with local, county, state and federal regulations and codes in effect as of date of purchase.

C. Equipment of foreign manufacture must meet U.S. codes and standards.

D. Equipment and materials shall conform to requirements of specification and to the criteria provided in data sheets for the project.

1.03 QUALITY ASSURANCE

A. Product Conformance Certificate and Quality Assurance Release. Submit an overall conformance certificate for electrical components signed by the person responsible for product quality. Specifically identify the purchased material or equipment by project name and location, purchase order number, supplements, and item number where applicable, including materials and services provided by others. Indicate that all requirements have been met and identify any approved deviations.

B. Field Inspection

1. Electrical work shall be inspected and approved by the local code inspector and the Project Manager.

2. Contractor shall give a minimum of two-days written notice to the Inspector and three-days written of notice to the Project Manager that the installation is ready for inspection.

3. Concealed work shall be inspected before it is covered:

   a. Conduit with stub-ups, underground in conduit banks before concrete is poured.

   b. Conduit in slabs, walls, and ceilings, complete with boxes.

   c. Wire megger testing

   d. Grounding resistivity testing

4. Electrical equipment and materials may be inspected upon arrival by the Project Inspector for compliance with these specifications.

1.04 SITE CONDITIONS

A. Take the following site conditions into consideration when fabricating, erecting, installing, and wiring electrical equipment under this contract:

1.	Project Location	City of Dickinson, Hwy 3 Boat Ramp Galveston County, Texas	
2.	Project Type	New Electrical Service and Lighting	
3.	Plant Site Elevation	20 ft MSL	
4.	Seismic Zone	Zone 0	
5.	Wind Velocity	130 mph	
6.	Temperature, Min./Max..		
	• Coldest Winter Month	High 60 degrees F	Low 41 degrees F
	• Warmest Summer Month	High 94 degrees F	Low 73 degrees F
	• Lowest Expected	11 degrees F	
	• Highest Expected	107 degrees F	
7.	Rainfall:		
	• Annual	40 inches	
	• Design	3.4 inches/hour, 8.4 inches/24 hours	
8.	Design Relative Humidity:	98%	
9.	Station Barometric Pressure:	29.92 in. Hg	
	• Average Annual	40 inches.	

10. Utility Water Systems:

	Design Pressure	Design Temp.
• River Water	_____PSI	_____degrees F
• Well Water	_____PSI	_____degrees F
• City Water	_____PSI	_____degrees

11. Electric Power Supply Characteristics:

	Voltage	Phase	Hz	Wire	Delta or Wye
1	120/240	1	60	3	
2					
3					

All charges relating to the acquisition of the electrical services for the site including permitting, fees, coordination of the dates of installation, coordination, and inspections by Texas New Mexico Power (TNMP) shall be paid for as a reimbursable cost without markup out of the Electrical Service Bid Allowance noted on the Bid Proposal. Construction of all the TNMP related service requirements (bollards, poles, etc.) shall be paid for as a part of the General Contractor's Bid - not out of the Bid Allowance noted in the Bid Proposal.

PART 2 PRODUCTS

2.01 COMPONENT DESIGN

A. Components utilized in the construction of the material or equipment shall be of the latest proven design, new and in current production. Do not use obsolete components or components to be phased out of production.

2.02 FACTORY INSPECTION

A. Always provide free access without prior notice for the Project Manager to the shop where the material or equipment is being fabricated or tested. Provide reasonable facilities for inspection, witnessing tests, and examining records. Give 7 days written notice prior to starting tests which are scheduled for factory or field inspection.

B.

PART 3 EXECUTION

3.01 PREPARATION

A. Verify dimensions and ratings of equipment and materials to ensure proper fit and performance.

3.02 INSTALLATION

A. Install equipment and materials in accordance with the Drawings and manufacturer's written instructions. If field conditions necessitate changes in electrical installation, obtain approval from the Engineer.

3.03 DEMONSTRATION

A. Test the electrical system to specification requirements and to demonstrate correct installation and operation of all associated equipment.

B. Initially demonstrate the system to the Galveston County Inspector or the TPWD Inspector or the Project Manager. Show the system to be fully operational along with all testing results.

C. At the substantial completion inspection demonstrate the system to the Project Manager, the Galveston County Inspector or the TPWD Inspector. Show the system to be fully operational.

END OF SECTION

SECTION 16111
CONDUIT, FITTINGS AND BODIES

PART 1 GENERAL

1.01 SECTION INCLUDES

A. Conduit, fittings, and bodies.

1.02 REFERENCES

A. American National Standards Institute (ANSI):

1. ANSI C 80.1 – Electrical Rigid Steel Conduit - Zinc Coated.

2. ANSI/NEMA FB 1 – Fittings, Cast Metal Boxes, and Conduit Bodies for Conduit, Electrical Metallic Tubing, and Cable.

B. Federal Specifications:

1. A-A-50563 B - Conduit Outlet Boxes, Bodies, and Entrance Caps, Electrical: Cast Metal.

2. W-C-1094 A - Conduit and Conduit Fittings, Plastic, Rigid.

3. A-A-55810 A – Conduit, Metal, Flexible.

C. National Electrical Manufacturers Association (NEMA):

1. NEMA RN 1 - Polyvinyl-Chloride Externally Coated Galvanized Rigid Steel Conduit and Intermediate Metal Conduit.

2. NEMA TC 2 - Electrical Polyvinyl Chloride (PVC) Conduit (EPC-40 and EPC-80).

3. NEMA TC 3 - PVC Fittings for Use with Rigid PVC Conduit and Tubing.

D. National Fire Protection Association (NFPA), ANSI/NFPA 70 - National Electrical Code (NEC).

E. Underwriters' Laboratories (UL):

1. UL 1 - Flexible Metal Electrical Conduit.

2. UL 6 – Electrical Rigid Metal Conduit - Steel.

3. UL 514 B - Conduit, Tubing, and Cable Fittings.

4. UL 651 - Schedule 40, 80, Type EB, and A Rigid PVC Conduit and Fittings.

5. UL 651 A - Type EB and A Rigid PVC Conduit and HDPE Conduit.

6. UL 1203 - Explosion Proof and Dust-Ignition Proof Electrical Equipment for Use in Hazardous (Classified) Locations.

F. 2011 National Electrical Code

1.03 SUBMITTALS

A. Make submittals following Section 01330 - Submittal Procedures:

1. Manufacturer's cut sheets, catalog data.

2. Installation, terminating and splicing procedure.

3. Instruction for handling and storage.

4. Dimensions and weight of products.

5. Code compliance certificates.

6. Conformance certificate.

1.04 QUALITY ASSURANCE

A. Rigid steel conduit shall pass the bending, ductility, and thickness of zinc coating tests described by ANSI C 80.1.

B. Flexible conduit shall pass the tension, flexibility, impact, and zinc coating test described by UL 1.

C. Nonmetallic conduit and fittings shall pass the test requirements of NEMA TC 2, UL 651 and 651 A and Federal Specification W-C-1094 A.

1.05 DELIVERY STORAGE AND HANDLING

A. Package conduit in 10-foot bundles maximum with conduit and coupling thread protectors suitable for indoor and outdoor storage. Package fittings in manufacturer's standard quantities and packaging suitable for indoor storage. Package plastic-coated rigid conduit, fittings, and bodies in such a manner as to protect the coating from damage during shipment and storage.

B. Store conduit above ground on racks to prevent corrosion and entrance of debris.

C. Protect plastic conduit from sunlight.

PART 2 PRODUCTS

2.01 ACCEPTABLE MANUFACTURERS

A. Rigid Steel Conduit:

1. Allied Tube and Conduit.
2. Triangle Wire and Cable, Inc.
3. Wheatland Tube Company.

B. PVC Coated Steel Conduit:

1. Occidental Coating Company (O-Cal Blue).
2. Robroy Industries, Inc.
    a. Rob-Roy Red
    b. Plasti-Bond Red
    c. Perma-Cote Green

C. PVC Rigid Conduit :

1. Cantex.
2. Carlon Industries, Inc.

D. Conduit Fittings and Bodies:

1. Appleton Electric.
2. Crouse-Hinds.
3. Killark Electric Manufacturing Company.
4. O-Z/Gedney.

E. Liquidtight Flexible Conduit:

1. Anamet, Inc.
2. Electriflex Company.
3. Triangle Wire and Cable, Inc.

2.02 MATERIALS AND EQUIPMENT

A. Design Conditions. Use electrical conduit, fittings, and bodies designed for service in areas as specified in Section 16010 - Basic Electrical Requirements and this section to form a continuous support system for power, control, and instrument cables or any combination thereof.

B. Conduit and Fittings:

1 Rigid Steel Conduit and Fittings.

a. Rigid steel conduit and rigid steel conduit bends, nipples, and bodies shall be hot-dipped galvanized and shall comply with the latest ANSI C 80.1, UL 6, and NEC Article 344.

b. Mild steel tubing shall be used for conduit, nipples, and couplings, and shall be free of defects on both the inner and outer surfaces.

c. Fittings and bodies and covers for rigid steel conduit shall be steel or cast-iron and shall comply with ANSI/NEMA FB 1, UL 514 B, and Federal Specification A-A-50563 B. All fittings shall be Form 8. All covers for conduit fittings shall be attached using stainless steel screws. Wedge fitting type conduit covers shall not be used.

2. PVC-Coated Rigid Steel Conduit and Fittings

a. PVC-coated conduit, fittings, bodies, and covers shall conform to NEMA RN 1 (Type A). Rigid steel galvanized conduit and fittings shall conform to ANSI C 80.1. PVC-coated rigid metal conduit must be UL listed with PVC as the primary corrosion protection. Conduit bodies shall conform to UL 514 B and Federal Specification A-A-50563 B. PVC-coated fittings for general service locations must be UL listed with the PVC as the primary corrosion protection. Provide sufficient coating for touch-up after installation.

b. PVC-coated couplings shall be of the ribbed type.

c. Condulet covers shall have encapsulated stainless steel thumb screws – no wedge clip type closures.

d. Condulets and covers shall be of malleable iron or ferroalloy material before coating. All fittings shall be Form 8. All covers shall be attached as required for rigid galvanized steel conduit.

e. Urethane coating shall be a minimum of 2 mil thickness on the interior of the conduit and the interior of fittings, condulets, covers, and bodies.

3. Flexible and Liquidtight Flexible Metal Conduit and Fittings

a. Use liquid tight flexible metal conduit manufactured in accordance with UL 1 and Federal specification A-A-55810 A.

b. Fittings used with liquidtight flexible metal conduit shall be the PVC-coated type. Thoroughly ground the conduit to the fittings and through the fittings to the box or enclosure to which it is attached.

c. Flexible couplings and fittings for use in hazardous areas shall comply with UL 1203, NEC Article 501.10 (a&b), and Federal Specification A-A-50563 B.

4. PVC Conduit and Fittings. Use PVC conduit, bends, and fittings, which comply with NEMA TC 2, W-C1094 A, and the NEC for above ground and underground installation. Conduit shall be Schedule 40 in the horizontal runs of underground conduit banks.

PART 3 EXECUTION

3.01 PREPARATION

A. Ensure that the conduit system to be installed is sized properly for the cable and wire requirements.

B. Verify the actual physical conduit route from the conduit plan drawings and prepare the conduit support system.

C. Verify the equipment locations to which the conduit will be connected and determine detail requirements for connections.

3.02 INSTALLATION

A. Install rigid galvanized steel conduit and fittings in all outdoor locations, inside valve vaults and wet wells, lift station drypits, areas that are not air-conditioned, and in all other corrosive and wet environments, except as noted otherwise. Install PVC-coated conduit in strict accordance with manufacturer's instructions. Use installers certified by the manufacturer.

B. Install PVC conduits in reinforced duct banks or encased in concrete slabs (Schedule 40).

C. Install PVC coated rigid galvanized steel conduit for all underground bends greater than thirty (30) degrees, all vertical risers from the underground conduit bank to above grade, all spare conduit extensions, and all conduit penetrations through finished grade, concrete slabs, concrete sidewalks, etc. This PVC coated rigid galvanized steel conduit shall extend no less than one (1) foot above finished grade or the top of concrete. All such concrete extensions above grade or above top of concrete shall be fitted with a concrete curb extending six (6) inches above finished grade or top of concrete.

D. Run exposed conduit parallel or perpendicular to walls, ceilings or main structural members. Group multiple conduits together where possible. Conduit shall not interfere with the use of passageways, doorways, overhead cranes, monorails, equipment removal areas or working areas. In no case shall conduit routing present a safety hazard, trip hazard, or interfere with normal plant operating and maintenance procedures. A minimum overhead clearance of 8 feet shall be maintained in passageways. All conduits installed across walkways shall have concrete or aluminum trip plates installed.

E. Installation and support of conduit shall be from steel or concrete structures in accordance with the standard detail drawings. Furnish necessary conduit straps, clamps, fittings and support for the conduit in accordance with the standard details.

F. Identify conduit at termination points like MCC, light fixtures, control panels, receptacles, panels, and junction boxes.

G. Not more than 3 equivalent 90-degree bends will be permitted between outlets. Provide bonded expansion fittings at building expansion joints.

H. Install conduit runs so that they are mechanically secure, mechanically protected from physical harm, electrically continuous, and neat in appearance. The interiors of conduit shall provide clean, smooth raceways through which conductors may be drawn without damage to the insulation. Make threaded connections wrench tight.

I. Cut conduit square with a power saw or a rotary type of conduit cutter designed to leave a flat face. Do not use plumbing pipe cutters for cutting conduit. Ream the cut ends of conduit

with a reamer, designed for the purpose of eliminating rough edges and burrs. Threads shall be cut with standard conduit dies providing 3/4-inch taper per foot, allowing the proper length so that joints and terminals may be made up tight and the ends of the conduit not deformed. Keep dies sharp and use a good quality threading oil continuously during the threading operation. Remove metal cuttings and oil from the conduit ends after the threads are cut and paint threads before connections are made. Use non-corrosive Carbozinc No. 11 as manufactured by the Carboline Company, coal tar enamel or zinc rich epoxy primer on the threads of steel conduit before connections are made.

J. Use strap wrenches only to tighten joints in plastic coated rigid steel conduit. Replace all conduit and fittings with damage to the plastic coating, such as cuts, nicks and threader chuck jaw marks. Use a solvent, or the same patching material to seal around the edges of conduit fitting sleeves.

K. Make up changes in direction of conduit using elbows or fittings. Do not use pull boxes to make direction changes unless specifically designated otherwise.

L. Field fabricated bends shall be free of indentations or elliptical sections. The radius of the bend shall not be less than 12 times the smallest diameter of the raceway.

M. Protect all conduit terminations from mechanical injury. Prevent the entry of moisture and foreign matter into the conduit system by properly capping terminations.

N. Avoid trapped runs of conduit, if possible. When they are necessary, provide drainage using a "tee" condulet equipped with a drain. Conduit is likely to pass through areas with a temperature differential of 20 F or more. Seal penetrations with a proper seal fitting at the wall or barrier between such areas. For conduit passing through walls separating pressurized areas from non-pressurized areas, install sealing fittings at the wall on the non-pressurized side.

O. Fit all conduit crossing building or structure expansion joints with approved expansion fittings, except that fittings will not be required when conduit crossing an expansion joint is supported on trapeze hangers in such a way that at no time will the conduit be under stress due to expansion. Install bonding jumpers around expansion joint fittings.

P. Where conduit terminates in sheet metal enclosures and where no threaded hubs are provided, fit the conduit with hubs such as manufactured by Myers. All hubs of this nature shall be equipped with auxiliary grounding lugs. These grounding lugs shall be interconnected to the facility grounding system through a dedicated wiring connection. Sheet metal enclosures made of stainless steel or aluminum located outside or in any other wet, damp, or corrosive areas shall be furnished with PVC-coated threaded hubs. Restrict side penetrations to the lower one third of the enclosure.

Q. Provide flexible liquid-tight metallic conduit where necessary to allow for movement or to localize sound or vibration, at transformers, at motors and any other rotating equipment. Flexible metal conduit shall be used as fixture whips only inside an air-conditioned building.

R. Seal all openings or holes where conduits pass through walls or floors. When passing through a firewall or floor, use a fire-rated seal per the typical detail included in the Drawings. Certain walls, as indicated on the drawings, require environmental (air-tight) seals; seal as indicated on the Drawings.

S. Install explosion-proof seals in conduit runs crossing or entering a hazardous classified area (as shown on Drawings). Install type CSBE removable sealing fittings to seal pump cables

between wet well and first junction box. If a junction box is not used, install the CSBE seals at the wet well and the control panel.

T. Unless otherwise indicated on Drawings install expansion fittings every 300 feet within a straight conduit run and where conduit crosses building expansion joints, using bonding straps to ensure grounding continuity.

U. Parallel runs of conduit may be supported by structural steel racks. When two or more racks are arranged one above the other, provide vertical separation of not less than 12 inches between racks, unless otherwise indicated on Drawings. Space conduits on the racks at least enough to provide 1/4-inch clearance between hubs on adjacent conduits at terminations and to allow room for fittings.

V Fill conduit racks no more than 75 percent of their capacity, providing usable space for future conduit. To ensure this, conduits leaving the rack horizontally shall be offset up or down so that future conduits may be installed in the space remaining. Construct conduit racks to permit access for wire or cable pulling at all pull points, even when future conduits are added to fill the racks.

W. Where conduit racks are supported on rods from beam clamps or by some other non-rigid suspension system, install rigid supports at no more than 50-foot intervals to give lateral stability to the rack.

X. Conduit racks or hangers must in no way interfere with machinery (or its operation), piping, structural members, process equipment, or access to anticipated future equipment. Refer to architectural, structural, equipment layout and piping drawings to ensure that this requirement is met. Label high voltage conduit with the circuit phase-to-phase voltage by means of a rigidly attached tag or label of approved design at each conduit termination, on each side of walls or barriers pierced and at intervals not exceeding 200 feet along the entire length of the conduit.

Y. Support conduit sizes 2 inches and larger at spacings not exceeding 10 feet and conduit sizes 1-1/2 inches and smaller at spacings not exceeding 8 feet.

Z. The means of fastening conduit to supports shall be by one-hole malleable iron conduit straps secured by wood screws to wood and by bolts with expansion anchors to concrete or masonry; by "Korn" clamps or U-bolts to other surfaces. Use "clamp backs" when strapping conduits to walls, column faces, or other such surfaces.

AA. Support conduit runs with conduit clamps, hangers, straps and metal framing channel attached to structural steel members. Conduits of 1-1/2-inch size or less may be supported by one-hole conduit straps on concrete, tile or steel work, but for larger size conduit, 2-hole straps shall be used. Use stainless steel clamps for rigid galvanized conduit and PVC-coated conduit. All metal framing channels and straps used shall be stainless steel.

BB. Install conduits supported form building walls with at least 1/4-inch clearance from the wall to prevent the accumulation of dirt and moisture behind conduit.

END OF SECTION

SECTION 16120
600-VOLT POWER AND CONTROL CABLE

PART 1 GENERAL

1.01 SECTION INCLUDES

A. Specifications for 600-volt power and control wiring.

1.02 REFERENCES

A. American National Standards Institute/National Fire Protection Association (ANSI/NFPA), NFPA 70 - National Electrical Code (NEC), Article 310 - Conductors for General Wiring

B. Underwriter's Laboratories (UL)

1. UL 83: Thermoplastic Insulated Wires and Cables
2. UL 1063: Machine Tool Wires and Cables

C. American Society for Testing and Materials (ASTM)

1. ASTM B 3: Soft or Annealed Copper Wires
2. ASTM B 8: Concentric-Lay-Stranded Copper Conductors, Hard, Medium Hard, Soft

D. Insulated Cable Engineers Association (ICEA), ICEA S-61-402: Thermoplastic-Insulated Wire and Cable for the Transmission and Distribution of Electrical Energy (NEMA WC-5)

1.03 SUBMITTALS

A. Make submittals following Section 01330 - Submittal Procedures.

1. Manufacturer's cut sheets, catalog data
2. Instruction for handling and storage
3. Dimensions and weight
4. Conformance certificate

1.04 QUALITY ASSURANCE

A. Tests. Cable shall meet all the requirements of Part 6 of ICEA S-61-402.

B. Conformance Certificate and Quality Assurance Release: Submit a conformance certificate signed by the person responsible for product quality. The certificate shall specifically identify the purchased material or equipment, such as by the project name and location, purchase order number, supplements, and item number where applicable, including materials and services provided by others. The certificate shall indicate that requirements have been met and identify any approved deviations.

1.05 DELIVERY, STORAGE AND HANDLING

A. Ship wire and cable on manufacturer's standard reel sizes unless otherwise specified. When cut lengths are specified, mark reel footage accordingly. Each reel shall contain one continuous length of cable. Provide impact protection by wood lagging or suitable barrier across the traverse of the reel. Provide moisture protection by using manufacturer's standard procedure or heat shrinkable self-sealing end caps applied to both ends of the cable.

PART 2 P R O D U C T S

2.01 ACCEPTABLE MANUFACTURERS

A. American Insulated Wire Corporation

B. Carol Cable Company, Inc.

C. General Cable Company

D. Okonite Company

E. Rome Cable Company

F. Triangle Wire and Cable, Inc.

2.02 MATERIALS AND EQUIPMENT

A. Design. Provide cable designated as THWN/THHN or XHHW single conductor type and UL 83 and UL 1063 listed, rated 600 volts and certified for continuous operation at maximum conductor temperature of 90 C in dry locations and 75 C in wet locations while installed above ground in conduit or in control panels.

B. Conductors. Provide conductors which are Class B, concentric stranded, annealed uncoated copper with physical and electrical properties complying with ASTM B 3 and ASTM B 8 and Part 2 of ICEA S-61-402.

C. Insulation. Each conductor shall be PVC insulated and nylon jacketed to meet the requirements of Part 3 of ICEA S-61-402. The insulation thickness shall match the dimensions listed in Table 310.4 (A) of the National Electrical Code (NEC) for type THHN/THWN-2 wire.

D. Wire Marking

1. Wire marking shall be in accordance with National Electrical Code (NEC) Article

2. 310-8 and shall be printed on the wire insulation at 2-foot intervals.

3. The printing method used shall be permanent and the color shall sharply contrast with the jacket color.

E. The single conductor color coding shall be as follows:

System Voltage	A	B	C	Neutral
120/208 Volt 3Ph/4w Black	Red	Blue		White
120/240 Volt 3Ph/4w Black	Orange	Blue		White
277/480 Volt 3Ph/4w Brown	Purple	Yellow		Grey
Motor Control	1	Black		
	2	Red		
	3	Blue		
Ground		Green		

PART 3 EXECUTION

3.01 PREPARATION

A. Complete the cable raceway systems and underground duct banks before installing cables.

B. Verify sizing of raceways and pullboxes to ensure proper accommodation for the cables.

C. Check the length of the cable raceway system against the length of cable on the selected reel.

D. Clean conduits of foreign matter before cables are pulled.

3.02 INSTALLATION

A. Wiring Methods

1. Use wiring methods indicated on Drawings.

2. In general, use THHN/THWN or XHHW building wire for lighting, power and control wiring where conductors are enclosed in raceways in above ground conduit system.

3. Do not use solid conductors.

4. Use conductors not smaller than No. 12 AWG stranded for power and lighting circuits.

5. Use conductors not smaller than No. 14 AWG for control circuits.

6. Do not splice conductors.

7. Splices associated with taps for lighting and control circuits are allowed without approval if they are above elevation 12 MSL.

8. Make splices only in accessible junction boxes.

9. Use wire nuts with insulated caps for lighting wiring splices.

B. Single Conductor in Conduit and Ductbank

1. Install cables in accordance with the manufacturer's instructions and the National Electrical Code (NEC), Chapter 3 - Wiring Methods and Materials. Do not exceed maximum wire tension, maximum insulation pressure and minimum bending radius.

2. Pull cables into conduits using wire pulling compounds approved by cable manufacturers to reduce friction. Lubricants must not be harmful to the conductor insulation. Mixtures containing soap or detergent shall not be used.

C. Single Conductor in Cable Tray

1. Do not install single conductor building wire and cable in cable tray.

2. For single conductor tray installation, see Section 16122 - 600 Volt Power Cable.

D. Preparation for Termination

1. Make 600-volt power cable terminations and splices with heat shrinkable sleeves and seals.

2. Terminal lugs and connectors for all sizes of conductors shall be crimp-on type.

3. For size 1/0 AWG and larger, crimp-on lugs shall have the long barrel with 2-hole tongues except in places where termination space is limited.

E. Tests

1. In general, megger test insulation integrity of the wiring system before terminating. All testing results shall be submitted for approval. This testing requirement includes all power and control cabling.

2. Make sure to disconnect sensitive electronic equipment before testing insulation.

3. Use a 500 VDC megohmmeter and perform the wire system insulation test in accordance with the operating instructions.

F. Termination. After the 600-volt wiring system has been tested with satisfactory results, reconnect wire.

END OF SECTION

SECTION 16131
DEVICE, PULL, TERMINAL BOXES AND WIREWAYS

PART 1 GENERAL

1.01 SECTION INCLUDES

A. Specifications for device, pull, terminal and junction boxes and wireways.

1.02 REFERENCES

A. American National Standards Institute/National Electrical Manufacturers Association (ANSI/NEMA).

1. FB1 – Fittings, Cast Metal Boxes, and Conduit Bodies for Conduit, Electrical Metallic Tubing, and Cable

2. 250 - Enclosures for Electrical Equipment (1000 volts maximum)

B. American National Standards Institute/National Fire Protection Association (ANSI/NFPA), NFPA70 - National Electrical Code (NEC) - Article 370 - Outlet Device, Pull and Junction Boxes, Conduit Bodies and Fittings.

C. Underwriters Laboratories (UL):

1. 50 – Enclosures for Electrical Equipment, Non-Environmental Considerations

2. 508 - Safety Industrial Control Equipment

3. 514B - Safety Conduit, Tubing, and Cable Fittings

4. 1203 - Explosion Proof and Dust-Ignition Proof Electrical Equipment for Use in Hazardous (Classified) Locations

1.03 SUBMITTALS

A. Submit the following under provisions of Section 01330 – Submittal Procedures:

1. Manufacturer's cut sheets, catalog data

2. Instruction for handling and storage

3. Installation instructions

4. Dimensions and weights

1.04 DELIVERY, STORAGE AND HANDLING

A. Pack and crate boxes to permit ease of handling and to provide protection from damage during shipping, handling and storage.

PART 2 P R O D U C T S

2.01 ACCEPTABLE MANUFACTURERS

A. Sheet Metal Boxes

1. Hoffman Industrial Products
2. Pauluhn Electric Manufacturing Company
3. Hennessy
4. Tanco
5. Tejas
6. Circle A.W.

2.02 MATERIALS AND EQUIPMENT

A. Sheet Metal Boxes

1. Provide UL-approved junction and pull boxes and wireways manufactured from steel sheet metal and meeting requirements of NEMA 3R outdoors or NEMA 12 indoors.
2. Provide enclosures with a continuous hinge with all seams welded and ground smooth.

B. Hardware

1. Mounting Hardware: 316 stainless steel
2. Conduit Connectors: Watertight as manufactured by Myers Hubs, or equal. All such conduit connections to sheet metal enclosures of any nature shall be equipped with such hubs. All such hubs shall be equipped with auxiliary grounding lugs that are securely interconnected to the facility grounding system.

PART 3 E X E C U T I O N

3.01 PREPARATION

A. Review the drawings and determine how many boxes of each kind are required and check if the supplied quantity is sufficient.

3.02 INSTALLATION

A. Boxes described in this specification shall be used both in dry and wet, corrosive areas, both inside and outside locations.

B. Install boxes in accordance with NEC Article 370 in locations indicated on the Drawings.

C. Install all boxes in readily accessible places to facilitate wire pulls, maintenance and repair.

D. Plug unused conduit openings.

E. Make conduit connections to sheet metal boxes with watertight conduit connectors.

F. Label boxes with phenolic nameplates attached with stainless steel screws.

END OF SECTION

SECTION 16160
CABINETS AND ENCLOSURES

PART 1 GENERAL

1.01 SECTION INCLUDES

A. Specifications for cabinets and enclosures for housing of control panels, motor controls, breakers and related electrical components.

1.02 REFERENCES

A. National Electrical Manufacturers Association (NEMA).

B. American National Standards Institute/National Fire Protection Association (ANSI/NFPA), NFPA 70 - National Electrical Code (NEC), Article 373 - Cabinets, Cutout Box, and Meter Socket Enclosures.

C. Underwriters Laboratories (UL), UL 50 - Safety for Enclosures for Electrical Equipment, Non-Environmental Considerations.

1.03 SUBMITTALS

A. Submit the following under provisions of Section 01330 – Submittal Procedures:

1. Manufacturer's cut sheets and catalog data
2. Instruction for handling and storage
3. Installation instructions
4. Dimensions and weights

1.04 DELIVERY, STORAGE AND HANDLING

A. Have cabinets and enclosures packed and crated to permit ease of handling and to provide protection from damage during shipping, handling and storage.

PART 2 PRODUCTS

2.01 ACCEPTABLE MANUFACTURERS

A. The EMF Company

B. Hennessey Products, Inc.

C. Hoffman Industrial Products

D. Pauluhn Electric Manufacturing Company

E. Weigman Company

F. Rose Enclosure

G. N.E.M.A. Enclosure Mfg. Co.

2.02 MATERIALS AND EQUIPMENT

A. Sheet Metal Boxes

1. Provide enclosures manufactured in accordance with NEMA 250 and NEC Article 373. Fabricate outdoor NEMA 3R painted steel from minimum 14-gauge stainless steel for all areas. Additional white painted coatings shall be provided for the main control panel and any other enclosures which contain electrical components that could be damaged by excessive heat.

2. Dimensions and specific features are shown on the Drawings.

3. Construct outdoor enclosures with continuously welded seams ground smooth. No sealants of any nature may be used.

4. Additional material thickness and bracing requirements shall be determined by the manufacturer to provide the strength required by the standard listed. The bracing shall be provided in such a way as to minimize the protrusion into the wiring and the equipment spaces.

5. Install the door with a stainless-steel continuous hinge, stainless steel padlock handle with gasket and stainless-steel hardware.

6. Furnish the door with oil-resistant neoprene gasket attached with oil-resistant adhesive and held in place with aluminum retaining strips.

7. For large enclosures provide a single, 3/4-inch minimum, door handle that provides a 3-point latching through latch rods with rollers. Provide rollers with at least 3/4-inch diameter.

8. Gasketed overlapping doors may be used instead of a center post.

9. Provide heavy duty lifting eyes of suitable material.

10. Fabricate the enclosure with a stud-mounted panel inside. Make panels from 12-gauge steel painted with white enamel finish.

11. Weld mounting feet to the enclosure if called for on the Drawing.

12. Include a high impact plastic data pocket in the enclosure.

13. Provide ground connections on the enclosures to enable grounding of the enclosure with a No. 2 AWG conductor.

14. Equip free-standing outdoor cabinets with inner and outer door restraint bars to prevent door swing during windy conditions.

B. Hardware

1. Mounting Hardware: Stainless steel

2. Conduit Connectors: Watertight as manufactured by Myers Hubs, or equal. Provide hubs of this nature for conduit connections to all enclosures. All such hubs shall be equipped with an auxiliary grounding lug that is securely connected to the facility grounding grid.

2.03 TESTING

A. Test cabinets and enclosures in accordance with UL requirements so unit qualifies for a UL label.

PART 3 EXECUTION

3.01 PREPARATION

A. Review Drawings and determine how many enclosures of each kind are required and check if supplied quantity is sufficient.

B. Check the mounting pads or foundations for proper mounting dimensions and features, including grounding conductor stub-up.

3.02 INSTALLATION

A. Use enclosures described in this specification only above grade.

B. Install enclosures in accordance with the NEC in locations as indicated on the Drawings.

C. Install enclosures in readily accessible locations to facilitate general operations, wire pulls, maintenance and repair.

D. Plug unused conduit openings.

E. Make conduit connections to the enclosures with watertight conduit connectors.

F. Identify all components in cabinets with phenolic nameplates.

G. Use pre-printed tubular heat-shrink type wire and cable markers to label each end of all conductors.

END OF SECTION

SECTION 16161
PANELBOARDS

PART 1 GENERAL

1.01 SECTION INCLUDES

A. Specifications for panel boards.

1.02 REFERENCES

A. American National Standards Institute/National Electrical Manufacturers Association (ANSI/NEMA)

1. NEMA PB1: Panel boards
2. NEMA PB1.1: Instruction for Safe Installation Operation and Maintenance of Panel boards rated 600 volts or less.
3. NEMA PB1.2: Application Guide for Ground-fault Protective Devices for Equipment

B. Underwriters Laboratories (UL) UL 489 Molded-Case Circuit Breakers, Molded-Case Switches and Circuit-Breaker Enclosures.

C. Federal Specifications, FS W-C-375E: Circuit Breakers, Molded Case, Branch Circuit and Service.

D. American National Standards Institute/National Fire Protection Association (ANSI/NFPA), NFPA No. 70 - National Electrical Code (NEC), Article 408 - Switchboards and Panel boards.

1.03 SUBMITTALS

A. Submit the following under provisions of Section 01330 - Submittal Procedures:

1. Manufacturer's cut sheets and catalog data
2. Breaker arrangement
3. Breaker characteristic curves
4. Instruction for handling and storage
5. Installation instructions
6. Dimensions and weights

1.04 DELIVERY, STORAGE AND HANDLING

A. Have panel boards packed and crated to permit ease of handling and to provide protection from damage during shipping, handling and storage.

PART 2 PRODUCTS

2.01 ACCEPTABLE MANUFACTURERS

A. Sheet Metal Boxes

1. Square D Company
2. Siemens
3. EATON

2.02 MATERIALS AND EQUIPMENT

A. Basic Requirements

1. Use panel boards manufactured and tested in accordance with NEMA PB 1.
2. Provide circuit breakers of industrial grade, manufactured and tested in accordance with UL 489 and Federal Specification FS W-C-375.
3. Do not exceed 42 available single pole branch circuits in any one panel board.

B. Rating

1. Voltage rating, current rating, number of phases, number of wires and number of poles are indicated on Drawings.
2. Branch circuit breaker interrupting capacity shall be minimum 10,000 ampere RMS symmetrical for 208V: 25,000 ampere RMS symmetrical for 480V.

C. Circuit Breakers: Molded case, bolt-on thermal magnetic type with number of poles and trip ratings as shown on the Drawings. Provide ground fault interrupters with trip ratings where shown on the Drawings.

D. Bus System

1. Bus Bars: 98 percent conductivity copper. Provide a solid neutral bar in 4-wire panel boards. Include ground bus in all panels. Provide split-bus panels where shown on Drawings.
2. Main: Circuit breaker or main lugs only as indicated on the Drawings or as required to meet the current interrupting ratings. Main breaker to be top mounted without using any of the circuit locations.

E. Box and Trim

1. Construction: Code grade steel, ample gutter space, flush door, flush snaplatch and lock.
2. Trim: Surface or flush as required. All panel boards shall be NEMA 4X stainless steel enclosures except those located in indoor air-conditioned areas which may be a NEMA 1 enclosure with manufacturer's standard gray enamel finish.
3. Directory: Typed card, with glass cover in frame on back of door giving the circuit numbers and the area or equipment served.

F. Conduit Connectors: Watertight hubs with grounding lugs as manufactured by Myers Hubs, or equal.

PART 3 EXECUTION

3.01 PREPARATION

A. Review Drawings to verify that panel boards are correct for the application.

3.02 INSTALLATION

A. Install the panel board in accordance with NEMA PB 1.1 and NEC Article 408.

B. Mount panel boards 6'-0" (to top of cabinet) above finished floor or grade.

C. In wet and corrosive areas, including outdoor locations, install panel enclosures on spacers to provide 1/4-inch between the back of cabinet and mounting surface.

D. In wet and corrosive areas, including outdoor locations, connect conduit to the bottom of enclosure and to the lower 30 percent of the sides using watertight connectors.

END OF SECTION

SECTION 16170
GROUNDING

PART 1 GENERAL

1.01 SECTION INCLUDES

A. Grounding electrodes and conductors

B. Equipment grounding conductors.

C. Bonding

D. Power system grounding

E. Communication system grounding

F. Electrical equipment and raceway grounding and bonding

G. Control equipment grounding

1.02 REFERENCES

A. American Society for Testing and Materials (ASTM)

1. ASTM B3: Soft or Annealed Copper Wires

2. ASTM B8: Concentric-Lay-Stranded Copper Conductors, Hard, Medium Hard, Soft

3. ASTM B33: Tinned Soft or Annealed Copper Wire for Electrical Purposes

B. Institute of Electrical and Electronics Engineers (IEEE)

1. IEEE 142-2007: Recommended Practice for Grounding of Industrial and Commercial Power Systems

2. IEEE 383-2.5: IEEE Standard for Type Test of Class IE Electric Cables, Field Splices, and Connections for Nuclear Power Generating Stations.

C. Underwriters' Laboratories (UL)

1. UL 83: Thermoplastic Insulated Wire and Cables

2. UL 467: Grounding and Bonding Equipment

D. National Fire Protection Association (NFPA), NFPA No. 70 - National Electrical Code (NEC), Article No. 250 - Grounding.

1.03 SUBMITTALS

A. Submit the following under the provisions of Section 01330 – Submittal Procedures:

1. Manufacturer's cut sheets and catalog data

2. Installation, terminating and splicing procedure.

3. Instruction for handling and storage

4. Dimensions and weight

1.04 QUALITY ASSURANCE

A. Tests

1. Use insulated cable conforming to requirements of the vertical tray flame test as described in IEEE 383-2.5.

2. Test grounding system in the field in accordance with procedures outlined in Part 3 - Execution.

1.05 DELIVERY, STORAGE AND HANDLING

A. Ship grounding cable on manufacturer's standard reel sizes unless otherwise specified. When cut lengths are specified, mark reel footage accordingly. Each reel shall contain one continuous length of cable. Provide impact protection by wood lagging or suitable barrier across the traverse of the reel. Pack and crate other materials specified to withstand normal abuse during shipping, handling and storage.

PART 2 P R O D U C T S

2.01 ACCEPTABLE MANUFACTURERS

A. Cable

1. American Insulated Wire Company

2. Cablec Continental Cables Company

3. General Cable Company

4. Okonite Company

5. Pirelli Cable Corporation

6. Rome Cable Corporation

7. Triangle Wire and Cable, Inc.

B. Ground Rods and Connectors:

1. Blackburn

2. Copperweld

3. Thomas & Betts

C. Exothermic Connections:

1. Burndy Corporation (Therm-O-Weld)

2. Erico Products (Cadweld)

D. Grounding Connectors:

1. Burndy Corporation

2. O.Z. Gedney

3. Thomas & Betts

2.02 MATERIALS AND EQUIPMENT

A. Design. Provide grounding cable and materials with the following characteristics:

1. Use a grounding system designed in accordance with NEC Article No. 250 - Grounding, and the IEEE 142-2007 - Recommended Practice for Grounding of Industrial and Commercial Power Systems.

B. Materials

1. Use grounding conductors, bare underground and insulated above ground, which are manufactured and tested in accordance with applicable standards ASTM B3, ASTM B8 and ASTM B33.

2. Provide a main ground loop of No. 4/0 AWG, Class C stranded, bare copper cable. Small groups of isolated equipment may be grounded by a No. 2 AWG minimum insulated conductor connected to the main loop. Taps shall be sized as follows:

a.	Main ground loop or grid	#4/0 minimum
b.	Switchgear, motor control centers and power transformers	#4/0
c.	Motors 200 hp and above	#4/0
d.	Power panels - AC and DC	#2/0
e.	Control panels and consoles	#2
f.	Building columns	#4/0
g.	Fencing posts	#2/0

3. Where single conductor insulated grounding conductors are called for use 600-volt insulation. Use ground conductors identified with green insulation. The use of green insulating tape is not permitted.

4. Supply identifying ribbon, which is PVC tape, 3 inches wide, red color, permanently imprinted with "CAUTION BURIED ELECTRIC LINE BELOW" in black letters as specified in Section 16195, Electrical Identification.

5. Utilize flexible copper braid across hinged chain link or fence gates to bond the movable portion to the grounded fence post.

PART 3 EXECUTION

3.01 PREPARATION

A. Complete site preparation and soil compaction before trenching and driving ground rods for the underground grid.

B. Verify from Drawings the exact location of stub-up points for grounding of equipment, fences and building or steel structures.

3.02 CONSTRUCTION CRITERIA

A. Install the main ground loop at a depth of at least 30 inches below earth surface. Connect the ground loop to ground rods and tap connections to form a complete system as indicated on the electrical Drawings. The Contractor shall give special attention to the grounding of service equipment, structures and fences to comply with the NEC, local authorities and the serving utility company.

B. All electrical equipment, buildings, tanks, and equipment shall be grounded. Where ground rods are required, the rods shall be 10 feet long, 3/4-inch diameter, copper-clad steel ground rods. Rods shall be driven vertically, and the top of the rods shall be a minimum of 18 inches below finished grade, or as specified on the Drawings. All ground rods shall be installed in specifically designed precast concrete ground rod wells that are equipped with a metal cover with the designation of GROUND on the cover.

C. Local pushbutton and selector switch stations, two-wire control devices, disconnect switches, lighting transformers, panelboards, operator panels, benchboards, and the enclosures of other electrical apparatus shall be grounded through a power grounding conductor routing with the power conductors in the conduit and a supplemental equipment grounding conductor run independently.

D. Motors having power supplied by multi-conductor cable shall be grounded by a separate grounding conductor in the cable and where supplied by single conductor cable in conduit by a grounding conductor pulled in the conduit. Connect ground conductors to the ground bus in the motor control center and to the ground terminal provided in the motor conduit box.

E. Do not ground the insulated bearing pedestals of large motors.

F. Connect ladder-type cable trays to the grounding electrode system.

G. Install a warning ribbon approximately 12 inches below the finished grade directly above the ground grid.

H. Connect fence posts of chain link and metal fences to the main ground loop at least every 50 feet.

3.03 INSTALLATION

A. Equipment Grounding

1. Make grounding connections to surfaces which are dry and cleaned of paint, rust, oxides, scales, grease and dirt to ensure good conductivity. Clean copper and galvanized steel to remove oxide before making welds or connections.

2. Use the exothermic welding process for below-grade grounding connections, except at ground rods. Use mechanical connectors or thermal connections for above-grade grounding connections as shown on the Drawings.

3. Make grounding connections to electrical equipment, vessels, mechanical equipment and ground rods in accordance with the Drawings.

4. Ground tanks and vessels by making connections to integral structural supports or to existing grounding lugs or pads, and not to the body of the tank or vessel.

5. Leave ground connections to equipment visible for inspection. Protect them with PVC non-metallic conduit as indicated on the Drawings.

6. Make connections to motor frames and ground buses with lugs attached to the equipment by means of bolts. Do not use motor anchor bolts or equipment housing for fastening lugs of grounding cable.

7. Where the wiring for lighting systems consists of single conductor cables in conduit, provide each conduit with an equipment grounding conductor. Use a grounding conductor with green colored insulation and ground equipment in the lighting system.

B. Raceway and Support Systems Grounding

1. Install raceway, cable rack or tray and conduit so that it is bonded together and permanently grounded to the equipment ground bus, according to the Drawings. Connection to conduit may be grounding bushing or ground clamp.

2. Install raceway at low voltage motor control centers or other low voltage control equipment so that it is bonded and grounded, except that any conduit which is effectively grounded to the sheet metal enclosure by bonding bushing or hubs need not be otherwise bonded.

3. Where a grounding conductor is run in or on a cable tray, bond the grounding conductor to each section of cable tray with a cable tray ground clamp.

4. Where only grounding conductor is installed in a metal conduit, bond both ends of the conduit to the grounding conductor.

5. Provide flexible "jumpers" around raceway expansion joints. Use copper bonding straps for steel conduit. Install jumpers across cable tray joints which have been parted to allow for expansion and any hinged cable tray connections.

C. Fences and Gates. Ground fences, fence posts and gates to the underground grid as noted in these specification and as shown on the Drawings.

D. Power System Grounding

1. Solidly ground the secondary neutral of the main power supply transformer to the ground grid. See Drawings for additional details.

2. Solidly ground the neutral of lighting, instrument and control transformers.

E. Cable Armor and Shields

1. For shielded control cable, terminate and ground the shield at one end only, preferably at the control panel end for instrument and communication cable and at the supply end for electronic power cables. Maintain shield continuity by jumpering the ground shield across connection point where it is broken at junction boxes, or other splice points. Insulate these points from ground.

2. Connect the ground wire in power cable assemblies at each terminal point to a ground bus, if available, or to the equipment enclosure. Do not carry these ground wires through a "doughnut" current transformer (CT) used for ground fault relaying; do carry ground leads from stress cones through CTs. Ground power cable armor and shield at each terminal point.

F. Test Wells

1. Provide access (test wells) for testing the ground grid system at one or several ground rod locations as indicated. Make test wells of a pipe surrounding the rod and connections with a cover placed on top at grade level. See Drawings for details.

2. Install a test well at the service entrance pole to serve as the service entrance grounding electrode.

G. Test

1. Perform ground resistance tests after underground installation and connections to building steel are complete, unless otherwise noted on applicable Drawings.

2. Make tests at each and every ground tap using a Fluke or equivalent clamp on grounding resistivity tester. Each ground tap test shall not exceed a maximum resistance of 3 ohms. Where measured values exceed this figure, install additional ground rods as required to reduce the resistance to the specified limit. Submit the results of all grounding testing for review and approval. All such grounding testing results shall be submitted with a drawing that illustrates the specific location of each grounding test conducted.

H. Inspection. Inspection of the grounding system by the Engineer and the local Code Inspector must take place before the grid trenches are backfilled.

END OF SECTION

SECTION 16120
ELECTRICAL IDENTIFICATION

PART 1 GENERAL

1.01 SECTION INCLUDES

A. Specification for electrical identification including:

1. Nameplates and labels
2. Wire and cable markers
3. Conduit markers
4. Cable tray markers
5. Underground warning tape
6. Warning labels

1.02 REFERENCES

A. American National Standards Institute/National Fire Protection Association (ANSI/NFPA)

1. No. 70 - National Electrical Code (NEC)

a. Article 110 - Requirements for Electrical Installation

b. Article 450 - Transformers and Transformer Vaults

B. Other applicable Codes and Standards as referenced in other Sections.

C. Underwriters Laboratories. U.L. Standards No. 224 - Extruded Insulated Tubing

1.03 SUBMITTALS

A. Submit the following under the provisions of Section 01330 Submittal Procedure:

1. Manufacturer's cut sheets and catalog data
2. Description of materials used.
3. Label or nameplate dimensions

4. Engraving or imprint legends

5. Instruction for handling and storage

6. Installation instructions

1.04 DELIVERY, STORAGE AND HANDLING

A. Pack materials to permit ease of handling and to provide protection from damage during shipping, handling and storage.

PART 2 P R O D U C T S

2.01 ACCEPTABLE MANUFACTURERS

A. Almetek Industries Incorporated

B. Brady U.S.A. Incorporated

C. Ideal Electric Company

D. Raychem Corporation

E. 3M Electrical Products Division

F. Thomas & Betts

G. Tyton Corporation

2.02 MATERIALS AND EQUIPMENT

A. Nameplates and Labels

1. Provide an identification tag for each item of electrical equipment showing its item number and service or application. Use the description shown on the electrical Drawings.

2. For nameplates, use 3-ply phenolic material engraved to show black lettering on a white background. Size the nameplates approximately 1 inch wide and 3 inches long for 3 lines of 3/16 inch - 16 letters with a 0.8 condensed factor.

3. Generally, provide large pieces of equipment with engraved nameplates; provide additional nameplates at pushbuttons and other local devices; as detailed. Provide identification for all other electrical equipment, devices, or enclosures, such as MCC's, panelboards, disconnect switches, capacitors, relays, and dedicated receptacles not furnished with readily noticeable tag, nameplates, or other means of identification.

4. Install nameplates on the front cover of transformers stating the transformer service location number or identification number, the panelboard or device served, and main breaker feeding the transformer (MCC No. and compartment), and the drawing number on which the transformer schematic is shown

5. Furnish equipment, such as motor starters, safety switches, welding receptacles and circuit breakers, with 1" x 3" plastic nameplates stating description of item served.

6. Provide nameplates for motors giving the driven equipment description, the service location number, and the MCC number with compartment number when applicable. Nameplates will normally be mounted adjacent to the motor at the motor pushbutton when one is furnished.

7 Install nameplates on the outside and inside of doors to circuit breaker panelboards (i.e., lighting, instrument or receptacle panels). State the panelboard name, the drawing number on which the panelboard schedule shows, and the main breaker feeding the panel (MCC No. and compartment).

8. Type panelboard directories and insert them inside the panelboard doors.

9. Place a large nameplate approximately 3"x5" on control panels, relay panels, junction boxes, or enclosures with electrical devices mounted inside or on the outside of the enclosure indicating the purpose of the cabinet.

10. Provide a nameplate on MCC motor starter doors duplicating motor nameplate data.

B. Wire and Cable Markers

1. Use pre-printed tubular heat-shrink type wire and cable markers at each end of all conductors.

2. Select markers manufactured so that the heat-shrink process makes the imprint permanent and solvent-resistant.

3. Use markers that are self-extinguishing, conforming to U.L. Standard No. 224 for print performance, heat shock, and flammability.

4. Provide marker material that is flexible, radiation cross-linked polyolefin with 3 to 1 shrink ratio, rated 600 volts, and white in color.

C. Conduit Markers

1. Provide conduit markers made of stainless-steel tags approximately 2 inches x 1 inch x 19 gage.

2. Stamp the caption on the tag and have the lettering filled with permanent black ink.

3. Punch tags for tie fasteners. Fasten tags to the conduits with stainless steel cable ties as manufactured by Panduit or approved equal.

D. Cable Tray Markers

1. For high visibility and contrast, use cable tray markers that are yellow with black legend.

2. Use markers made of vinyl impregnated cloth, suitable for exposure to corrosive, wet, and abrasive environment.

3. Make markers of pre-cut individual letters or numbers with pressure sensitive adhesive backing.

4. Size legend characters to 4 inches high on a total marker height of approximately 5 inches, suitable for applying to 6-inch side rails of a cable tray.

E. Underground Warning Tape

1. Provide warning tape made of 4 mil thick polyolefin film, 3 inches wide, suitable for direct burial and resistant to alkalis, acids, and other common soil substances.

2. Use red tape with black legend printed in permanent ink.

F. Warning Labels

1. Place OSHA safety labels on enclosures and boxes 100 cubic inches or more containing electrical equipment or terminations.

2. Provide OSHA color codes for the labels. Use labels made from 4 mil vinyl with pressure sensitive adhesive backing.

3. The warning label caption is DANGER - 480 VOLTS or as indicated on the Drawings.

4. Label sizes are either 5 inches x 3-1/2 inches or 10 inches x 7 inches, as dictated by the size of the equipment.

PART 3 EXECUTION

3.01 PREPARATION

A. Degrease and clean surfaces where adhesive labels will be applied.

B. Drill holes for nameplates to be fastened with stainless screws.

C. Prepare the cable ends for termination and conductor markings.

D. Identify conduits at terminating points and select tags accordingly.

3.02 INSTALLATION

A. Install nameplates and labels in accordance with the manufacturer's instructions and the Drawings.

B. Apply wire and cable markers in accordance with manufacturer's instructions using a heat gun with properly sized nozzle for the application. Tag the wires at both ends with the same notation.

C. Tag conduits at junction boxes, pull boxes, and at other termination points.

D. Identify cable trays at the time of installation with the alphanumeric number shown on the Drawings. Label cable trays on the outside rail. Place the tray identifier at each point where the tray designation changes and at 200-foot intervals in between, but not less than two per run.

E. Identify underground conduits, cables, or duct banks using the underground warning tape. The underground grounding grid, including the laterals. Also use underground warning tape. Install one tape per trench at 12 inches below grade or as indicated on the Drawings. For wide trenches or duct banks, install one warning tape per 24-inch width.

F. Apply the 5 inches by 3-1/2 inches warning labels to disconnect switches, panelboards, terminal boxes, and similar devices in accordance with manufacturer's instruction and the Drawings. Apply the 10 inches x 7 inches warning labels to larger control panel enclosures, motor control centers, and to entrance doors to buildings containing electrical power and control equipment.

END OF SECTION

SECTION 16402
UNDERGROUND CONDUIT BANKS

PART 1 GENERAL

1.01 SECTION INCLUDES

A. Underground electrical duct banks.

1.02 REFERENCES

A. National Fire Protection Association (NFPA): No. 70 - National Electrical Code (NEC) Appendix B.

1.03 SUBMITTALS

A. Catalog cut sheets of the ducts and spacers.

1.04 DELIVERY, STORAGE AND HANDLING

A. Have duct spacers and associated hardware packed and crated to avoid damage during shipment and handling.

B. Clearly mark packages or crates stating that the material is for electrical duct banks only.

PART 2 PRODUCTS

2.01 ACCEPTABLE MANUFACTURERS

A. Thomas and Betts.

B. Underground Devices Inc.

C. Walker Division, Butler Manufacturing Company.

2.02 MATERIALS AND EQUIPMENT

A. Conduit. Construct the horizontal runs of conduit ducts banks using Schedule 40 rigid PVC conduit. Refer to Section 16111 - Conduit, Fittings and Bodies.

B. Spacers. Secure conduit with non-magnetic, universal, interlocking-type spacers for both horizontal and vertical duct arrangements at a maximum spacing of six (6) feet.

C. Concrete. Use steel reinforced, red concrete as duct encasement. The minimum concrete strength shall be 4,000 psi. Refer to Section 420 Concrete Substructures.

PART 3 EXECUTION

3.01 PREPARATION

A. Verify from Drawings and field survey that the location of ductbanks does not interfere with any existing or new underground facilities.

B. Verify that materials are on site in proper condition and that sufficient quantity is on hand for the work.

C. Verify that trenches are in the correct places and prepared with sufficient depth and width to accommodate the duct banks, reinforcing rod, and concrete.

D. Be prepared for inspection of the duct banks before reinforcing concrete is installed.

E. Before pouring concrete, verify that the ducts are free of debris and properly installed in the support and spacer systems and that the ducts are properly fitted together and firmly held in place by the hold down hardware.

F. Provide 24-hour notice to the Project Manager and the Local Code Inspector for cover-up inspection before pouring electrical conduit ductbanks.

3.02 INSTALLATION

A. Use the size and types of conduit as indicated on the Drawings for the various duct banks required for the project.

B. Make duct bank installations and penetrations through foundation walls watertight.

C. Assemble duct banks using non-magnetic saddles, spacers and separators. Position separators to provide 2-inch minimum concrete separation between the outer surfaces of the conduits.

D. Provide a 3-inch minimum concrete covering on both sides, top and bottom of concrete envelopes around conduits. Add red dye to the concrete in the delivery trucks at the rate of 10 pounds per cubic yard for easy identification during subsequent excavation.

E. Rigidly fix ducts in place during pouring of concrete. Carefully spade and vibrate the concrete to ensure filling of spaces between ducts.

F. Make bends with sweeps of radius not less than 6 times the smallest diameter of the raceway.

G. Make a transition from non-metallic to pvc-coated metallic rigid conduit where duct banks enter structures or turn upward for continuation above grade.

H. Make bends of 30 degrees or more using PVC coated rigid galvanized steel.

I. Reinforce duct banks throughout.

1. Unless otherwise noted on the Drawings, reinforce with No. 5 longitudinal steel bars placed at each corner and along each face at a maximum parallel spacing of 12 inches on centers, and No. 5 tie-bars transversely placed at 18-inch maximum longitudinal intervals.

2. Maintain a minimum of 3 inches of concrete from reinforcing steel to the edge of the concrete encasement.

J. Where ducts enter structures such as hand holes, manholes, pull boxes, or buildings, terminate the ducts in suitable end bells, insulated L-bushings, Meyers hubs or couplings on steel conduits. Tag conduits entering pull boxes with stamped, stainless-steel tags. Identify as designated in cable and conduit schedule.

K. Refer to Section 400 Excavation and Backfill for Structures for backfilling requirements. Do not backfill with material containing large rock, paving materials, cinders, large or sharply angular substances, corrosive material, or other materials which can damage or contribute to corrosion of ducts or prevent adequate compaction of fill.

L. Install a bare stranded copper duct bank ground in each duct bank envelope. Make ground electrically continuous throughout the entire duct bank system. Connect ground to switchgear and MCC ground buses and to steel conduit extensions of the underground duct system.

M. After completion of the duct bank and prior to pulling cable, pull a mandrel, not less than 12 inches long and with a cross section approximately one-fourth inch less than the inside cross section of the duct, through each duct. Then pull a rag swab or sponge through to remove any particles of earth, sand or gravel that may have been left in the duct. Repull the rag or sponge swab until the swab emerges clean.

N. Use specially designated cord to pull conductors into conduits. Do not use nylon or wire cable for this purpose.

O. Install a warning ribbon approximately 12 inches below finished grade over underground duct banks. Refer to Section 16195 - Electrical Identification.

P. For manholes and pull boxes below grade with a depth greater than two (2) feet, install racks to support cables properly around the interior perimeter and keep them dry.

Q. For manholes and pull boxes below grade, install a french drain, or other drainage.

END OF SECTION

SPECIAL PROVISIONS

REQUEST FOR PROPOSAL
HIGHWAY 3 BOAT RAMP AND PARKING LOT RECONSTRUCTION PROJECT
GALVESTON COUNTY, TEXAS

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CONSTRUCTION PLANS FOR

COUNTY OF GALVESTON

HIGHWAY 3 BOAT RAMP RENOVATION

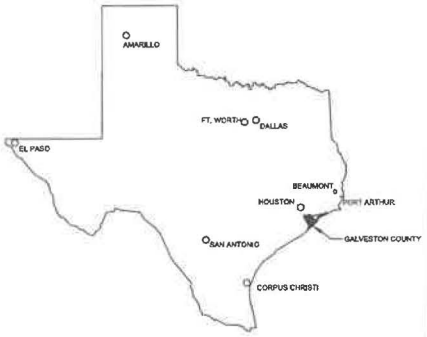
DICKINSON, TEXAS

THE STATE OF TEXAS
COUNTY OF GALVESTON

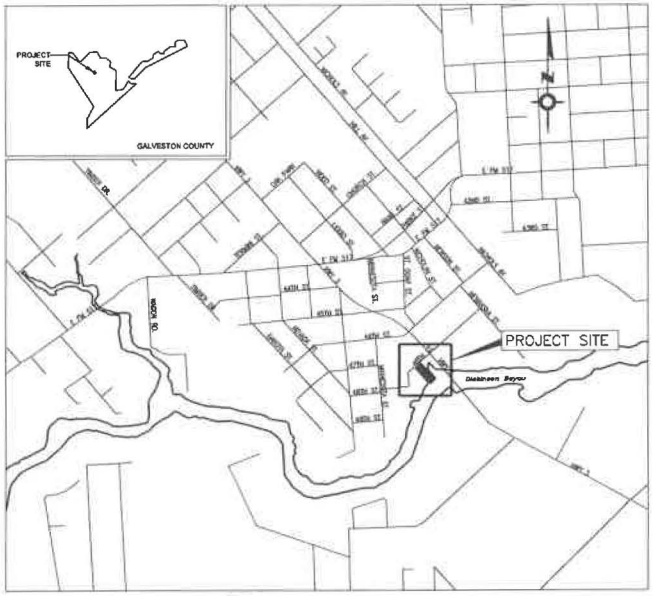
TEXAS PARKS & WILDLIFE

OFFICIALS

MARK HENRY	COUNTY JUDGE
DARRELL APFFEL	COMMISSIONER PRECINCT No. 1
JOE GIUSTI	COMMISSIONER PRECINCT No. 2
HANK DUGIE	COMMISSIONER PRECINCT No. 3
ROBIN ARMSTRONG, MD	COMMISSIONER PRECINCT No. 4
MICHAEL SHANNON, PE	COUNTY ENGINEER
JULIE WALKER, CPRE	PARKS DIRECTOR



01 VICINITY MAP
SCALE: N.T.S.



02 LOCATION MAP
SCALE: N.T.S.

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C02	GENERAL NOTES
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C04	EXISTING SITE CONDITIONS
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C06	SITE PLAN
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Texas 811
Know what's below. Call before you dig.

JANUARY 2025

STATE OF TEXAS
DOUGLAS S. DUSINI
127813
LICENSED PROFESSIONAL ENGINEER

1/24/2025

GENERAL REQUIREMENTS

1. THIS WORK IS VERIFIED BY US ARMY CORPS OF ENGINEERS NATIONWIDE PERMIT (NWP) 36 UNDER PERMIT NO. SWG-2019-00483 DATED NOVEMBER 20, 2024. WORK UNDER NWP 36 IS AUTHORIZED UNLESS IT IS MODIFIED, ISSUED OR REVOKED. IF WORK IS COMMENCED OR ARE UNDER CONTRACT PRIOR TO THE DATE THAT NWP 36 IS MODIFIED OR REVOKED, CONTRACTOR WILL HAVE 12 MONTHS FROM THE DATE OF THE MODIFICATION OR REVOCATION OF THE NWP TO COMPLETE THE ACTIVITY UNDER THE PRESENT TERMS AND CONDITIONS OF THE NWP.
2. DESIGN AND CONSTRUCTION SHALL COMPLY WITH ALL APPLICABLE STATE AND LOCAL CODES AND STANDARDS, THE PROJECT SPECIFICATIONS AND PROJECT DRAWINGS. CONTRACTOR SHALL NOTIFY OWNER IMMEDIATELY OF ANY CONFLICTS BETWEEN STATE AND LOCAL CODES, PROJECT SPECIFICATIONS AND PROJECT DRAWINGS PRIOR TO ANY CONSTRUCTION.
3. CONTRACTOR SHALL FIELD CHECK AND VERIFY ALL ELEVATIONS, COORDINATES, DIMENSIONS, EXISTING CONDITIONS, AND INFORMATION INDICATED ON THE CONTRACT DOCUMENTS PRIOR TO COMMENCEMENT OF SITE WORK. THE OWNER SHALL BE NOTIFIED IMMEDIATELY OF ANY DISCREPANCIES FOUND ON THE CONTRACT DOCUMENTS OR FOUND TO EXIST BETWEEN THE FIELD CONDITIONS AND THE CONTRACT DOCUMENTS. THE CONTRACTOR SHALL TAKE CORRECTIVE ACTION AS DIRECTED BY THE OWNER.
4. THE LOCATION AND DEPTH OF UTILITIES SHALL BE VERIFIED BY THE CONTRACTOR BEFORE WORK COMMENCES. PRIOR TO BEGINNING ANY EXCAVATION WORK IN THE AREA OF EXISTING UTILITIES, THE CONTRACTOR SHALL CONTACT THE UTILITY COMPANIES FOR EXACT LOCATIONS AND DEPTHS TO PREVENT ANY DAMAGE OR INTERFERENCE WITH PRESENT FACILITIES.
5. CONTRACTOR SHALL MAINTAIN ALL REGULATORY AND WARNING SIGNS DURING THE CONSTRUCTION PERIOD.
6. WORKER SAFETY IN EXCAVATIONS AND TRENCHES SHALL BE PROVIDED BY THE CONTRACTOR IN ACCORDANCE WITH OCCUPATIONAL SAFETY AND HEALTH ADMINISTRATION (OSHA) STANDARDS, 29 CFR 1926, SUBPART P – EXCAVATIONS, TRENCHING, AND SHORING. COMPLY WITH USACE-EM-385 FOR ALL ASPECTS OF CONSTRUCTION.
7. SAFETY AND STRUCTURE STABILITY DURING CONSTRUCTION ARE THE SOLE RESPONSIBILITY OF THE CONTRACTOR. STRUCTURES HAVE BEEN DESIGNED TO RESIST THE DESIGN LIVE LOAD ONLY AS A COMPLETED STRUCTURE.
8. ALL EXISTING ROADWAY AND OTHER FEATURES THAT ARE DAMAGED BY THE CONTRACTOR SHALL BE REPAIRED TO THE SATISFACTION OF THE OWNER. COORDINATE WITH OWNER FOR ANY INTERFERENCE WITH VEHICULAR TRAFFIC AND DAILY OPERATION DURING THE COURSE OF THE WORK.

GENERAL NOTES

1. SURVEY DATUM:

   HORIZONTAL SURVEY DATUM: TEXAS STATE PLANE SOUTH CENTRAL NAD 1983

   VERTICAL DATUM: NAVD88
2. SURVEY CONTROL POINTS ESTABLISHED BY LJA ENGINEERING, INC.
3. CONTOUR INTERVAL AS INDICATED IN PLANS.

SCOPE

THE NOTES ON THIS SHEET CONTAIN GENERAL INFORMATION AND APPLY TO THE ENTIRE PROJECT EXCEPT WHERE THERE ARE SPECIFIC INDICATIONS TO THE CONTRARY.

PRECEDENCE

TECHNICAL SPECIFICATIONS SHALL TAKE PRECEDENCE OVER CONFLICTING DRAWINGS. EXPLANATORY NOTES ON THE DRAWINGS SHALL TAKE PRECEDENCE OVER CONFLICTING DRAWN-OUT INDICATIONS. LARGE-SCALE DETAILS WILL TAKE PRECEDENCE OVER SMALL-SCALE DRAWINGS AND FIGURED DIMENSIONS TO SCALE MEASUREMENTS. WHERE FIGURES ARE LACKING, SCALE MEASUREMENTS MAY BE FOLLOWED, BUT IN ALL CASES THE MEASUREMENTS ARE TO BE CHECKED FROM THE WORK IN PLACE. SHOULD VARIATIONS BE FOUND, THEY MUST BE REFERRED TO THE ENGINEER FOR INSTRUCTIONS PRIOR TO PROCEEDING.

BRUSH/TREE CLEARING

1. CONTRACTOR SHALL SUBMIT DESIRED STAGING/LAYDOWN AREAS WITHIN LIMITS INDICATED IN PLANS. CONTRACTOR SHALL SUBMIT DESIRED ACCESS CORRIDORS AMONG CONSTRUCTION ZONES AND STAGING/LAYDOWN AREAS. STAGING/LAYDOWN AREAS AND CORRIDORS SHALL MINIMIZE TREE CLEARING TO THE EXTENT PRACTICABLE WITH PREFERENCE GIVEN TO LARGE TREES TO BE AVOIDED.
2. LARGE BRUSH AND REMOVED TREES SHALL BECOME PROPERTY OF CONTRACTOR AND REMOVED FROM THE SITE.
3. SURFACE VEGETATION AND TOPSOIL IN STAGING/LAYDOWN AREAS, ACCESS CORRIDORS, AND STRUCTURE CONSTRUCTION LIMITS MAY BE TEMPORARILY REMOVED, STOCKPILED, AND REPLACED TO APPROXIMATE ORIGINAL LINES AND GRADES.
4. IF TOPSOIL AND SURFACE VEGETATION IS RETURNED TO APPROXIMATE ORIGINAL LINES/GRADES, REPLANTING WILL GENERALLY NOT BE REQUIRED.

DEMOLITION AND SALVAGE

1. THE CONTRACTOR SHALL REMOVE ALL EXISTING ABOVE SURFACE AND BURIED STRUCTURES ON THE SITE WHICH ARE REQUIRED TO ALLOW THE NEW CONSTRUCTION AS SHOWN. THE APPROXIMATE LOCATION AND EXTENT OF THESE STRUCTURES HAVE BEEN SHOWN ON THIS DRAWING.
2. DEMOLITION OF EXISTING FACILITIES UNLESS NOTED OTHERWISE SHALL BECOME THE PROPERTY OF THE CONTRACTOR AND SHALL BE DISPOSED OF LEGALLY AND PROPERLY. ALL DEBRIS SHALL BE HAULED OFF SITE AND DISPOSED OF AT THE CONTRACTOR'S EXPENSE.
3. EXCAVATED SOIL AND ROCK SHALL BE DISPOSED OF AS DIRECTED BY OWNER AT THE EXPENSE OF THE CONTRACTOR
4. MATERIALS TO BE SALVAGED SHALL BE STOCKPILED IN THE AREA AS DIRECTED BY OWNER.

FINAL GRADING

1. NO HORIZONTAL AND VERTICAL DESIGN IS INCLUDED BEYOND FOOTPRINT OF SOIL MIXING AREA.
2. AREAS AFFECTED BY THE CONSTRUCTION SHALL BE GRADED TO MATCH EXISTING GROUND ELEVATIONS. TRANSITIONS IN GRADES SHALL BE SMOOTH AND UNIFORM.
3. GRADING SHALL BE PERFORMED IN SUCH A MANNER THAT WATER IS NOT PONDED ON GROUND SURFACES.
4. ALL AREAS WHICH HAVE BEEN FILLED AND AREAS STRIPPED OF VEGETATION THAT IS NOT RETURNED TO ITS APPROXIMATE ORIGINAL LOCATION SHALL BE SEEDED IN ACCORDANCE WITH THE SPECIFICATION.

EARTHWORKS

THE CONTRACTOR SHALL LOCATE, IDENTIFY, AND PROTECT EXISTING UTILITIES FROM DAMAGE DURING CONSTRUCTION ACTIVITIES. THE CONTRACTOR SHALL PRE MARK ALL AREAS WHERE EXCAVATION AND GRADING OPERATIONS ARE TO OCCUR AND SHALL CALL "TEXAS 811" (811 OR 1-800-344-8377) AND THE OWNER 48 HOURS PRIOR TO THE START OF CONSTRUCTION ACTIVITIES.

ABBREVIATIONS

EL.	ELEVATION
EX.	EXISTING
O.C.	ON CENTER
O.C.E.W	ON CENTER EACH WAY
U.N.O	UNLESS NOTED OTHERWISE

CONCRETE NOTES

1. PROVIDE CLASS P CONCRETE TO MEET AT LEAST ONE OF THE FOLLOWING:
   1.1. MIN. AVERAGE COMPRESSIVE STRENGTH OF 3200 PSI OR A MIN. AVERAGE FLEXURAL STRENGTH OF 450 PSI AT 7 DAYS, OR
   1.2. MIN. AVERAGE COMPRESSIVE STRENGTH OF 4000 PSI OR A MIN. AVERAGE FLEXURAL STRENGTH OF 570 PSI AT 28 DAYS.
2. SLUMP NOT TO EXCEED 4 INCHES.
3. AIR ENTRAINMENT: 3.0% (MIN.)
4. ALL REINFORCING STEEL SHALL BE GRADE 60.
5. WHEN REINFORCING BARS ARE USED, THEY SHALL BE NO. 4 UNLESS OTHERWISE SHOWN.
6. WHERE CONCRETE CURB REPAIRS ARE PLACED ON EXISTING CONCRETE PAVEMENT, THE PAVEMENT SHALL BE DRILLED AND THE REINFORCING BARS GROUTED IN PLACE.
7. REINFORCING BARS AND DOWELS SHALL CONFORM TO SPECIFICATION ITEM 440, "REINFORCEMENT FOR CONCRETE."
8. DOWEL BAR PLACEMENT TOLERANCE SHALL BE +/- 1/4 INCH HORIZONTALLY AND VERTICALLY UNLESS OTHERWISE SPECIFIED. WHERE DOWEL BAR BASKETS ARE USED, REMOVE THE SHIPPING WIRES.
9. EXPANSION AND CONTRACTION JOINTS SHALL BE CONSTRUCTED TO MATCH ADJACENT EXISTING PAVEMENT JOINTS. WHERE PLACEMENT OF CONCRETE IS NOT ADJACENT TO CONCRETE PAVEMENT, EXPANSION JOINTS SHALL BE PROVIDED AT STRUCTURES AND AT LOCATIONS DIRECTED BY THE ENGINEER.
10. ROUND EXPOSED SHARP EDGES WITH A ROUNDING TOOL TO A MINIMUM RADIUS OF 1/4 INCH.

Texas 811
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STATE OF TEXAS
DOUGLAS S. DUSINI
127813
LICENSED
PROFESSIONAL ENGINEER

Douglas S. Dusini 1/24/2025

LJA ENGINEERING, INC
Transportation/Marine Facilities
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Katy, Texas 77449
Phone 713.360.4420
FRN - F-1386

COUNTY OF GALVESTON
GALVESTON, TEXAS

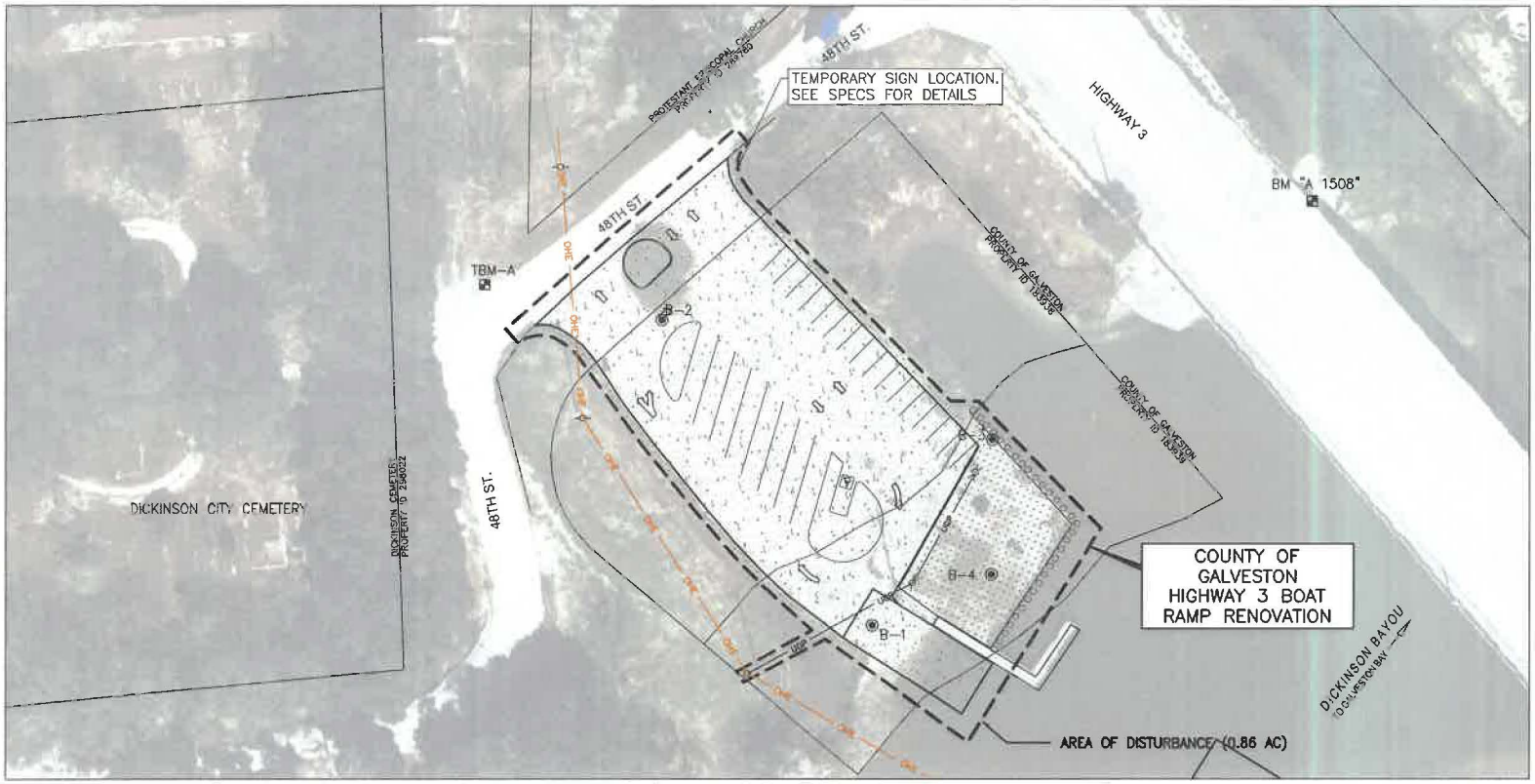
ISSUE	DATE	BY	DESCRIPTION	CHK'D	APP'D
04	1/24/25	DSD	ISSUED FOR CONSTRUCTION	BZ	RCW
03	3/12/24	DSD	ISSUED FOR CONSTRUCTION	BZ	RCW
02	2/6/24	DSD	ISSUED FOR REVIEW	----	----
01	8/11/19	DSD	ISSUED FOR REVIEW	----	----

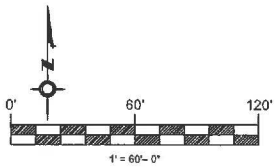
HIGHWAY 3 BOAT RAMP RENOVATION
DICKINSON, TEXAS

GENERAL NOTES

DESIGNED BY	DATE	SCALE	PROJ. NO.
DSD	3/20/2019	N.T.S.	B841-1006

DRAWING NO.	ISSUE NO.
C02	03





SURVEY COORDINATE SYSTEM				
POINT	NORTHING	EASTING	ELEVATION	DESCRIPTION
BM "A 1508"	13,736,839.790	3,226,565.537	10.29	STAMPED "A 1508"
TBM-A	13,736,798.290	3,226,155.226	11.48	

SOIL BORING COORDINATE TABLE			
BORING	NORTHING	EASTING	DEPTH
B-1	13,736,630.482	3,226,348.147	6'-0"
B-2	13,736,781.185	3,226,243.635	6'-0"
B-3	13,736,722.376	3,226,407.677	35'-0"
B-4	13,736,655.967	3,226,407.286	15'-0"

LEGEND

- CONSTRUCTION WORK AREA
- OHE — EXISTING OVERHEAD ELECTRIC
- UGP — PROPOSED UNDERGOUND ELECTRIC
- SURVEY BENCHMARK
- SOIL BORING LOCATION
- EXISTING POWER POLE
- PROPOSED LIGHT POLE
- CONCRETE PAVEMENT
- GRASS

BENCHMARK
MONUMENT STAMPED A 1508 LOCATED 0.45 MI SOUTHEAST ALONG STATE HIGHWAY 3 FROM THE JUNCTION OF FARM ROAD 517 IN DICKINSON, IN THE NORTHEAST END OF THE NORTHWEST CONCRETE ABUTMENT OF THE HIGHWAY BRIDGE SPANNING DICKINSON BAYOU, 18.7 FT NORTHEAST OF THE CENTERLINE OF THE NORTHWEST BOUND LANES OF THE HIGHWAY, AND 0.2 FT SOUTHWEST OF THE NORTHEAST END OF THE ABUTMENT.

TEMPORARY BENCHMARK
SET MAG NAIL ON THE NORTH SIDE OF 48TH STREET +/- 250 WEST OF HIGHWAY 3, 69 FEET FROM A POWER POLE WITH A TRANSFORMER.

SURVEY COORDINATE SYSTEM
HORIZONTAL DATUM: TEXAS STATE PLANE COORDINATES, SOUTH-CENTRAL ZONE, NAD 83, US. SURVEY FEET
VERTICAL DATUM: NAVD88, FEET

USE SCALE FACTOR = 0.9998691637 TO CONVERT DATA TO GRID.

3/12/2024

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COUNTY OF GALVESTON
GALVESTON, TEXAS

ISSUE	DATE	BY	DESCRIPTION	CHK'D	APP'D
03	3/12/24	DSD	ISSUED FOR CONSTRUCTION	BZ	RCW
01	11/30/23	DSD	ISSUED FOR REVIEW		

PROJECT AND LOCATION

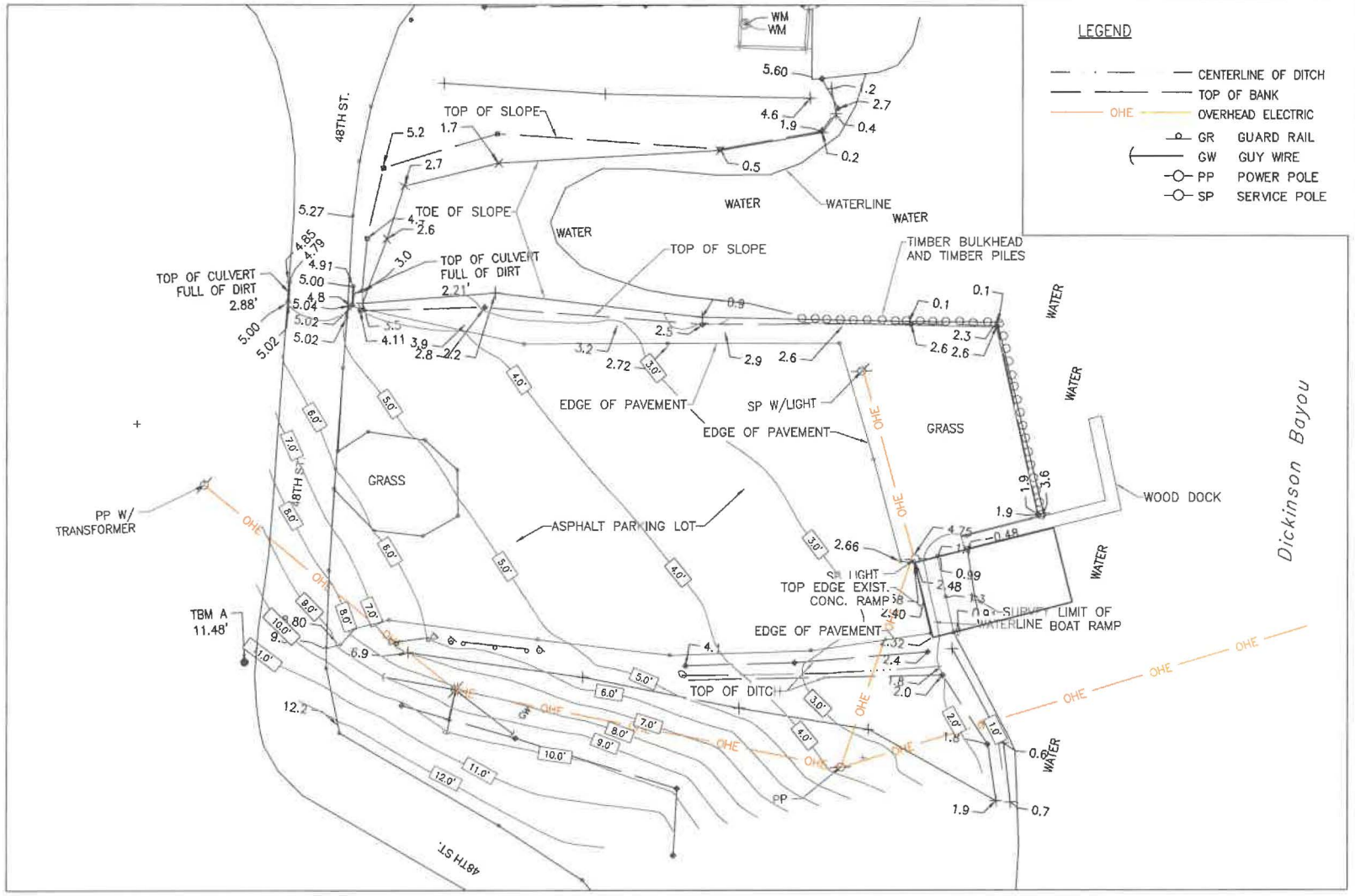
HIGHWAY 3 BOAT RAMP RENOVATION
DICKINSON, TEXAS

SHEET TITLE

OVERALL SITE PLAN

DESIGNED BY	DATE	SCALE	PROJ NO.
DSD	3/20/2019	1" = 60'-0"	B841-1006

DRAWING NO. C03 | ISSUE NO. 03



GENERAL NOTES

1. UNDERGROUND UTILITY LINES HAVE BEEN DRAWN BASED ON VISIBLE SURFACE APPURTENACES AND LOCATION MAPS PROVIDED BY GALVESTON COUNTY WCID 1.
2. THE CONTRACTOR SHALL FIELD VERIFY THE LOCATION OF ALL UTILITIES. IF A DISCREPANCY EXISTS THE CONTRACTOR SHALL NOTIFY THE ENGINEER.
3. UTILITY APPURTENANCE SYMBOLS (TRAFFIC SIGNAL POLES, ELECTRIC PULL BOX, ETC.) SHOWN ON THIS TOPOGRAPHIC DRAWING MAY NOT REPRESENT THE ACTUAL SIZE OF THE UTILITY APPURTENANCES IN THE FIELD.
4. SURVEY DATA WAS COLLECTED ON DECEMBER 13, 2018.

NOTES

BENCHMARK:

MONUMENT STAMPED A 1508 LOCATED (0.45 MI) SOUTHEAST ALONG STATE HIGHWAY 3 FROM THE JUNCTION OF FARM ROAD 517 IN DICKINSON, IN THE NORTHEAST END OF THE NORTHWEST CONCRETE ABUTMENT OF THE HIGHWAY BRIDGE SPANNING DICKINSON BAYOU,10.7 FEET NORTHEAST OF THE CENTERLINE OF THE NORTHWEST BOUND LANES OF THE HIGHWAY, AND 0.2 FEET SOUTHWEST OF THE NORTHEAST END OF THE ABUTMENT.

ELEV. 10.29', NAVD88

TEMPORARY BENCHMARK:

SET MAG NAIL ON THE NORTH SIDE OF 48TH STREET +/- 250 FEET WEST OF HIGHWAY 3, 69 FEET FROM A POWER POLE WITH A TRANSFORMER

ELEV. 11.48', NAVD88

STATE OF TEXAS
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COUNTY OF GALVESTON
GALVESTON, TEXAS

ISSUE	DATE	BY	DESCRIPTION	CHK'D	APP'D
03	3/12/24	DSD	ISSUED FOR CONSTRUCTION	BZ	RCW
01	8/11/19	DSD	ISSUED FOR REVIEW	BZ	RCW

HIGHWAY 3 BOAT RAMP RENOVATION
DICKINSON, TEXAS

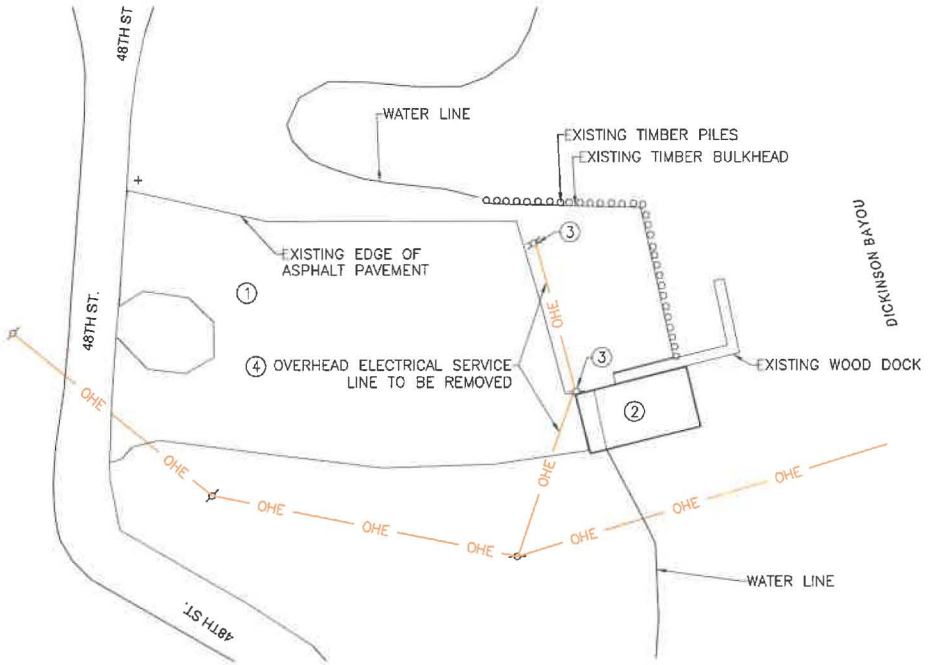
EXISTING SITE CONDITIONS

DESIGNED BY	DATE	SCALE	PROJECT NO
DSD	3/20/2019	1" = 40' - 0"	B841-1006

DRAWING NO	SHEET NO
C04	03

GENERAL NOTES:

1. CONTRACTOR SHALL FIELD VERIFY ALL DIMENSIONS AND MATERIALS SHOWN ON DRAWINGS.
2. CONTRACTOR SHALL MINIMIZE TEMPORARY IMPACTS TO WETLAND AREA. SEE PERMITTING.
3. INSTALL COFFERDAM PRIOR TO DEMOLITION.



DEMOLITION SCOPE		QUANTITY
1	BREAK, REMOVE AND DISPOSE OF EXISTING ASPHALT PAVEMENT AND BASE MATERIALS.	940 CY
2	REMOVE CONCRETE BOAT RAMP	183 SY
3	REMOVE OVERHEAD LAMP AND SERVICE POLE	2 EA
4	REMOVE OVERHEAD ELECTRICAL SERVICE LINE	1 EA

LEGEND

- OHE — OVERHEAD ELECTRIC
- POWER POLE
- LIGHT POLE

0' 60' 120'

1" = 60'-0"

STATE OF TEXAS
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THE STATE OF TEXAS COUNTY OF GALVESTON

COUNTY OF GALVESTON
GALVESTON, TEXAS

04	1/24/25	DSD	ISSUED FOR CONSTRUCTION	BZ	RCW
03	3/12/24	DSD	ISSUED FOR CONSTRUCTION	BZ	RCW
02	2/6/240	DSD	ISSUE FOR REVIEW	---	---
01	8/11/19	DSD	ISSUE FOR REVIEW	---	---
ISSUE	DATE	BY	DESCRIPTION	CHKD	APPD

HIGHWAY 3 BOAT RAMP RENOVATION
DICKINSON, TEXAS

DEMOLITION PLAN

DRAWN BY	DATE	SCALE	PROJECT NO
DSD	3/20/2019	1" = 60'-0"	BB41-1006
DRAWING NO. C05			ISSUE NO 03

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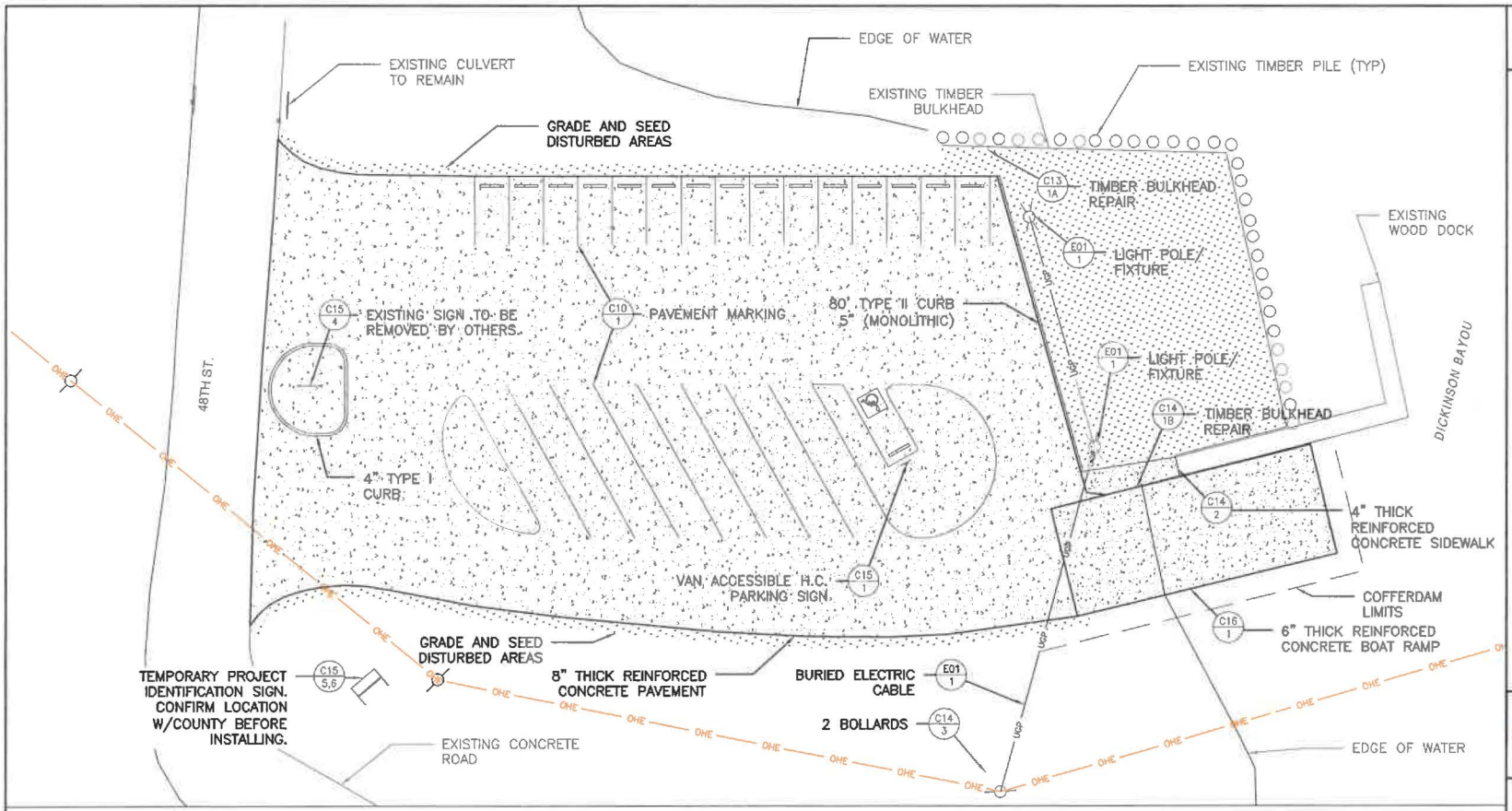

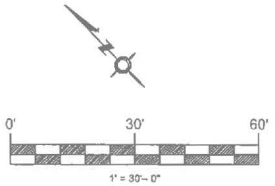

1/24/2025

SITE PLAN NOTES

1. TEMPORARY COFFERDAM MAY BE CONSTRUCTED WITH WATER–INFLATABLE CELLS, SOLID CONSTRUCTION, OR OTHER METHODS.
2. TEMPORARY COFFERDAM SHALL NOT BE CONSTRUCTED USING PILE DRIVING METHODS.
3. COFFERDAM DESIGN AND CONSTRUCTION METHOD TO BE SIGNED AND SEALED BY A LICENSED PROFESSIONAL ENGINEER.

CONSTRUCTION SCOPE

		QUANTITY
1.	CONSTRUCT REINFORCED CONCRETE PAVEMENT, 8 IN THICK	2,692 SY
2.	CONSTRUCT TYPE I CURB, 4 IN HEIGHT	72.5 LFT
3.	CONSTRUCT TYPE II CURB 5 IN HEIGHT	80.0 LFT
4.	REPAIR OPENINGS IN TIMBER BULKHEAD AND BACKFILL	2 EA
5.	CONSTRUCT REINFORCED CONCRETE SIDEWALK 4 IN THICK	16.8 SY
6.	GRADE AND SEED GRASS AREA	670 SY
7.	CONSTRUCT CONCRETE BOAT RAMP, 6 IN THICK	226 SY
8.	CONSTRUCT UNDERGROUND POWER LINE	1 EA
9.	INSTALL SERVICE POLE	2 EA
10.	INSTALL LIGHT FIXTURE	2 EA
11.	PAINT PARKING LOT STRIPING, DIRECTIONAL MARKERS AND CURB FACES	885 SF
12.	INSTALL ADA PARKING SIGN	1 EA
13.	INSTALL BOLLARD	2 EA
14.	PROVIDE AND INSTALL CONC WHEEL STOPS	16 EA

LEGEND

- OHE — EXISTING OVERHEAD ELECTRIC
- UGP — PROPOSED UNDERGOUND ELECTRIC
- CONCRETE WHEEL STOP
- EXISTING POWER POLE
- PROPOSED LIGHT POLE
- CONCRETE PAVEMENT
- GRASS

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COUNTY OF GALVESTON
GALVESTON, TEXAS

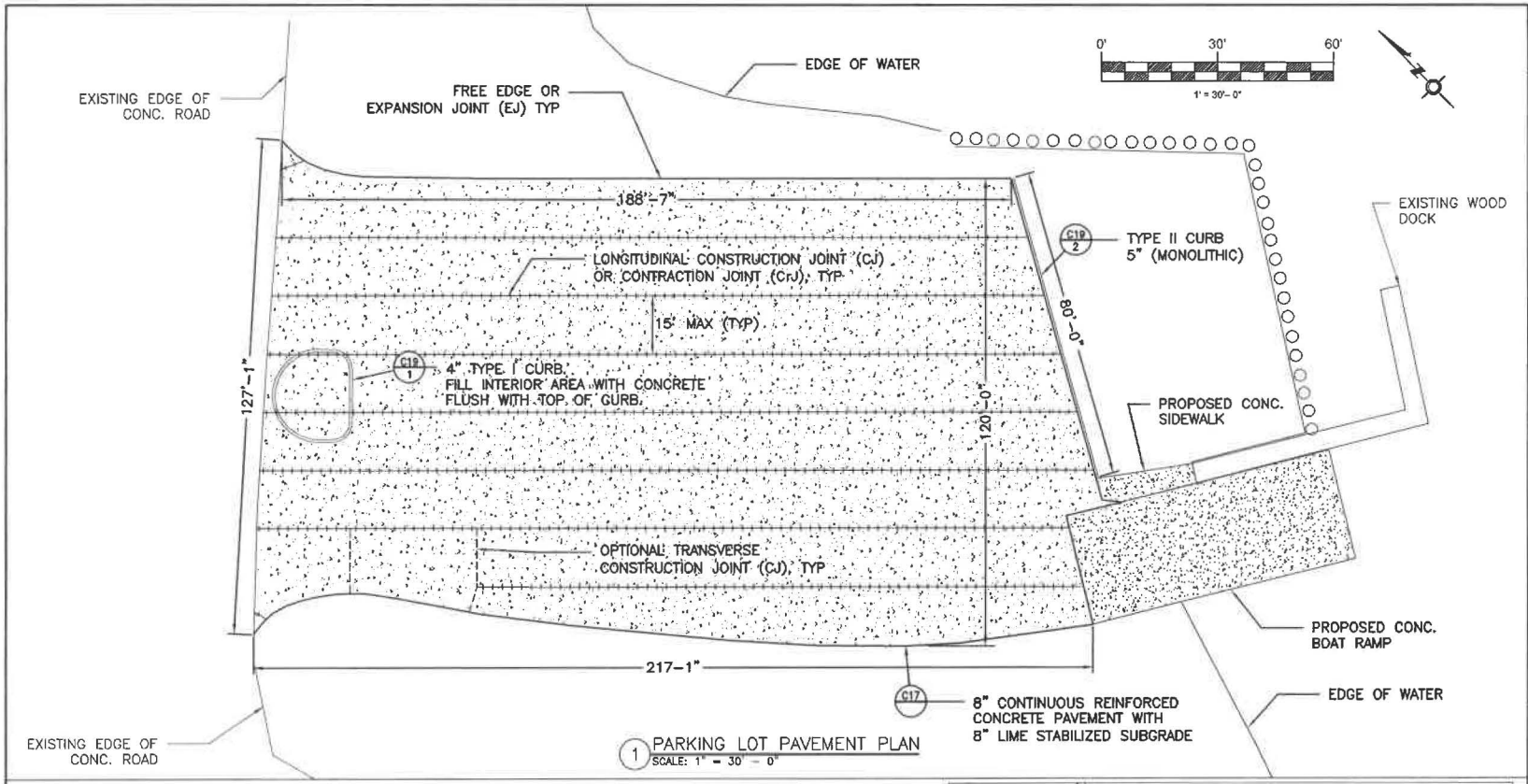
ISSUE	DATE	BY	DESCRIPTION	CHK'D	APP'D
04	3/21/24	DSD	ISSUED FOR CONSTRUCTION	BZ	RCW
03	3/12/24	DSD	ISSUED FOR CONSTRUCTION	BZ	RCW
02	2/6/24	DSD	ISSUED FOR REVIEW		
01	11/30/23	DSD	ISSUED FOR REVIEW		

PROJECT NAME AND LOCATION
HIGHWAY 3 BOAT RAMP RENOVATION
DICKINSON, TEXAS

SHEET NAME
SITE PLAN

DRAWN BY	DATE	SCALE	PROJ. NO
DSD	3/20/2019	1" = 30'- 0"	8841-1006

DRAWING NO: C06
ISSUE NO: 03

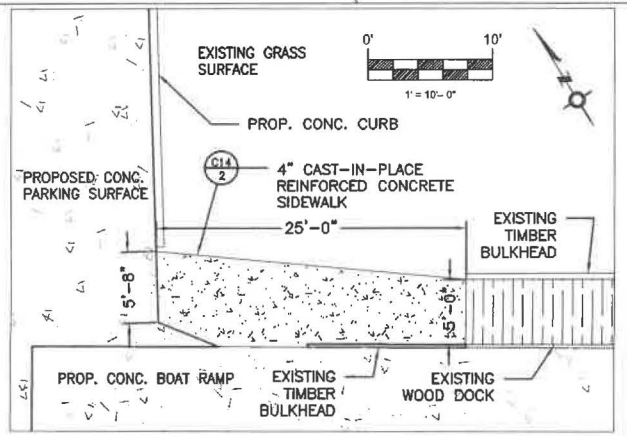


1 PARKING LOT PAVEMENT PLAN
SCALE: 1" = 30' - 0"

LEGEND

LONGITUDINAL CONTRACTION JOINT (CrJ) OR CONSTRUCTION JOINT (CJ)

TRANSVERSE CJ



2 SIDEWALK PLAN
SCALE: 1" = 10' - 0"

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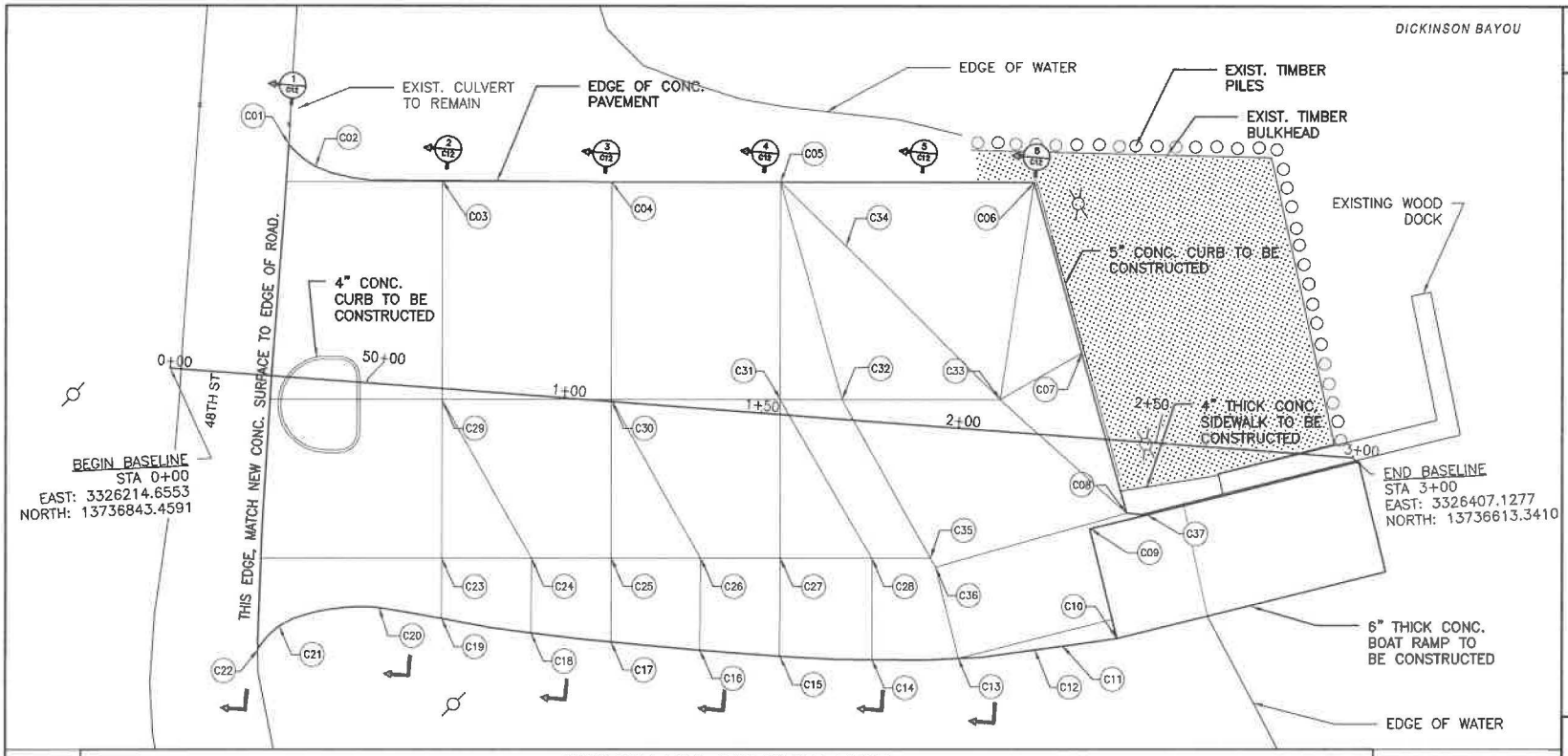
COUNTY OF GALVESTON
GALVESTON, TEXAS

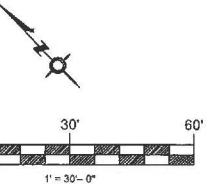
03	3/12/24	DSD	ISSUED FOR CONSTRUCTION	BZ	RCW
02	2/6/24	DSD	ISSUED FOR REVIEW		
01	11/30/23	DSD	ISSUED FOR REVIEW		
ISSUE	DATE	BY	DESCRIPTION	CHKD	APPD

HIGHWAY 3 BOAT RAMP RENOVATION
DICKINSON, TEXAS

PARKING LOT PAVEMENT PLAN

DESIGNED BY	DATE	SCALE	PROJECT NO
DSD	3/20/2019	AS NOTED	B841-1006
DRAWING NO			ISSUE NO
C07			03





PAVEMENT AREA COORDINATE TABLE

POINT	NORTHING	EASTING	ELEV	POINT	NORTHING	EASTING	ELEV	POINT	NORTHING	EASTING	ELEV
C01	13,736,861.213	3,226,275.821	4.9*	C13	13,736,649.549	3,226,301.260	4.0	C25	13,736,730.169	3,226,258.166	5.53
C02	13,736,852.413	3,226,276.514	4.9	C14	13,736,664.960	3,226,285.817	4.0	C26	13,736,713.923	3,226,273.960	5.00
C03	13,736,826.860	3,226,296.208	4.6	C15	13,736,682.306	3,226,270.165	4.43	C27	13,736,699.477	3,226,288.006	4.85
C04	13,736,795.953	3,226,325.824	3.8	C16	13,736,697.848	3,226,257.243	4.8	C28	13,736,682.884	3,226,304.137	3.90
C05	13,736,765.261	3,226,355.664	2.4	C17	13,736,715.458	3,226,243.036	5.33	C29	13,736,788.713	3,226,256.969	5.80
C06	13736719.387	3,226,400.268	2.6	C18	13,736,731.533	3,226,230.515	5.80	C30	13,736,758.021	3,226,286.806	4.80
C07	13,736,640.711	3,226,360.624	2.6	C19	13,736,750.205	3,226,217.369	7.13	C31	13,736,727.327	3,226,316.645	3.06
C08	13,736,644.817	3,226,357.369	2.6	C20	13,736,763.501	3,226,208.329	8.07	C32	13,736,716.185	3,226,327.479	3.06
C09	13,736,624.264	3,226,332.810	2.6	C21	13,736,778.359	3,226,187.366	9.60	C33	13,736,687.472	3,226,355.390	2.50
C10	13,736,645.331	3,226,305.778	2.6	C22	13,736,778.120	3,226,179.434	10.2*	C34	13,736,742.194	3,226,355.584	2.41
C11	13,736,632.775	3,226,321.889	2.6	C23	13,736,760.867	3,226,228.334	6.80	C35	13,736,672.232	3,226,314.492	2.58
C12	13,736,637.179	3,226,316.238	2.6	C24	13,736,744.619	3,226,244.124	6.0	C36	13,736,669.756	3,226,313.761	2.58
								C37	13,736,640.665	3,226,360.660	2.35

*ESTIMATED. MATCH POINT ELEVATION TO EDGE OF ROAD.

STATE OF TEXAS
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1/24/2025

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COUNTY OF GALVESTON
GALVESTON, TEXAS

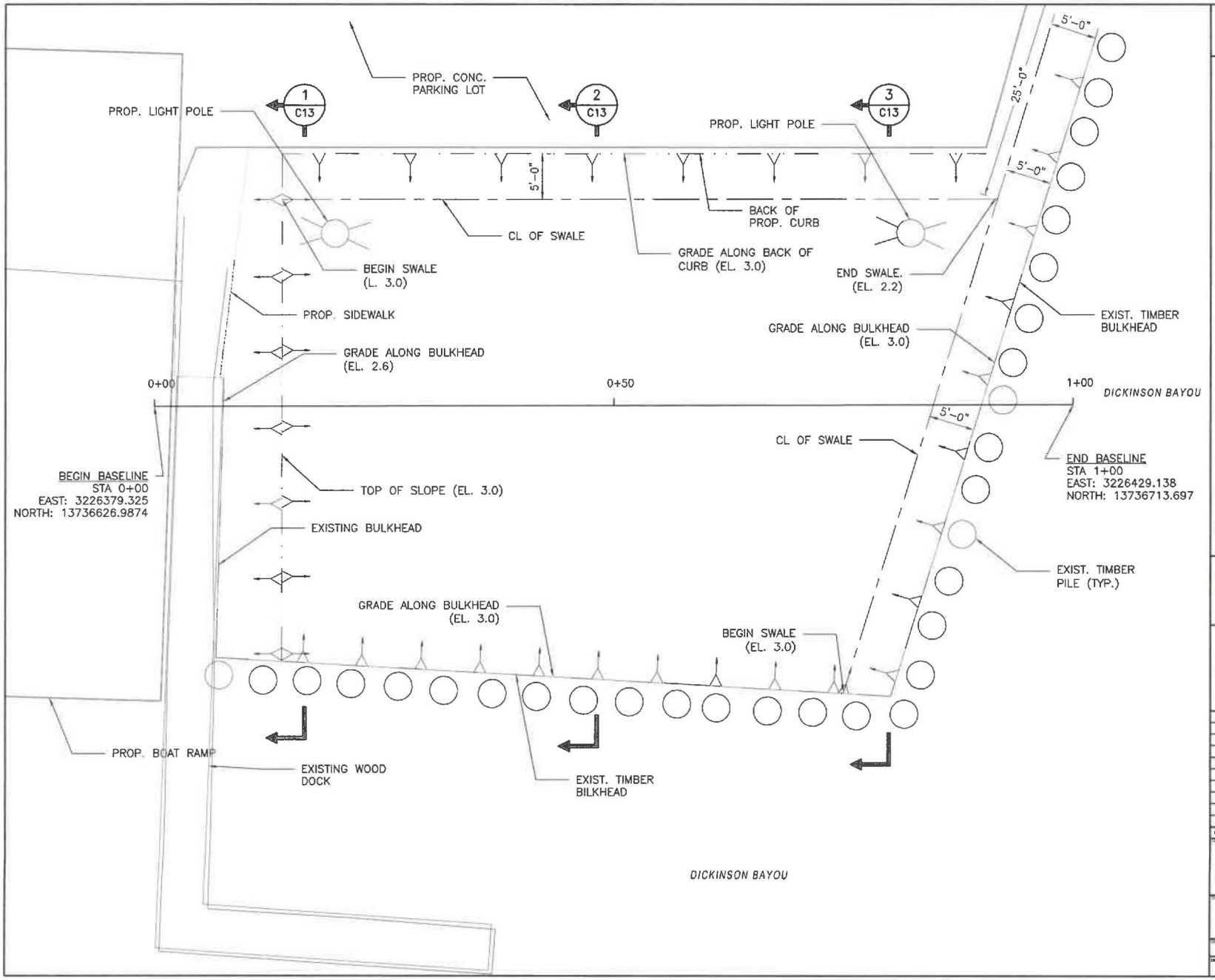
ISSUE	DATE	BY	DESCRIPTION	CHKD	APP'D
04	1/24/25	DSD	ISSUED FOR CONSTRUCTION	BZ	RCW
03	3/12/24	DSD	ISSUED FOR CONSTRUCTION	BZ	RCW
02	2/5/24	DSD	ISSUED FOR REVIEW		
01	11/30/23	DSD	ISSUED FOR REVIEW		

PROJECT AND LOCATION
HIGHWAY 3 BOAT RAMP RENOVATION
DICKINSON, TEXAS

SHEET NAME
PARKING LOT DRAINAGE PLAN

DRAWN BY	DATE	SCALE	PROJ NO.
DSD	3/20/2019	1" = 30'-0"	B841-1006

DRAWING NO. C08 | ISSUE NO. 03



0' 10' 20'

1" =10'- 0"

STATE OF TEXAS
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COUNTY OF GALVESTON
GALVESTON, TEXAS

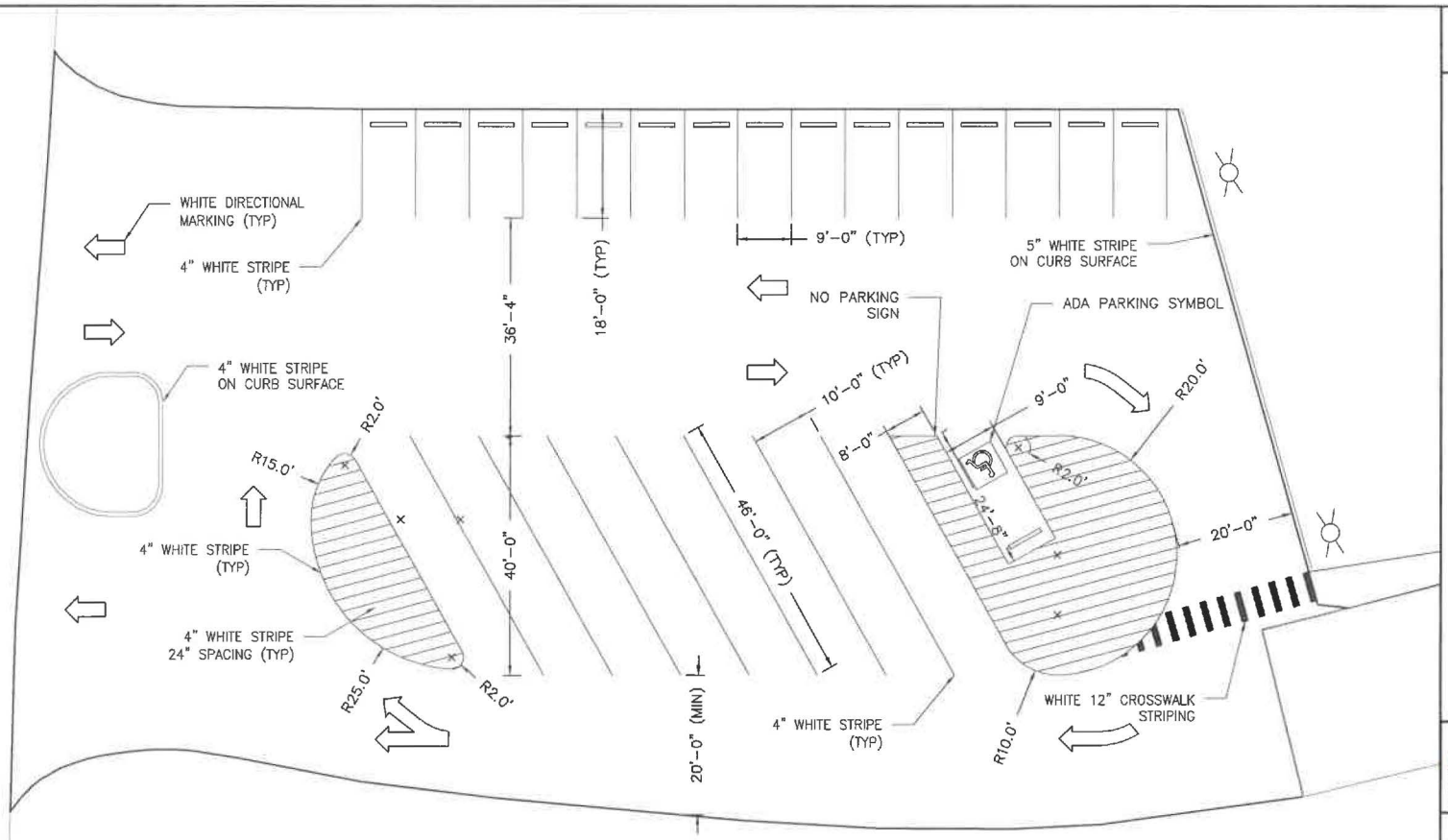
ISSUE	DATE	BY	DESCRIPTION	CHKD	APPD
04	1/24/25	DSD	ISSUED FOR CONSTRUCTION	BZ	RCW
03	3/12/24	DSD	ISSUED FOR CONSTRUCTION	BZ	RCW
02	2/8/24	DSD	ISSUED FOR REVIEW		
01	11/30/23	DSD	ISSUED FOR REVIEW		

HIGHWAY 3 BOAT RAMP RENOVATION
DICKINSON, TEXAS

GRADING PLAN

DESIGNED BY	DATE	SCALE	PROJECT NO.
DSD	3/20/2019	1" =10'- 0"	B841-1006

DRAWING NO.	ISSUE NO.
C09	03



0' 20' 40'

1" = 20'-0"

STATE OF TEXAS
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COUNTY OF GALVESTON
GALVESTON, TEXAS

ISSUE	DATE	BY	DESCRIPTION	CHK'D	APP'D
03	3/12/24	DSD	ISSUED FOR CONSTRUCTION	BZ	RCW
02	2/5/24	DSD	ISSUED FOR REVIEW	BZ	RCW
01	8/11/19	DSD	ISSUED FOR REVIEW	BZ	RCW

PROJECT NAME AND LOCATION

HIGHWAY 3 BOAT RAMP RENOVATION
DICKINSON, TEXAS

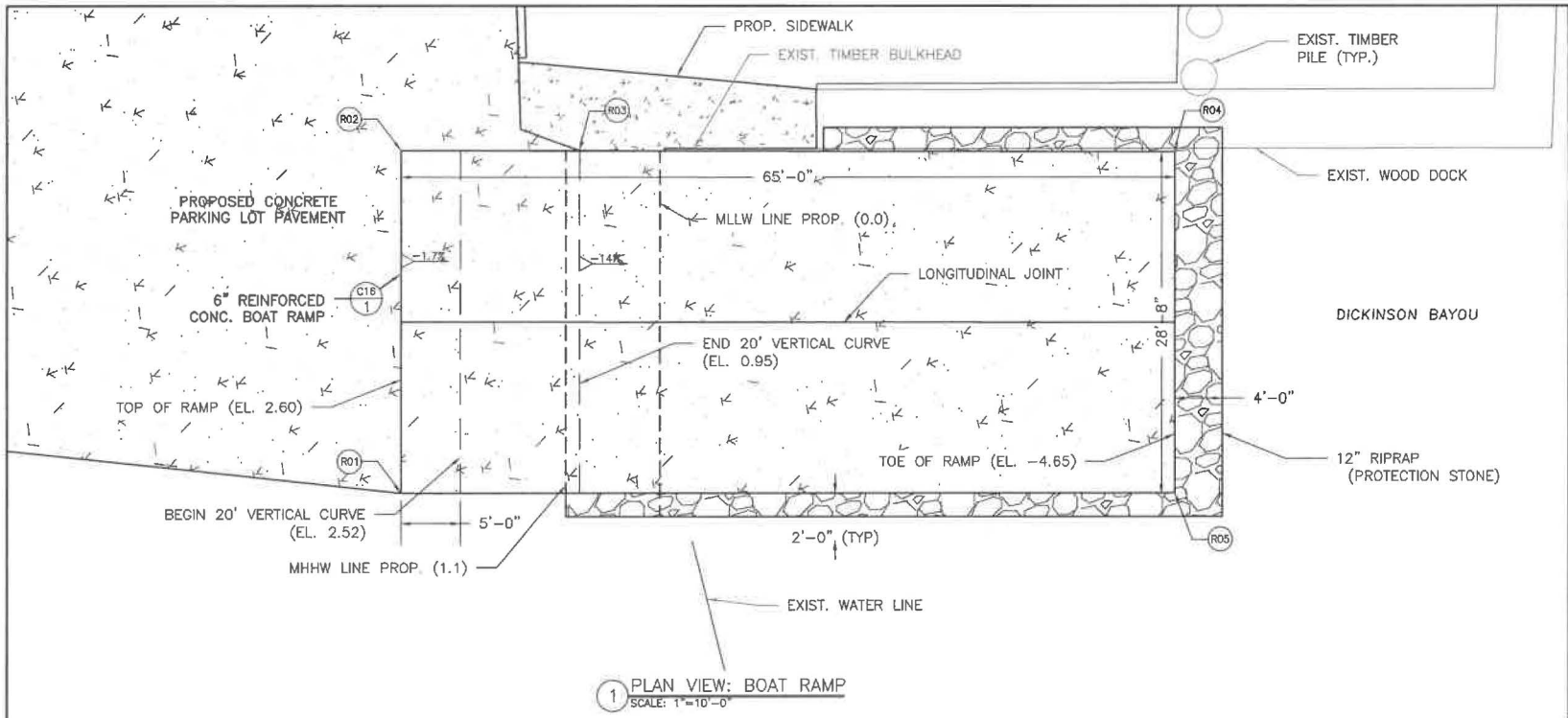
SHEET NAME

PARKING LOT STRIPING PLAN

DRAWN BY	DATE	SCALE	PROJ NO
DSD	3/20/2019	1" = 20'-0"	B941-1006

DRAWING NO: C10

SHEET NO: 03



1 PLAN VIEW: BOAT RAMP
SCALE: 1"=10'-0"

PAVEMENT AREA COORDINATE TABLE			
POINT	NORTHING	EASTING	ELEV
R01	13,736,645.331	3,226,305.778	2.6
R02	13,736,624.264	3,226,332.810	2.6
R03	13,736,640.665	3,226,360.660	2.35
R04	13,736,614.332	3,226,403.099	-4.65
R05	13,736,590.067	3,226,388.087	-4.65

BOAT RAMP NOTES

CAST-IN-PLACE CONCRETE

CONCRETE IS TO BE PLACED OVER A THROUGHLY COMPACTED SUBGRADE, GEOTEXTILE FABRIC, MINIMUM 6-IN LAYER OF COMPACTED AGGREGATE SUBBASE AND A 6-IN LAYER OF COMPACTED AGGREGATE BASE COURSE.

1. CONCRETE MINIMUM COMPRESSIVE STRENGTH FOR CIP CONCRETE SHALL BE 4,000 PSI.
2. LAUNCH RAMP IS TO BE REINFORCED WITH #4 EPOXY COATED REBAR.
3. PROVIDE BLOCK-OUTS OR CUT-OUTS FOR PILES THAT GO THROUGH PART OF THE LAUNCH RAMP. PROVIDE A BLOCK-OUT FOR THE CIP CONCRETE ABUTMENT. EXTEND REBAR THROUGH THE ABUTMENT BLOCK-OUT BOARDS TO TIE THE ABUTMENT AND LAUNCH RAMP TOGETHER.
4. COLD JOINTS:
   - 4.1. A LONGITUDINAL COLD JOINT SHOULD BE LOCATED AT THE EDGE BETWEEN LAUNCH LANES AS SHOWN IN THE PLANS.
   - 4.2. NOTCH THE COLD-JOINT FORM BOARDS TO ALLOW REBAR TO RUN THROUGH THE JOINT.
   - 4.3. AVOID TRANSVERSE COLD JOINTS. IF A TRANSVERSE COLD JOINT IS NECESSARY, PROVIDE A CLEAN TRANSVERSE JOINT EDGE.

CONCRETE FINISH

1. FINISH ALL CONCRETE SURFACES OF THE LAUNCH RAMP WITH A NON-SKID V-GROOVE SURFACE, WITH THE FOLLOWING EXCEPTIONS:
   - 1.1. THE PORTION FROM THE TOP OF THE ABUTMENT TO THE TOP OF THE LAUNCH RAMP REQUIRES A BROOM FINISH.
2. FORM THE 1-IN DEEP V-GROOVES IN THE LAUNCH RAMP SURFACE ANGLED AT 30 DEGREES FROM THE LONGITUDINAL AXIS OF THE LAUNCH RAMP AND ORIENTED AS SHOWN IN THE PLANS.
3. TOOL ALL EDGES OF THE LAUNCH RAMP WITH A 4-IN WIDE EDGER, WITH THE FOLLOWING EXCEPTION:
   - 3.1. NO EDGE SHOULD BE TOOLED WHERE THE CIP CONCRETE MEETS THE PRECAST PLANKS.
4. THE SURFACE OF THE CIP CONCRETE ABUTMENT SHALL HAVE A BROOM FINISH AND THE EDGES TOOLED WITH A 4-IN EDGER AND 1-IN RADIUS OR CHAMFER.

0' 10' 20'
1" = 10'- 0"

STATE OF TEXAS
DOUGLAS S. DUSINI
127813
LICENSED PROFESSIONAL ENGINEER
1/24/2025

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FRN - F-1386

COUNTY OF GALVESTON
GALVESTON, TEXAS

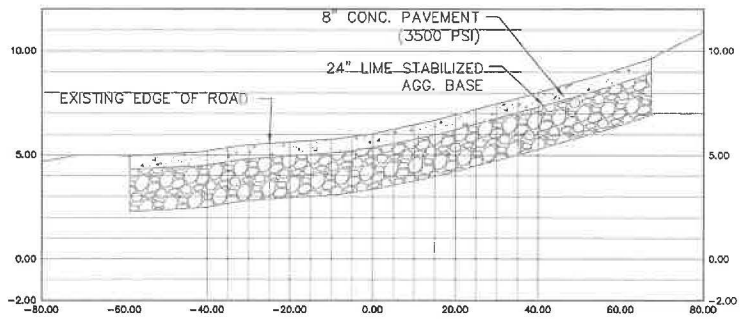
ISSUE	DATE	BY	DESCRIPTION	CHK'D	APP'D
04	1/24/25	DSD	ISSUED FOR CONSTRUCTION	BZ	RCW
03	3/12/24	DSD	ISSUED FOR CONSTRUCTION	BZ	RCW
02	2/6/24	DSD	ISSUED FOR REVIEW		
01	11/30/23	DSD	ISSUED FOR REVIEW		

PROJECT NAME AND LOCATION
HIGHWAY 3 BOAT RAMP RENOVATION
DICKINSON, TEXAS

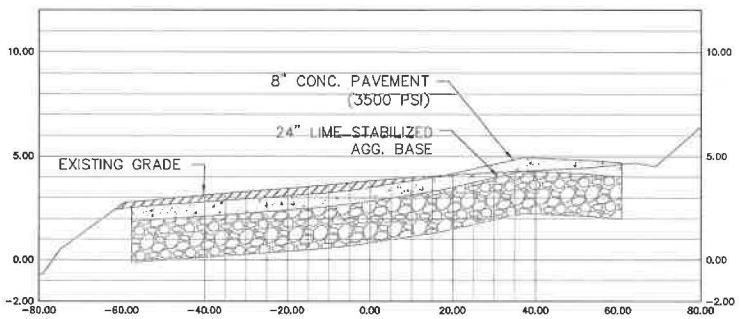
SHEET NAME
BOAT RAMP PLAN

DESIGNED BY	DATE	SCALE	LJA JOB NO
DSD	3/20/2019	1" = 10'- 0"	B841-1006

DRAWING NO: C11
SHEET NO: 03



① 0+26.00



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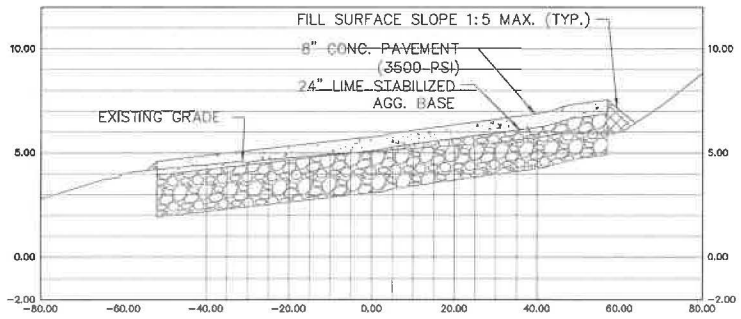

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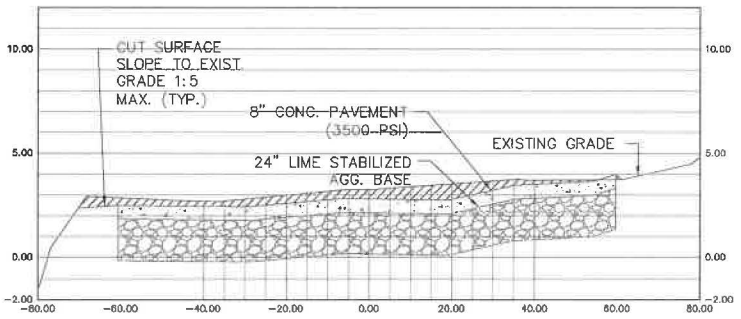
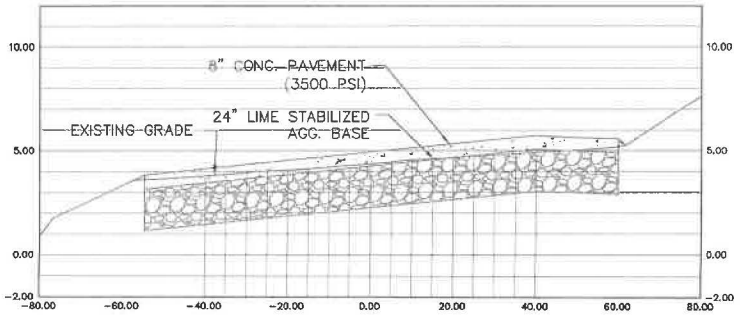


⑤ 1+86.00



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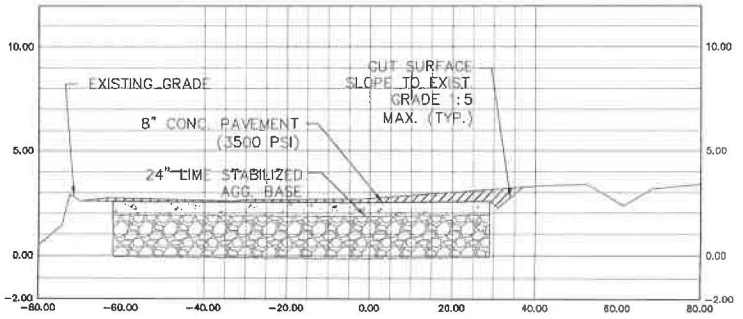

⑥ 2+14.49

① SECTIONS, PARKING LOT

SCALE: HOR: 1"=30', VER: 1"=6'

STATE OF TEXAS
DOUGLAS S. DUSHI
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COUNTY OF GALVESTON
GALVESTON, TEXAS

ISSUE	DATE	BY	DESCRIPTION	CHK'D	APP'D
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03	3/12/24	DSD	ISSUED FOR CONSTRUCTION	BZ	RCW
02	2/8/24	DSD	ISSUED FOR REVIEW		

PROJECT NAME AND LOCATION

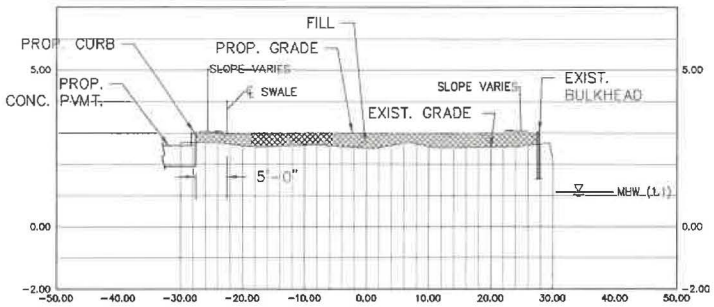
HIGHWAY 3 BOAT RAMP RENOVATION
DICKINSON, TEXAS

SHEET NAME

PARKING LOT SECTIONS

DRAWN BY	DATE	SCALE	PROJ NO
DSD	1/25/2024	1" = 30'-0"	B841-1006

DRAWING NO. C12 | ISSUE NO. 03



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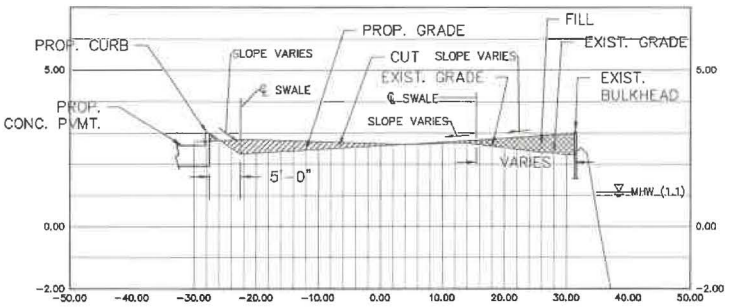

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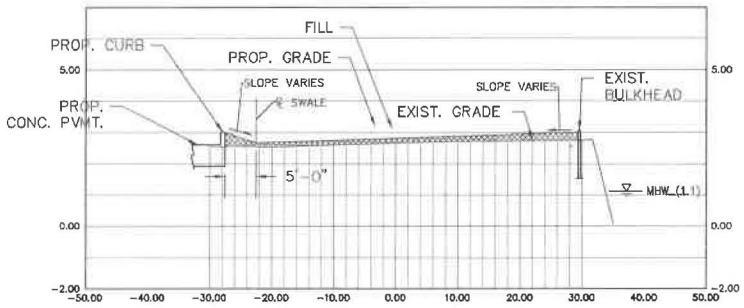

(2) 0+48.14

(1) SECTIONS: GRADING
SCALE: HOR: 1"=20', VER: 1"=4'

STATE OF TEXAS
DOUGLAS S. DIXSHI
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THE STATE OF TEXAS
COUNTY OF GALVESTON

COUNTY OF GALVESTON
GALVESTON, TEXAS

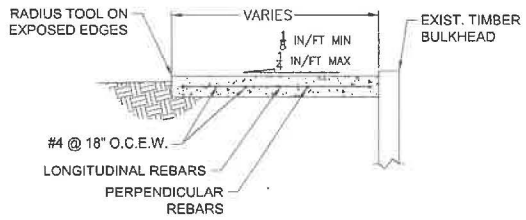
ISSUE	DATE	BY	DESCRIPTION	CHK'D	APP'D
04	1/24/25	DSD	ISSUED FOR CONSTRUCTION	BZ	RCW
03	3/12/24	DSD	ISSUED FOR CONSTRUCTION	BZ	RCW
02	2/6/24	DSD	ISSUED FOR REVIEW		

PROJECT NAME AND LOCATION
HIGHWAY 3 BOAT RAMP RENOVATION
DICKINSON, TEXAS

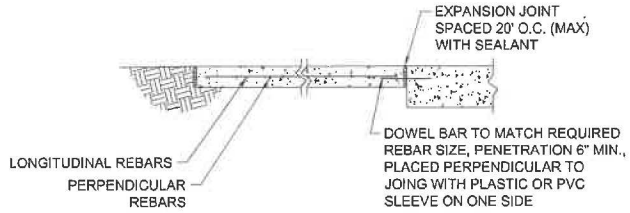
SHEET NAME
GRADING SECTIONS

DRAWN BY	DATE	SCALE	PROJ NO
DSD	3/20/2019	1" = 20'-0"	BB41-1006

DRAWING NO.	ISSUE NO.
C13	03

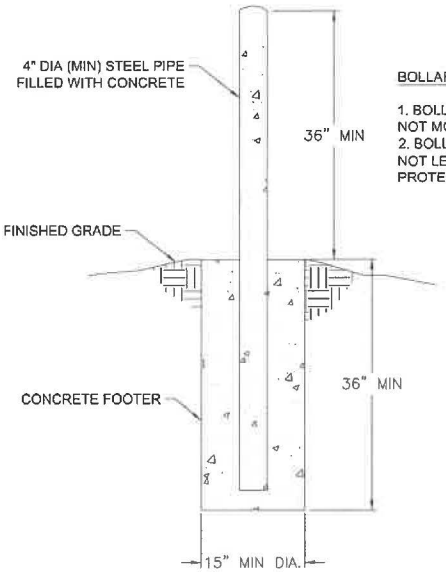


SECTION



EXPANSION JOINT SECTION

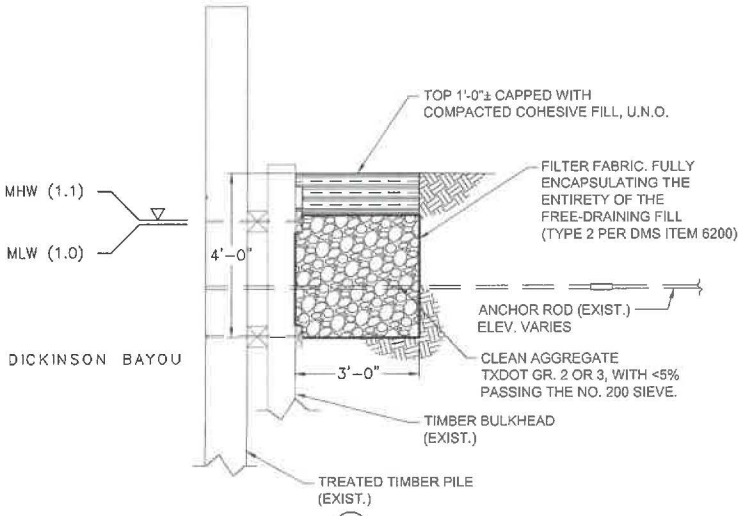
2 DETAILS: SIDEWALK
SCALE: N.T.S.



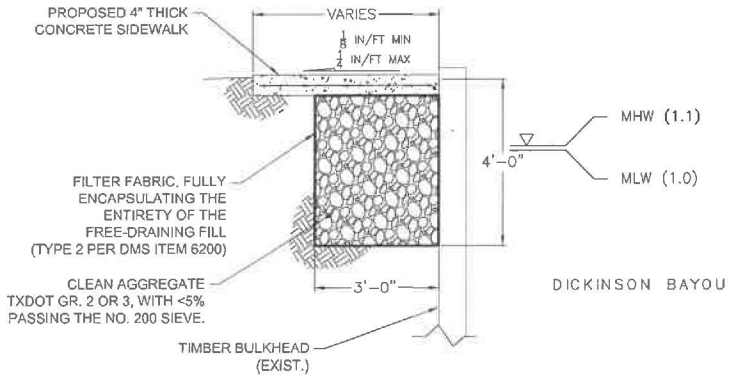
BOLLARD NOTES:

1. BOLLARDS SHALL BE SPACED NOT MORE THAN 4' OC.
2. BOLLARDS SHALL BE LOCATED NOT LESS THAN 3' FROM THE PROTECTED OBJECT.

3 DETAIL: BOLLARD
SCALE: N.T.S.



1A



1B

1 SECTION: BULKHEAD REPAIR
SCALE: N.T.S.

1/24/2025

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COUNTY OF GALVESTON
GALVESTON, TEXAS

ISSUE	DATE	BY	DESCRIPTION	CHK'D	APP'D
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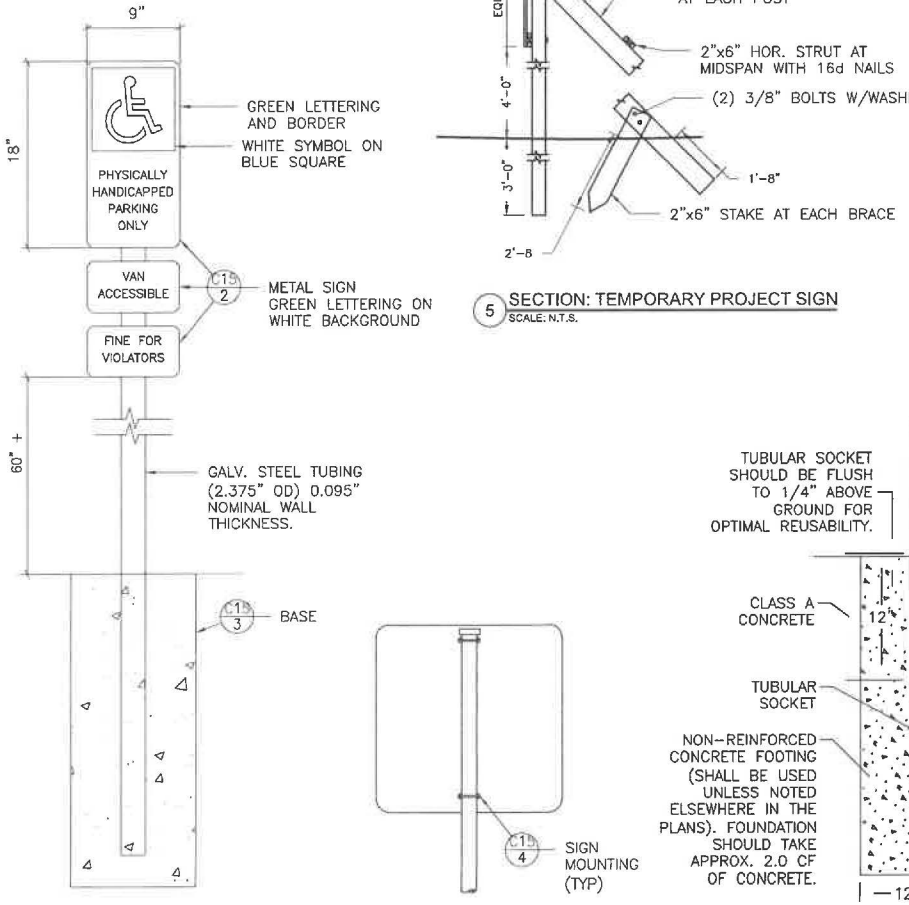
01	11/20/23	DSD	ISSUED FOR REVIEW	BZ	RCW

PROJECT NAME AND LOCATION
HIGHWAY 3 BOAT RAMP RENOVATION
DICKINSON, TEXAS

SHEET TITLE
MISCELLANEOUS DETAILS

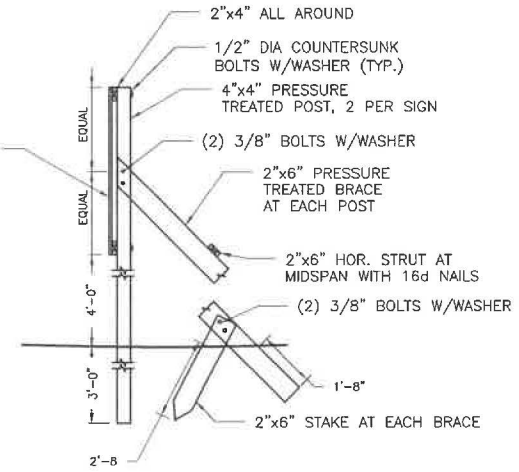
DESIGNED BY	DATE	SCALE	PROJECT NO.
DSD	3/20/2019	AS NOTED	B841-1005

DRAWING NO. C14
ISSUE NO. 03



1 ADA PARKING SIGN
SCALE: N.T.S.

2 MOUNTING FOR SIGN
SCALE: N.T.S.



5 SECTION: TEMPORARY PROJECT SIGN
SCALE: N.T.S.

THE COUNTY OF GALVESTON
A PUBLIC BOATING ACCESS SITE AIDED BY
THE FEDERAL AID IN SPORT FISH RESTORATION ACT

Funded by Federal Gasoline Taxes Paid by Recreational Boaters
ADMINISTERED BY THE
TEXAS PARKS AND WILDLIFE DEPARTMENT
FOR THE
U.S. DEPARTMENT OF THE INTERIOR/FISH & WILDLIFE SERVICE

FUNDING

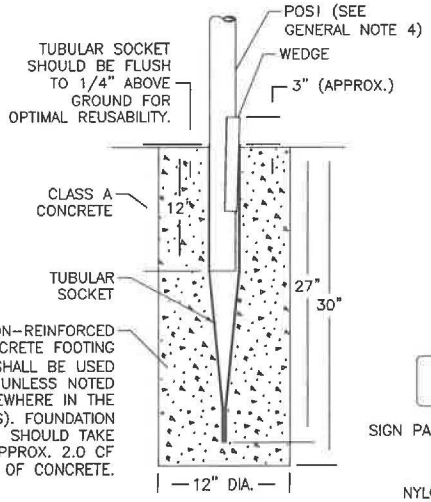
Federal Aid	75%	$ XXX,XXX
County of Galveston	25%	$ XXX,XXX
Total Project		$ XXX,XXX

TEXAS PARKS & WILDLIFE

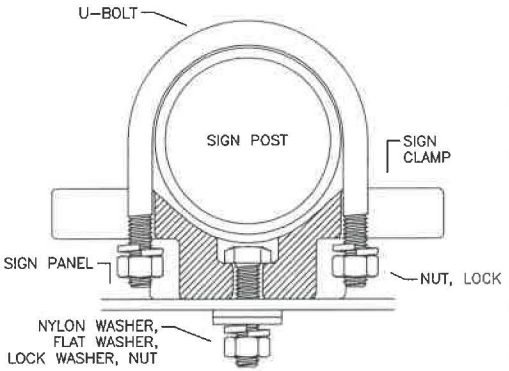
TEMPORARY PROJECT SIGN NOTES:

1. MINIMUM SIZE: 4' x 8' CONSTRUCTED TO SPECIFICATION 015800.
2. USE CALIBRI FONT OR SIMILAR SAN SERIF FONT STYLE WITH LETTERS A MINIMUM OF 1.75" HIGH AS MEASURED BY THE UPPER CASE CHARACTER.
3. LINE SPACING: MINIMUM 5/8".
4. LETTERS SHALL BE BLUE ON A WHITE BACKGROUND WITH SUCH BLUE COLOR SHADE MATCHING PANTONE 296, RGB 15 43 84, OR CMYK 100 88 38 35.
5. DISPLAY TEMPORARY CONSTRUCTION SIGN PRIOR TO START OF CONSTRUCTION AND THROUGHOUT ACTIVE STAGES OF CONSTRUCTION.
6. FUNDING COSTS PROVIDED BY COUNTY TO REPLACE "XXX,XXX".

6 DETAIL: TEMPORARY PROJECT SIGN
SCALE: N.T.S.



3 WEDGE ANCHOR
SCALE: N.T.S.



4 SIGN ATTACHMENT
SCALE: N.T.S.

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STATE OF TEXAS
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1/24/2025

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COUNTY OF GALVESTON
GALVESTON, TEXAS

ISSUE	DATE	BY	DESCRIPTION	CHKD	APP'D
04	3/12/24	DSD	ISSUED FOR CONSTRUCTION	DSD	RCW
03	3/12/24	DSD	ISSUED FOR CONSTRUCTION	DSD	RCW
02	2/6/24	DSD	ISSUE FOR REVIEW	DSD	RCW
01	11/20/23	DSD	ISSUE FOR REVIEW	DSD	RCW

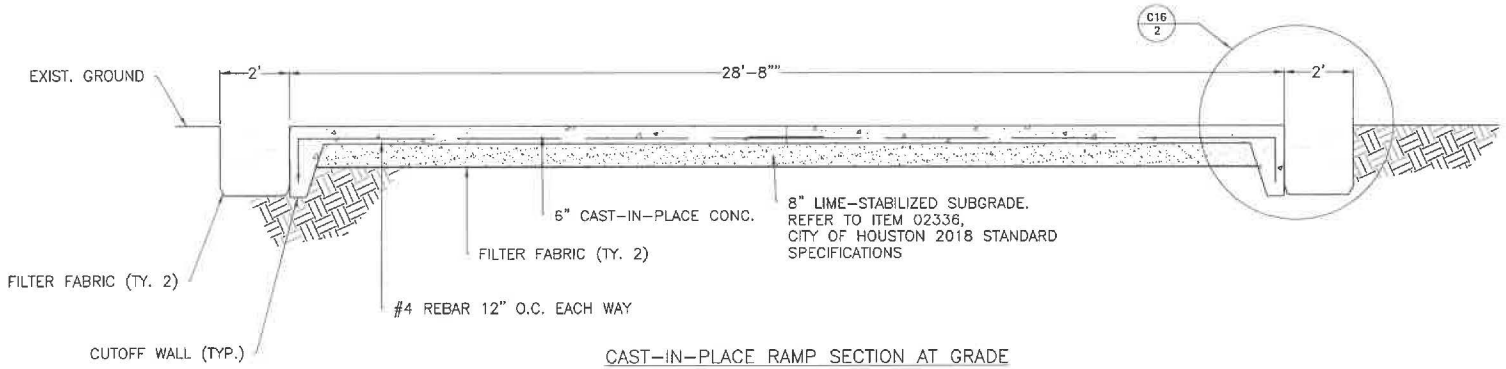
PROJECT NAME AND LOCATION

HIGHWAY 3 BOAT RAMP RENOVATION
DICKINSON, TEXAS

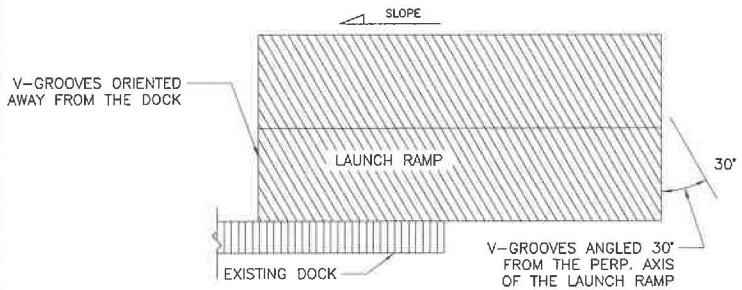
SIGNAGE DETAILS

DRAWN BY	DATE	SCALE	PROJ. NO.
DSD	3/20/2019	N.T.S.	B841-1006

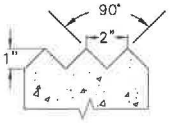
DRAWING NO: C15
ISSUE NO: 04



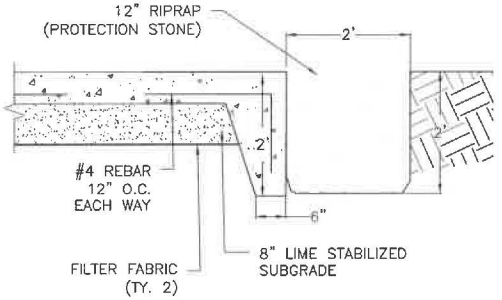
CAST-IN-PLACE RAMP SECTION AT GRADE
SCALE: N.T.S.



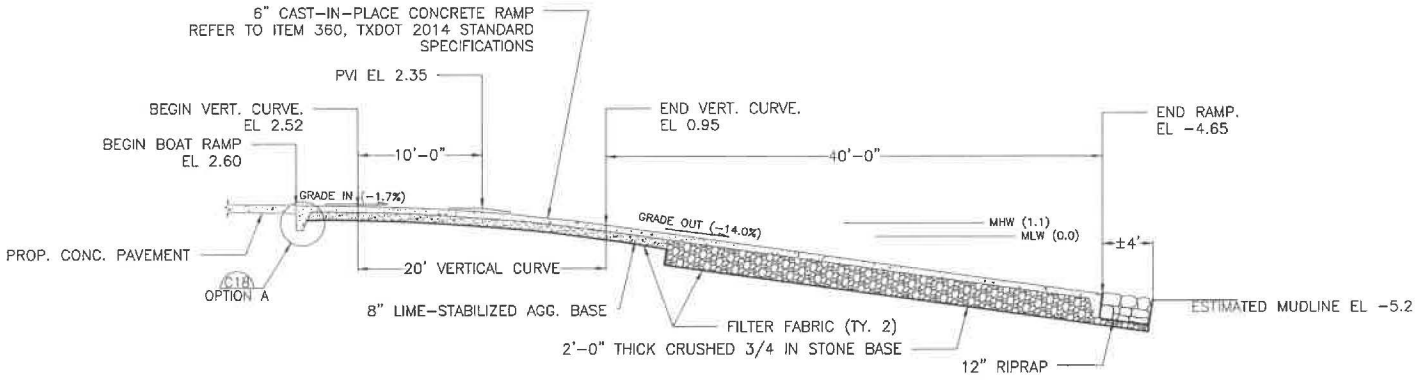
V-GROOVE ORIENTATION
SCALE: N.T.S.



SECTION: V-GROOVE DETAIL
SCALE: NTS



2 DETAIL: CUTOFF WALL
SCALE: N.T.S.



1 SECTION: BOAT RAMP
SCALE: 1" = 10'-0"

STATE OF TEXAS
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COUNTY OF GALVESTON
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02	2/5/24	DSD	ISSUED FOR REVIEW	BZ	RCW
01	11/30/23	DSD	ISSUED FOR REVIEW	BZ	RCW

PROJECT NAME AND LOCATION
HIGHWAY 3 BOAT RAMP RENOVATION
DICKINSON, TEXAS

SHEET NAME
BOAT RAMP DETAILS

DRAWN BY	DATE	SCALE	PROJ. NO.
DSD	3/20/2019	AS NOTED	6841-1006

DRAWING NO. C16 — SHEET NO. 03

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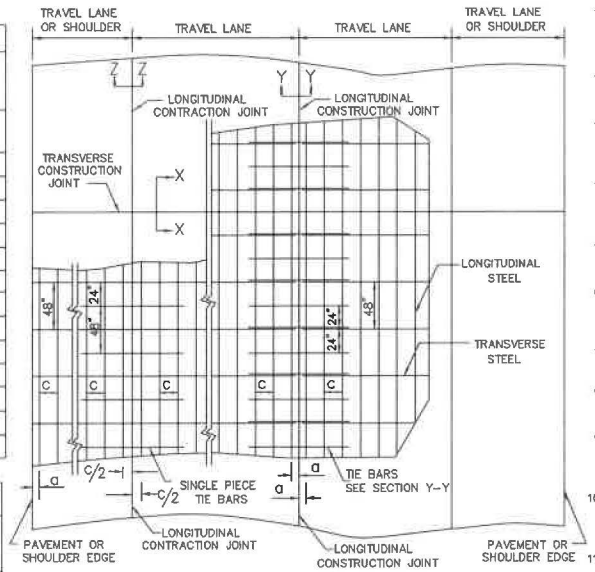
DATE:
FILE:

TABLE NO.1 LONGITUDINAL STEEL				
SLAB THICKNESS AND BAR SIZE		LONGITUDINAL STEEL BARS	FIRST SPACING AT EDGE OR JOINT	LONG. STEEL VERTICAL POSITION FROM BOTTOM OF PAVEMENT
T (IN.)	BAR SIZE	SPACING c (IN.)	SPACING d (IN.)	T1 (IN.)
7.0	#5	6.5	3 TO 4	3.5
7.5	#5	6.0	3 TO 4	3.75
8.0	#6	9.0	3 TO 4	4.0
8.5	#6	8.5	3 TO 4	4.25
9.0	#6	8.0	3 TO 4	4.5
9.5	#6	7.5	3 TO 4	4.75
10.0	#6	7.0	3 TO 4	5.0
10.5	#6	6.75	3 TO 4	5.5
11.0	#6	6.5	3 TO 4	6.0
11.5	#6	6.25	3 TO 4	6.5
12.0	#6	6.0	3 TO 4	7.0
12.5	#6	5.75	3 TO 4	7.5
13.0	#6	5.5	3 TO 4	8.0

TABLE NO.2 TRANSVERSE STEEL AND TIE BARS						
SLAB THICKNESS (IN.)	TRANSVERSE STEEL		TIE BARS AT LONGITUDINAL CONTRACTION JOINT (SECTION Z–Z)		TIE BARS AT LONGITUDINAL CONSTRUCTION JOINT (SECTION Y–Y)	
	BAR SIZE	SPACING (IN.)	BAR SIZE	SPACING (IN.)	BAR SIZE	SPACING (IN.)
7.0 – 7.5	#5*	48	#5*	48	#5*	24
8.0 – 13.0	#5*	48	#6	48	#6	24

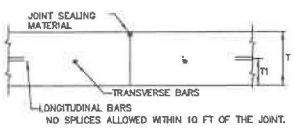
* CONTRACTOR MAY USE #6 REINFORCING STEEL INSTEAD OF #5 REINFORCING STEEL OR COMBINATION OF EACH SIZE



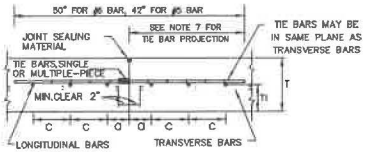
TYPICAL PAVEMENT LAYOUT
PLAN VIEW (NOT TO SCALE)

GENERAL NOTES

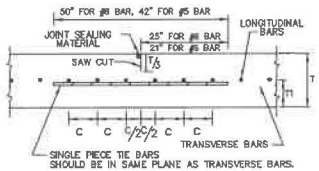
1. DETAILS FOR PAVEMENT WIDTH, PAVEMENT THICKNESS AND THE CROWN CROSS–SLOPE SHALL BE SHOWN ELSEWHERE IN THE PLANS. FOR PAVEMENTS WIDER THAN 100 FT. WITHOUT A FREE LONGITUDINAL JOINT, ADDITIONAL DETAIL MAY BE SHOWN ELSEWHERE IN THE PLANS.
2. USE COARSE AGGREGATES WITH A RATED COEFFICIENT OF THERMAL EXPANSION (CoTE) OF NOT MORE THAN 5.5 X 10^{-6} IN./IN/ °F AS LISTED IN THE CONCRETE RATED SOURCE QUALITY CATALOG (CRSQC).
3. ALL THE REINFORCING STEEL AND TIE BARS SHALL BE DEFORMED STEEL BARS CONFORMING TO ASTM A 615 (GRADE 60) OR ASTM A 996 (GRADE 60) OR ABOVE. STEEL BAR SIZES AND SPACINGS SHALL CONFORM TO TABLE NO.1 AND TABLE NO.2.
4. STEEL BAR PLACEMENT TOLERANCE SHALL BE +/– 1 IN. HORIZONTALLY AND +/– 0.5 IN. VERTICALLY. CALCULATED AVERAGE BAR SPACING (CONCRETE PLACEMENT WIDTH / NUMBER OF LONGITUDINAL BARS) SHALL CONFORM TO TABLE NO.1.
5. ADJUST REINFORCING STEEL VERTICALLY USING SHIMS OR OTHER METHODS, AS APPROVED, TO MEET VERTICAL TOLERANCES PRIOR TO CONCRETE PLACEMENT.
6. PAVEMENT WIDTHS OF MORE THAN 15 FT. SHALL HAVE A LONGITUDINAL JOINT (SECTION Z–Z OR SECTION Y–Y). THESE JOINTS SHALL BE LOCATED WITHIN 6 IN. OF THE LANE LINE UNLESS THE JOINT LOCATION IS SHOWN ELSEWHERE ON THE PLANS.
7. THE MINIMUM PROJECTION OF TIE BARS INTO THE ADJACENT PLACEMENT IS 22.5 IN. for #6 BARS AND 18.5 IN. FOR #5 BARS.
8. SEE STANDARD SHEET "CONCRETE CURB AND CURB AND GUTTER." FOR DETAILS WHEN TYING CONCRETE CURB OR CURB GUTTER AT A LONGITUDINAL JOINT.
9. REPLACE MISSING OR DAMAGED TIE BARS WITHOUT ADDITIONAL COMPENSATION BY DRILLING MIN.10 IN. DEEP AND GROUTING TIE BARS WITH TYPE III, CLASS C EPOXY. MEET THE PULL–OUT TEST REQUIREMENTS IN ITEM 361.
10. OMIT TIE BARS LOCATED WITHIN 18–IN. OF THE TRANSVERSE CONSTRUCTION JOINTS (SECTION X–X). USE HAND–OPERATED IMMERSION VIBRATORS TO CONSOLIDATE THE CONCRETE ADJACENT TO ALL FORMED JOINTS.
11. THE DETAIL FOR THE JOINT SEALANT AND RESERVOIR IS SHOWN ON STANDARD SHEET "CONCRETE PAVING DETAILS, JOINT SEALS."



TRANSVERSE CONSTRUCTION JOINT
SECTION X – X



LONGITUDINAL CONSTRUCTION JOINT
SECTION Y – Y



LONGITUDINAL CONTRACTION JOINT
SECTION Z – Z

SHEET 1 OF 2

Texas Department of Transportation | Design Division Standard

CONTINUOUSLY_REINFORCED CONCRETE_PAVEMENT
ONE LAYER STEEL BAR PLACEMENT
T – 7 to 13 INCHES
CRCP(1)–23

FILE:	pvmt25.dgn	DN: TxDOT	CK: KH	DW: CES	CK:
©TxDOT:	APRIL 2023	CONT	SECT	JOB	HIGHWAY
		DIST	COUNTY		SHEET NO.

STATE OF TEXAS
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127813
LICENSED PROFESSIONAL ENGINEER
3/12/2024

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FRN - F-1386

COUNTY OF GALVESTON
GALVESTON, TEXAS

ISSUE	DATE	BY	DESCRIPTION	CHKD	APPD
03	3/12/24	DSD	ISSUED FOR CONSTRUCTION	BZ	RCW
01	11/30/23	DSD	ISSUED FOR REVIEW	BZ	RCW

PROJECT NAME AND LOCATION
HIGHWAY 3 BOAT RAMP RENOVATION
DICKINSON, TEXAS

SHEET NAME
CONTINUOUS REINFORCED CONCRETE PAVEMENT (1 OF 2)

DESIGNED BY	DATE	ISSUE #	PROJ NO
DSD	10/15/2023	NOT TO SCALE	BB41-1005
DRAWING NO.			ISSUE NO.
C17			03

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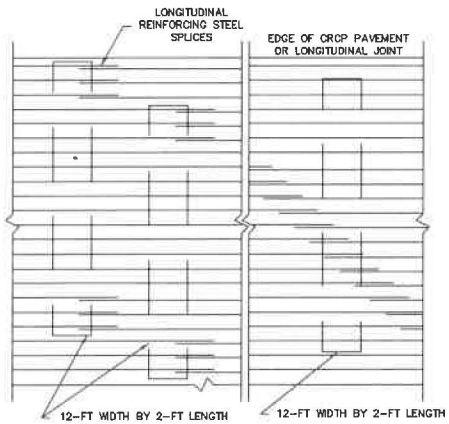
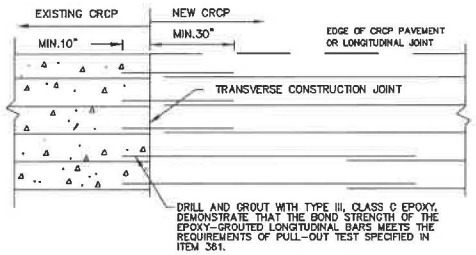
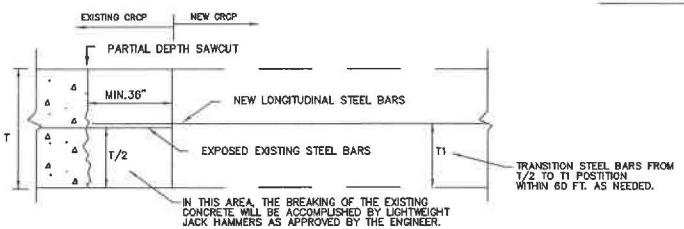


STAGGER THE LAP LOCATIONS SO THAT NO MORE THAN 1/3 OF THE LONGITUDINAL STEEL IS SPLICED IN ANY GIVEN 12-FT. WIDTH AND 2-FT. LENGTH OF THE PAVEMENT. ANY OTHER LAP CONFIGURATION MEETING THIS REQUIREMENT WILL BE ALLOWED.

EXAMPLES OF LAP CONFIGURATION
PLAN VIEW (NOT TO SCALE)

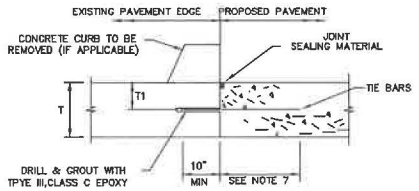


OPTION A: DRILL AND EPOXY
PLAN VIEW (NOT TO SCALE)



OPTION B: BREAKBACK AND LAP

TRANSVERSE TIE JOINT DETAIL
NEW CRCP TO EXISTING CRCP



1. BEFORE CONCRETE PLACEMENT, PERFORM PULL-OUT TESTS ON EPOXY-GROUTED TIE BARS IN ACCORDANCE WITH ITEM 360.
2. SPACE TIE BARS AT 24" SPACING. USE #8 TIE BARS FOR 8" AND THICKER PAVEMENTS, USE #5 TIE BARS FOR LESS THAN 8" THICK PAVEMENTS.

LONGITUDINAL WIDENING JOINT DETAIL

SHEET 2 OF 2

Texas Department of Transportation — Design Division Standard

CONTINUOUSLY_REINFORCED CONCRETE_PAVEMENT

ONE LAYER STEEL BAR PLACEMENT
T = 7 to 13 INCHES

CRCP(1)-23

FILE:		DN: TxDOT	CK:	DW:	CK:
©TxDOT: APRIL 2003		CONT	SECT	JOB	HIGHWAY
		DIST	COUNTY		SHEET NO.

STATE OF TEXAS
DOUGLAS S. DUSINI
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THE STATE OF TEXAS — COUNTY OF GALVESTON

COUNTY OF GALVESTON
GALVESTON, TEXAS

ISSUE	DATE	BY	DESCRIPTION	CHKD	APPD
03	3/12/24	DSD	ISSUED FOR CONSTRUCTION	BZ	RCW
01	11/30/23	DSD	ISSUE FOR REVIEW	BZ	RCW

PROJECT LIMITS AND LOCATION

HIGHWAY 3 BOAT RAMP RENOVATION
DICKINSON, TEXAS

CONTINUOUS REINFORCED CONCRETE PAVEMENT (2 OF 2)

DESIGNED BY	DATE	SCALE	PROJ. NO.
DSD	10/15/2023	NOT TO SCALE	B841-1006
DRAWING NO.			ISSUE NO.
C18			03

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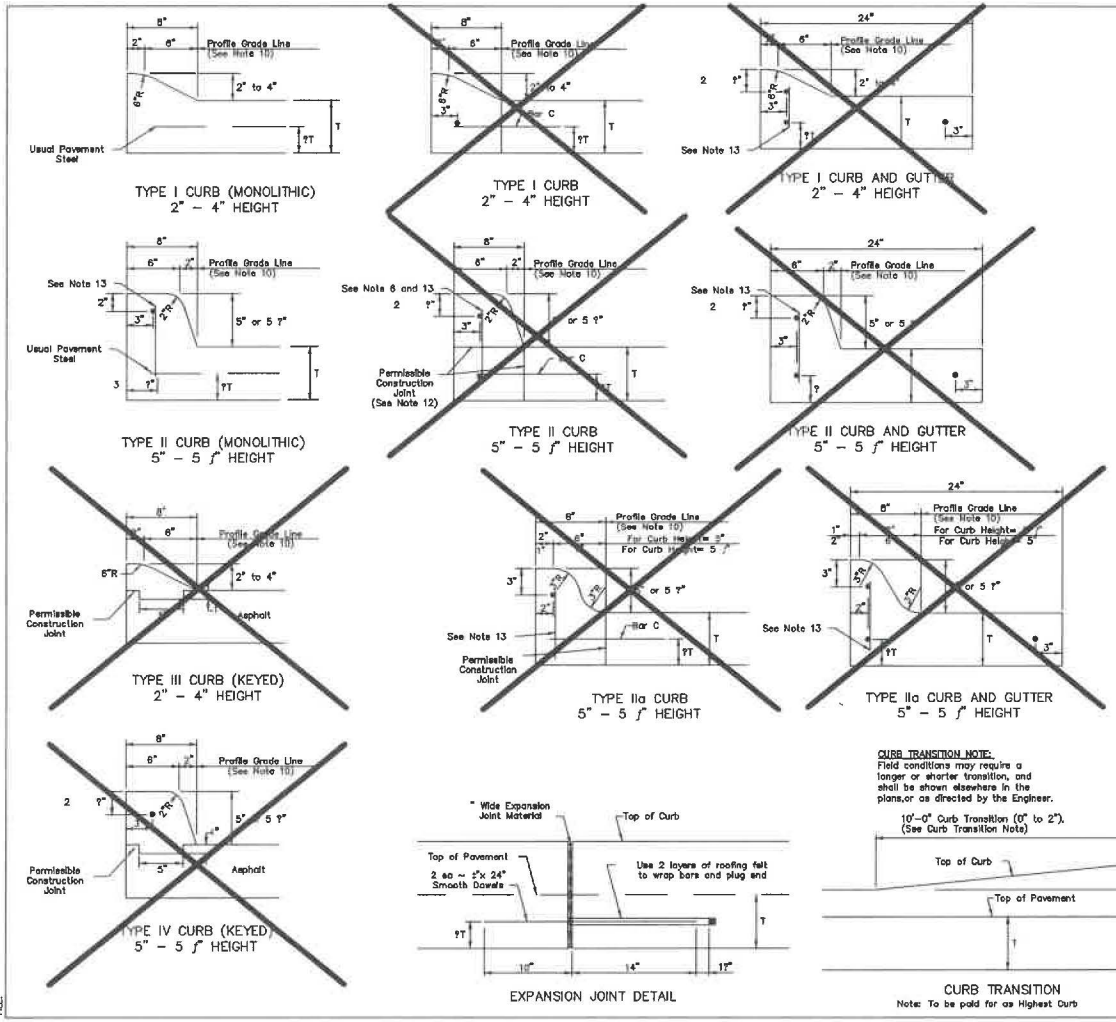
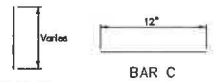


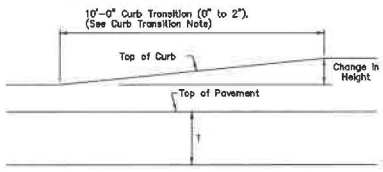
GENERAL NOTES

1. All materials and construction shall be in accordance with Item 529, "Concrete Curb, Gutter, and Combined Curb and Gutter."
2. Concrete shall be Class A.
3. When reinforcing bars are used, they shall be No.4 unless otherwise shown. The use of fiber reinforced concrete in lieu of reinforcing steel is acceptable. Use fibers meeting the requirements of DMS 4550, "Fibers for Concrete," and dose fibers in accordance with Material Producers List (MPL) "Fibers for Class A and B Concrete Applications."
4. Round exposed sharp edges with a rounding tool, to a minimum radius of .inch.
5. All existing curbs and driveways to be removed shall be sawed or removed at existing joints.
6. Where concrete curb is to be placed on existing concrete pavement, Bar B may be drilled and grouted in place, or may be inserted into fresh concrete.
7. Expansion and contraction joints shall be constructed to match pavement joints in all curbs and curb and gutter adjacent to jointed concrete pavement. Where placement of curb or curb and gutter is not adjacent to concrete pavement, expansion joints shall be provided at structures, curb returns at streets, and at locations directed by The Engineer.
8. Vertical and horizontal dowel bars and transverse reinforcing bars shall be placed at four feet C-C.
9. Dimension "T" shown is the thickness of concrete pavement. When curb is installed adjacent to flexible pavement dimension "T" is 8" maximum.
10. Usual profile grade line. Refer to typical sections and plan-profile sheets for exact locations.
11. One-half inch expansion joint material shall be provided where curb or curb and gutter is adjacent to sidewalk or riprap.
12. When horizontal permissible construction joints are used, the longitudinal pavement steel shall be placed in accordance with pavement details shown elsewhere in the plans. Reinforcing steel for curb section shall then conform to that required for concrete curb.
13. Bar B placement as needed (typically at four ft. C-C) to support curb reinforcing steel during concrete placement.



EXPANSION JOINT DETAIL

CURB TRANSITION NOTE:
Field conditions may require a longer or shorter transition, and shall be shown elsewhere in the plans,or as directed by the Engineer.



CURB TRANSITION
Note: To be paid for as Highest Curb

Texas Department of Transportation — Design Division Standard

CONCRETE_CURB AND CURB_AND_GUTTER

CCCG-22

FILE:	DN: TxDOT	CK: AH	DW: CS	CK: KM
©TxDOT: JUNE 2022	CONT	SECT	JOB	HIGHWAY
	DIST	COUNTY		SHEET NO.

STATE OF TEXAS
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COUNTY OF GALVESTON
GALVESTON, TEXAS

ISSUE	DATE	BY	DESCRIPTION	CHKD	APPD
03	3/12/24	DSD	ISSUED FOR CONSTRUCTION	BIZ	RCW
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01	11/30/23	DSD	ISSUE FOR REVIEW	DSD	RCW

PROJECT NAME AND LOCATION
HIGHWAY 3 BOAT RAMP RENOVATION
DICKINSON, TEXAS

CONCRETE CURB DETAILS

DRAWN BY	DATE	SCALE	PROJ. NO.
DSD	3/20/2019	1" = 10'-0"	8841-1006
DRAWING NO. C19			ISSUE NO. 03

STORM WATER POLLUTION PREVENTION

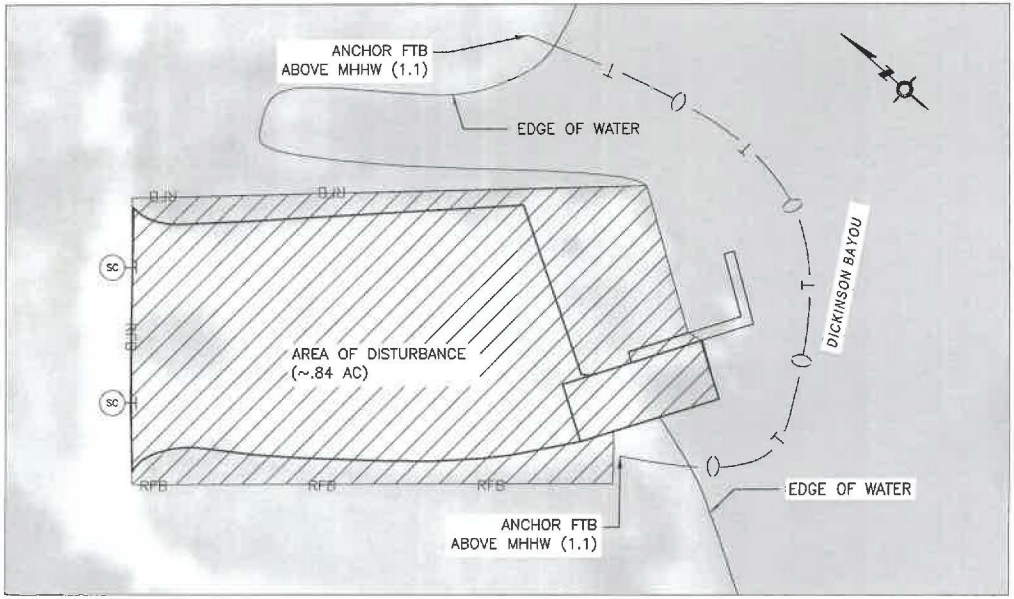
1. IF THE SWPPP IS CHANGED AFTER THE COUNTY HAS APPROVED THE PLAN SET, THE CONTRACTOR MUST RESUBMIT CHANGES TO THE STORM WATER INSPECTOR FOR APPROVAL BEFORE CHANGES ARE MADE ON-SITE.
2. THE CONTRACTOR SHALL MAINTAIN SILT FENCING AND SEDIMENT DEVICES AT ALL TIMES AND DO AN INSPECTION EVERY 7 DAYS AND/OR WITHIN 24 HOURS OF THE END OF A RAINFALL EVENT. ALL EROSION CONTROL DEVICES SHOULD BE CLEANED AND REPAIRED IN ACCORDANCE WITH THE FOLLOWING:
   A. SILT FENCING & SEDIMENT DEVICES SHALL BE REPAIRED OR REPLACED IF THEY SHOW SIGNS OF UNDERMINING, OR SHALL BE REPLACED IF THE SHOW SIGNS OF DETERIORATION.
   B. ALL SEEDED AREAS SHALL BE CHECKED REGULARLY TO SEE THAT A GOOD STAND IS MAINTAINED. AREAS SHOULD BE FERTILIZED AND RESEEDED AS NEEDED.
   C. SILT FENCING SHALL BE REPAIRED TO THEIR ORIGINAL CONDITIONS IF DAMAGED. SEDIMENT SHALL BE REMOVED FROM THE SILT FENCING WHEN IT REACHES ONE-THIRD TO ONE-HALF THE HEIGHT OF THE SILT FENCE.
   D. THE CONSTRUCTION ENTRANCES SHALL BE MAINTAINED IN A CONDITION WHICH WILL PREVENT TRACKING OR FLOW OF MUD ONTO A RIGHT-OF-WAY. THIS MAY REQUIRE PERIODIC TOP DRESSING OF THE CONSTRUCTION ENTRANCES AS CONDITIONS DEMAND.
   E. THE TEMPORARY PARKING AND STORAGE AREA SHALL BE KEPT IN GOOD CONDITION (SUITABLE FOR PARKING AND STORAGE). THIS MAY REQUIRE PERIODIC TOP DRESSING OF TEMPORARY PARKING AS CONDITIONS DEMAND.
3. A FINAL CO SHALL NOT BE ISSUED UNTIL ALL EROSION AND SEDIMENT CONTROL DEVICES ARE REMOVED.
4. CONTRACTOR WILL SWEEP STREETS AND CURB LINES ONCE A DAY UNTIL ALL CONCRETE/PAVING IS IN PLACE. ALL MATERIAL SPILLED, DROPPED, WASHED OR TRACKED FROM VEHICLES ONTO ROADWAYS OR INTO STORM DRAINS MUST BE REMOVED IMMEDIATELY.
5. ALL CONTRACTORS AND SUBCONTRACTORS INVOLVED WITH STORM WATER POLLUTION PREVENTION SHALL OBTAIN A COPY OF THE STORM WATER POLLUTION PREVENTION PLAN AND THE STATE OF TEXAS NATIONAL POLLUTION DISCHARGE ELIMINATION SYSTEMS GENERAL PERMIT (NPDES PERMIT) AND BECOME FAMILIAR WITH THEIR CONTENTS.
6. MUST KEEP DUMPSTERS CLEAN AND ALL TRASH PICKED UP ON PROJECT SITE AT ALL TIMES.
7. ALL WASH WATER (CONCRETE TRUCKS, VEHICLE CLEANING, EQUIPMENT CLEANING, ETC) SHALL BE DISPOSED OF IN A MATTER THAT PREVENTS CONTACT BETWEEN THESE MATERIALS AND STORM WATER THAT IS DISCHARGED FROM THE SITE.
8. MAINTAIN OR HAVE READILY AVAILABLE SUFFICIENT OIL AND GREASE ABSORBING MATERIALS AND FLOTATION BOOMS TO CONTAIN AND CLEAN UP FUEL OR CHEMICAL SPILLS AND LEAKS.
9. DUST SHALL BE CONTROLLED BY SPRAYING WATER ON DRY AREAS OF THE SITE. THE USE OF MOTOR OILS AND OTHER PETROLEUM BASED OR TOXIC LIQUIDS FOR DUST SUPPRESSION OPERATIONS IS PROHIBITED.
10. NO RUBBISH, TRASH, GARBAGE OR OTHER SUCH MATERIALS SHALL BE DISCHARGED INTO DRAINAGE DITCHES OR WATERS OF THE STATE.
11. ALL STORM WATER POLLUTION PREVENTION MEASURES PRESENTED ON THIS PLAN, AND IN THE STORM WATER POLLUTION PREVENTION PLAN, SHALL BE INITIATED AS SOON AS PRACTICABLE.
12. DISTURBED PORTIONS OF THE SITE WHERE CONSTRUCTION ACTIVITY WILL STOP FOR AT LEAST 21 DAYS SHALL BE TEMPORARILY SEEDED WITHIN 14 DAYS.
13. DISTURBED PORTIONS OF THE SITE WHERE CONSTRUCTION ACTIVITY HAS PERMANENTLY STOPPED SHALL BE PERMANENTLY SEEDED. THESE AREAS SHALL BE SEEDED NO LATER THAN 14 DAYS AFTER THE LAST CONSTRUCTION ACTIVITY OCCURRING IN THESE AREAS. REFER TO THE LANDSCAPING PLAN.
14. CONTRACTORS OR SUBCONTRACTORS WILL BE RESPONSIBLE FOR REMOVING SEDIMENT IN THE DETENTION POND AFTER THE STABILIZATION OF THE SITE AND ANY SEDIMENT THAT MAY HAVE COLLECTED IN THE STORM SEWER DRAINAGE SYSTEMS.
15. IF SOIL STOCKPILING IS EMPLOYED ON THIS SITE, SILT FENCES SHALL BE USED TO HELP CONTAIN THE SEDIMENT.
16. SEDIMENT BASINS ARE ATTRACTIVE TO CHILDREN AND CAN BE VERY DANGEROUS. IN ALL CASES, LOCAL ORDINANCES AND REGULATIONS REGARDING HEALTH AND SAFETY MUST BE ADHERED TO.
17. DURING THE DEVELOPMENT OF THE PROJECT, THE CONTRACTOR SHALL BE RESPONSIBLE FOR ADJUSTING THE EROSION CONTROL MEASURES (SILT FENCES, STRAW BALES, ETC.) TO HELP PREVENT EROSION AND STORM WATER POLLUTION. THE LEAGUE CITY STORM WATER INSPECTOR SHALL HAVE FINAL APPROVAL OF ANY CHANGES MADE TO THE EROSION CONTROL MEASURES.
18. ALL OFF-SITE CONSTRUCTION SHALL BE STABILIZED AT THE END OF EACH WORKING DAY; THIS INCLUDES BACKFILLING OF TRENCHES FOR STORM DRAINS & UTILITY CONSTRUCTION AND PLACEMENT OF GRAVEL OR BITUMINOUS PAVING FOR ROAD CONSTRUCTION.

FLOATING TURBIDITY BARRIER

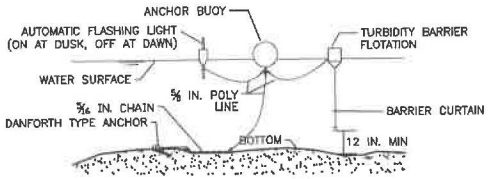
1. FURNISH, INSTALL, MAINTAIN, AND REMOVE FLOATING TURBIDITY BARRIER (FTB) TO MINIMIZE TRANSPORT AND ACCOMPLISH THE ISOLATION OF DISTURBED MATERIALS RESULTING FROM CONSTRUCTION OPERATIONS (SEE DETAIL 2 THIS SHEET).
2. THE FTB AND INSTALLATION MUST BE ENOUGH FOR A FLOW CONDITION WHERE THE VELOCITY OF FLOW MAY REACH 5 FT. PER SEC. (3 KTS).
3. THE FTB SUPPLIED MUST BE A STANDARD MANUFACTURED PRODUCT BASED ON SITE-SPECIFIC CRITERIA IN ACCORDANCE WITH MANUFACTURER'S SPECIFICATIONS. ALL MATERIALS MUST BE CORROSION RESISTANT. MATERIALS AT THE WATER SURVACE MUST NOT DEGENERATE WHEN EXPOSED TO SUNLIGHT, OILS, AND PETROLEUM PRODUCTS. THE CONTRACTOR MUST SUPPLY DOCUMENTATION FROM THE MANUFACTURER TO DEMONSTRATE THE FTB MEETS THE FOLLOWING REQUIREMENTS.
4. THE FTB CONSISTS OF A PVC COATED NYLON SECTION AND A GEO-SYNTHETIC BARRIER OR CURTAIN SECTION, LOAD LINE, MOORING LINES, ADJUSTMENT LINES AND TIE-DOWNS, FLOATATION, BALLAST, AND ANCHORS.
5. THE TURBIDITY BARRIER OR CURTAIN GEO-SYNTHETICS MUST HAVE THE FOLLOWING PROPERTIES
   5.1. THE TOP SECTION MUST CONSIST OF AN 18-22 OZ. PVC COATED NYLON FABRIC. IT MUST BE A BRIGHT YELLOW OR ORANGE COLOR TO INCREASE VISIBILITY;
   5.2. THE BOTTOM SECTION MUST CONSIST OF A GEO-SYNTHETIC WITH A FILTRATION APPARENT OPENING SIZE (AOS) OF 0.220 MM MAX. FOR NON-WOVEN GEOTEXTILES, AND AOS OF 0.425 MM MAX. FOR WOVEN TEXTILES, WHEN TESTED IN ACCORDANCE WITH ASTM D 4751-99A;
   5.3. BE A NON-WOVEN OR WOVEN MATERIAL SUCH THAT THE OPENING SIZE CANNOT BE ENLARGED UNDER PRESSURE OR BY BEING SNAGGED; AND
   5.4. THE TURBIDITY BARRIER OR CURTAIN MUST HAVE A MIN. GRAB STRENGTH OF 300 PSI WHEN TESTED IN ACCORDANCE WITH ASTM D 4632-91.
6. TURBIDITY BARRIER OR CURTAIN FLOATATION MATERIAL MUST BE A CLOSED-CELL, SOLID FOAM MATERIAL WHICH HAS ENOUGH BUOYANCY TO PROVIDE THE CURTAIN WITH CONTINUOUS SUPPORT AND A MINIMUM OF 6 IN. FREEBOARD.
   6.1. THE SECTIONS OF FLOATATION MUST BE INSTALLED SUCH THAT THEY CANNOT MOVE ALONG INSIDE THE SLEEVE, AND THE SPACE BETWEEN SECTIONS MUST NOT BE MORE THAN TWICE THE THICKNESS OF THE FLOATATION MATERIAL.
7. LOAD LINES MUST BE MIN. 5/16 IN. VINYL COATED GALVANIZED AIRCRAFT CABLE WITH 9800 LB. BREAKING STRENGTH. THE LOAD LINE MUST HAVE GALVANIZED CONNECTORS WITH TOOL FREE DISCONNECT.
8. MOORING LINES, ADJUSTMENT LINES AND TIE-DOWNS BUST BE MINIMUM 1/2 IN. NYLON ROPE.
9. BALLAST MUST BE MIN. 5/16 IN. STEEL CHAIN. THE FTB MUST HAVE ENOUGH BALLAST TO ANCHOR THE BARRIER ALONG THE CHANNEL BOTTOM.
10. ANCHORS MUST HAVE ENOUGH MASS AND SPACED TO SECURE THE BARRIER AS RECOMMENDED BY THE MANUFACTURER DEPENDING ON THE CURRENT VELOCITIES.
11. MOORING BUOYS MUST HAVE PROVISIONS FOR THE MOORING LINE TO BE SECURELY ATTACHED WITH ENOUGH BUOYANCY TO REMAIN AFLOAT UNDER NORMAL LOAD CONDITIONS.
12. PLACE THE FTB BEFORE COMMENCEMENT OF ANY WORK THAT COULD IMPACT THE AREA OF CONCERN. ENSURE THAT THE TYPE OF BARRIER USED AND THE DEPLOYMENT AND MAINTENANCE OF THE BARRIER WILL MINIMIZE DISPERSION OF TURBID WATER FROM THE EXCAVATION AND DREDGING AREA. MAINTAIN FTB UNTIL SEDIMENT GENERATING ACTIVITIES HAVE CEASED, AND THE AREA HAS BEEN STABILIZED.
13. OPERATE THE TURBIDITY BARRIER IN SUCH A MANNER TO AVOID OR MINIMIZE THE DEGRADATION OF THE WATER QUALITY OF SURROUNDING WATERS. WHEN LOCATED ADJACENT TO A SHORELINE OR BANK, THE ENDS OF THE CURTAIN WILL BE SECURED TO FULLY ENCLOSE THE AREA.

CONCRETE TRUCK WASHOUT

1. CONCRETE TRUCK WASHOUT BASIN MUST BE CONSTRUCTED AS "ABOVE GRADE" TYPE (SEE DETAIL 'CONCRETE TRUCK WASHOUT' PLAN AND SECTION F-F ON SHEET C-21.) NO EXCAVATION IS PERMITTED.
2. WASHOUT BASIN FRAME MAY BE CONSTRUCTED OF 2"X12" LUMBER OR STRAW BALES STRAW BALES MUST BE STAKED WITH TWO 2"X2" WOOD STAKES PER BALE EMBEDDED 12" MIN INTO THE GROUND.



1 PLAN: MINUMUM BMPS
SCALE: N.T.S.



2 DETAIL: FLOATING TURBIDITY BARRIER
SCALE: N.T.S.

LEGEND

RFB — REINFORCED FILTER FABRIC BARRIER (RFFB)
() T — FLOATING TURBIDITY BARRIER (FTB)
SC — STABILIZED CONSTRUCTION EXIT
CONSTRUCTION WORK AREA

Know what's below. Call before you dig.

STATE OF TEXAS
DOUGLAS S. DUSINI
127813
LICENSED PROFESSIONAL ENGINEER
1/24/2025

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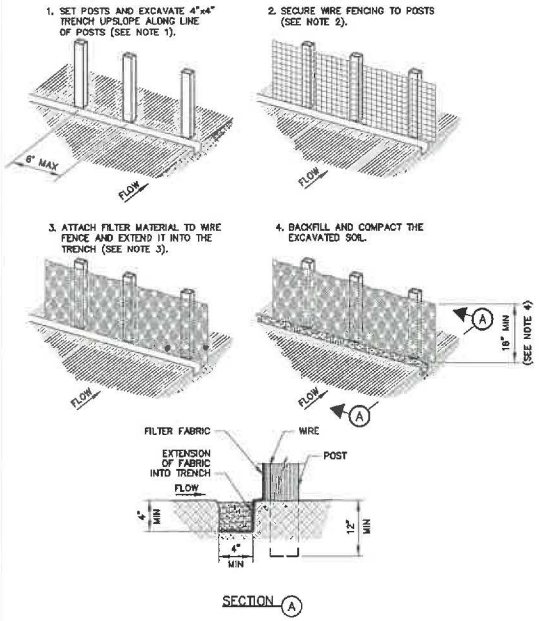
COUNTY OF GALVESTON
GALVESTON, TEXAS

ISSUE	DATE	BY	DESCRIPTION	CHKD	APPD
04	1/24/25	DSD	ISSUED FOR CONSTRUCTION	BZ	RCW
03	3/12/24	DSD	ISSUED FOR CONSTRUCTION	BZ	RCW
02	2/5/24	DSD	ISSUED FOR REVIEW	---	---
01	11/30/23	DSD	ISSUED FOR REVIEW	---	---

HIGHWAY 3 BOAT RAMP RENOVATION
DICKINSON, TEXAS

STORMWATER POLLUTION PREVENTION PLAN

DRAWN BY	DATE	SCALE	PROJ. NO.
DSD	3/20/2019	N.T.S.	8841-1006
DRAWING NO.			ISSUE NO.
C20			03



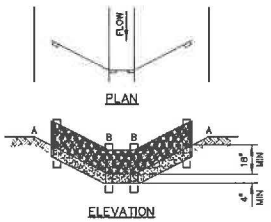
NOTES

1. SET 2 INCH BY 2 INCH WOODEN STAKES SPACE A MAX OF 8 FEET APART AND EMBEDDED A MIN OF 12 INCHES.
2. WOVEN WIRE FENCE TO BE FASTENED SECURELY TO FENCE POSTS WITH STAPLES.
3. FILTER CLOTH TO BE FASTENED SECURELY TO WOVEN WIRE FENCE, WITH TIES SPACED EVERY 24 INCHES AT TOP AND MIDSECTION.
4. MINIMUM HEIGHT OF FILTER SHOULD BE 16 INCHES AND A MAXIMUM OF 36 INCHES ABOVE NATURAL GROUND.
5. WHEN TWO SECTIONS OF FILTER CLOTH ADJOIN EACH EACH OTHER THEY SHALL BE OVERLAPPED 6 INCHES AT THE POSTS AND FOLDED.

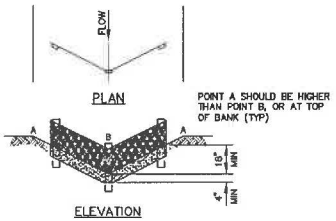
(RFB)

SYMBOL

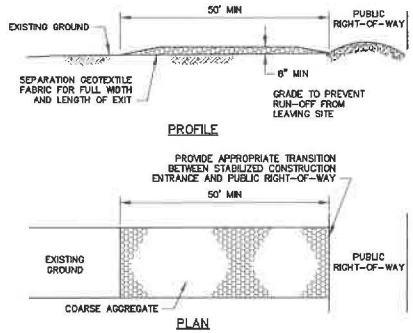
REINFORCED FILTER FABRIC BARRIER
NTS



TRAPEZOIDAL SECTION
NTS



"V-DITCH" SECTION
NTS



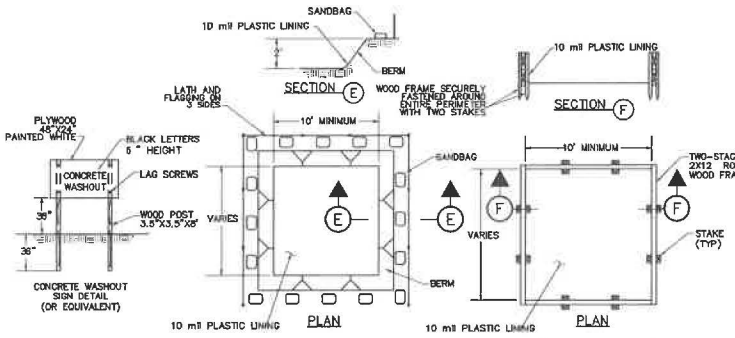
NOTES

1. LENGTH SHALL BE AS SHOWN ON THE CONSTRUCTION DRAWINGS, BUT NOT LESS THAN 50 FEET.
2. THICKNESS SHALL BE NOT LESS THAN 8 INCHES.
3. WIDTH SHALL BE NOT LESS FULL WIDTH OF ALL POINTS OF INGRESS OR EGRESS.
4. STABILIZATION FOR OTHER AREAS SHALL HAVE THE SAME AGGREGATE THICKNESS AND WIDTH REQUIREMENTS AS THE STABILIZED CONSTRUCTION EXIT, UNLESS OTHERWISE SHOWN ON THE CONSTRUCTION DRAWINGS.
5. STABILIZED AREA MAY BE WIDENED OR LENGTHENED TO ACCOMMODATE A TRUCK WASHING AREA. AN OUTLET SEDIMENT TRAP MUST BE PROVIDED FOR THE TRUCK WASHING AREA.
6. STABILIZED CONSTRUCTION EXIT SHALL BE MAINTAINED FREE OF SEDIMENT FOR THE DURATION OF THE PROJECT.

(SC)

SYMBOL

STABILIZED CONSTRUCTION EXIT
NTS



NOTES

1. CONCRETE WASHOUT FACILITIES ARE TO BE LOCATED AT LEAST 50' FROM STORM DRAIN INLETS, OPEN DRAINAGE FACILITIES, CONSTRUCTION ENTRANCE OR WATER BODIES.
2. A CONCRETE WASHOUT SIGN SHALL BE INSTALLED WITHIN 30' OF THE CONCRETE WASHOUT FACILITY.
3. ONCE 75% OF THE ORIGINAL VOLUME OF THE WASHOUT PIT IS FILLED OR IF THE LINER IS TORN, THE MATERIAL MUST BE REMOVED AND PROPERLY DISPOSED OF ONCE IT IS COMPLETELY HARDENED. ONCE THE HARDENED CONCRETE IS REMOVED, THE LINER MUST BE REPLACED (IF TORN). A NEW PIT MUST BE CONSTRUCTED IF THE ORIGINAL STRUCTURE IS NO LONGER SUITABLE.
4. ONCE THE PIT IS NO LONGER NEEDED, ENSURE ALL WASHOUT MATERIAL HAS COMPLETELY HARDENED. THEN REMOVE AND PROPERLY DISPOSE OF ALL MATERIALS.

CONCRETE TRUCK WASHOUT
NTS

Texas 811
Know what's below.
Call before you dig.

STATE OF TEXAS
DOUGLAS S. DIXON
127813
LICENSED PROFESSIONAL ENGINEER
3/12/2024

LJA ENGINEERING, INC
Transportation/Marine Facilities
1904 W Grand Parkway N, Ste 100
Katy, Texas 77449
Phone 713.380.4420
FRN - F-1386

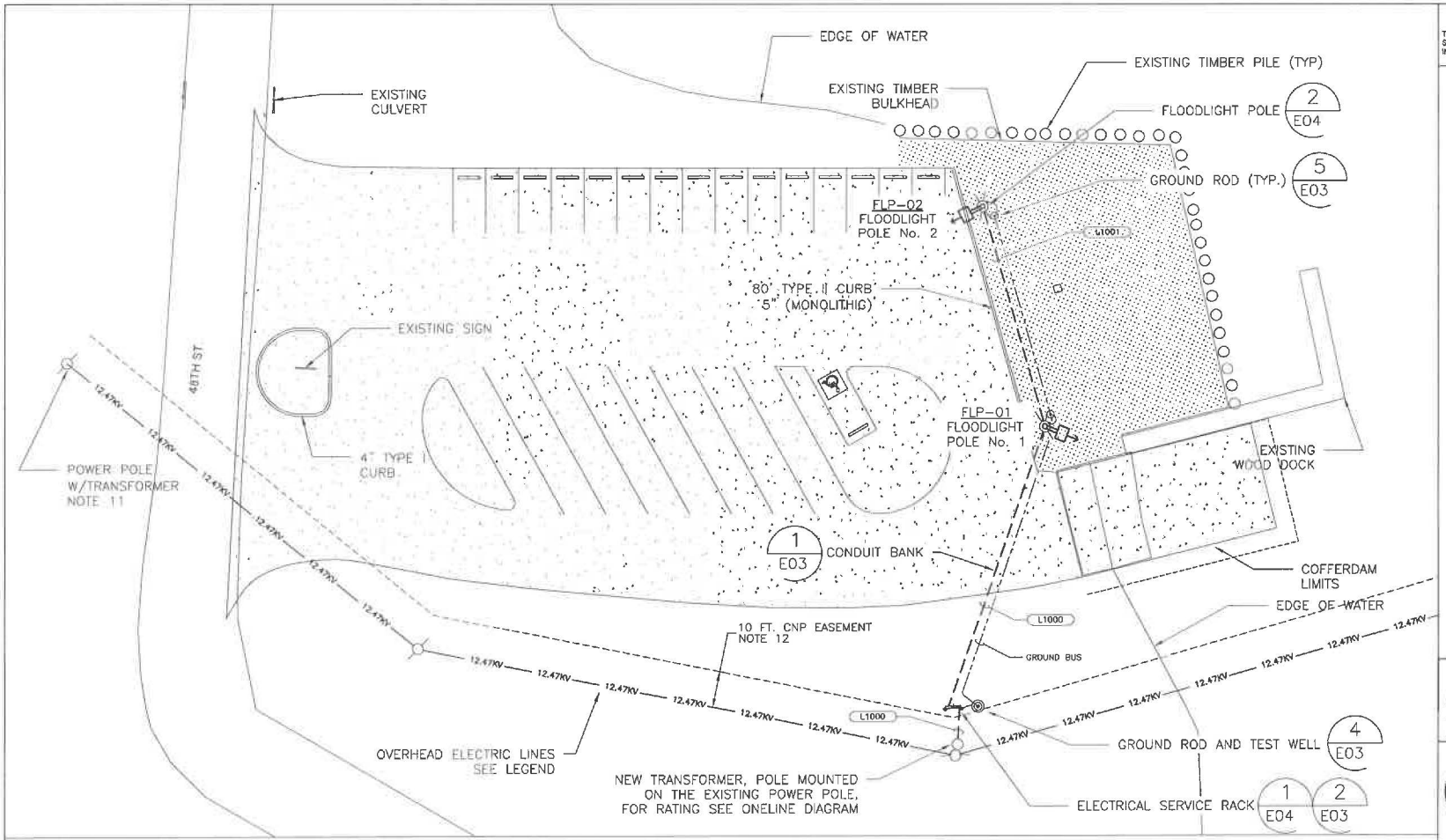
COUNTY OF GALVESTON
GALVESTON, TEXAS

ISSUE	DATE	BY	DESCRIPTION	CHKD	APPD
03	3/12/24	DSD	ISSUED FOR CONSTRUCTION	BZ	RCW
01	11/30/23	DSD	ISSUED FOR REVIEW	----	----

HIGHWAY 3 BOAT RAMP RENOVATION
DICKINSON, TEXAS

STORMWATER POLLUTION PREVENTION PLAN DETAILS

DRAWN BY	DATE	SCALE	PROJ NO.
DSD	3/20/2019	N.T.S.	B641-1006
DRAWING NO.			ISSUE NO.
C21			03



GENERAL NOTES

1. GROUNDING SHALL BE PER SPECIFICATIONS WITH #4/0 BARE STRANDED COPPER BUS, AS SHOWN — - - - —, AND WITH BARE STRANDED TAPS AS SHOWN — - - —, OR —, UNLESS OTHERWISE NOTED. GROUND RODS ⊙ AND GROUND RODS WITH TEST WELL TO BE INSTALLED AS SHOWN ◎.
2. ⊢ THIS SYMBOL INDICATES TYPICAL GROUND TAPS FOR STAIRS, MOTORS, HANDRAILS, GRATING, MISCELLANEOUS EQUIPMENT, ETC. ALL SUCH REQUIRED GROUNDING TAPS ARE NOT ILLUSTRATED ON THE DRAWING.
3. GROUND ALL EQUIPMENT, STRUCTURES, SAFETY & DISCONNECT SWITCHES, ETC., USING BURNDY #GB26 GROUND CONNECTORS OR APPROVED EQUAL. GROUND CONNECTORS SHALL BE USED ONLY AT THE POINT OF FINAL CONNECTION.
4. ROUTE GROUND BUS AND TAPS IN GENERAL WITH CONDUIT RUNS. IN YARD AREAS, GROUND WIRE SHALL BE BURIED AT MINIMUM DEPTH OF 18" BELOW GRADE. BONDING JUMPERS SHALL BE PERMITTED ONLY WITH ENGINEER APPROVAL.
5. ALL SPLICES & TAPS SHALL BE MADE WITH CADWELD PROCESS (FUSION WELDED) OR APPROVED EQUAL.
6. ALL RECEPTACLES SHALL HAVE #12 GREEN GROUND WIRE CONTINUOUS TO LIGHTING PANEL GROUND.
7. EXPOSED GROUNDING CONDUCTORS SHALL BE ROUTED TO MINIMIZE TRIP HAZARDS. THE EXPOSED LENGTH SHALL TYPICALLY TAKE THE SHORTEST DISTANCE TO THE GROUND (EARTH). MAXIMUM EXPOSED LENGTH SHALL BE ONE FOOT.
8. INSTALL A MINIMUM OF 2 PROTECTIVE PIPE BOLLARDS AT CONTROL PANEL, CENTER POINT ENERGY POLES DOWN GUYS, ETC. BOLLARD LOCATIONS SHALL BE FIELD ESTABLISHED. SEE CIVIL DRAWINGS FOR BOLLARD DETAILS.
9. ALL CONDUIT UNDERGROUND SHALL BE INSTALLED IN REINFORCED CONCRETE PER THE REQUIREMENTS OF SPECIFICATIONS REGARDLESS OF THE NUMBER OF CONDUITS INVOLVED.
10. SEE OTHER DISCIPLINE DRAWINGS FOR SPECIFIC INFORMATION RELATING TO DIMENSIONS, EQUIPMENT, CONSTRUCTION REQUIREMENTS, PROCEDURES, ETC.
11. EXISTING POWER POLE WITH EXISTING TRANSFORMER SEE ELECTRICAL DEMOLITION PLAN.
12. SERVICE RACK SHALL BE INSTALLED OUTSIDE THE CENTERPOINT (CNP) EASEMENT.

LEGEND

- — 12.47KV — EXISTING OVERHEAD 12.47KV POWER LINE
- - - - - - - - PROPOSED UNDERGROUND CONDUIT BANK
- PROPOSED FLOODLIGHT POLE
- FLOODLIGHT FIXTURE, TYPE TO BE DETERMINED
- EXISTING POWER POLES

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0' 30' 60'
1" = 30'-0"

STATE OF TEXAS
FRANK J. DILLARD
39983
LICENSED PROFESSIONAL ENGINEER
03/12/2024

LJA ENGINEERING, INC
Transportation/Marine Facilities
1904 W Grand Parkway N, Ste 100
Katy, Texas 77449
Phone 713.380.4420
FRN - F-1386

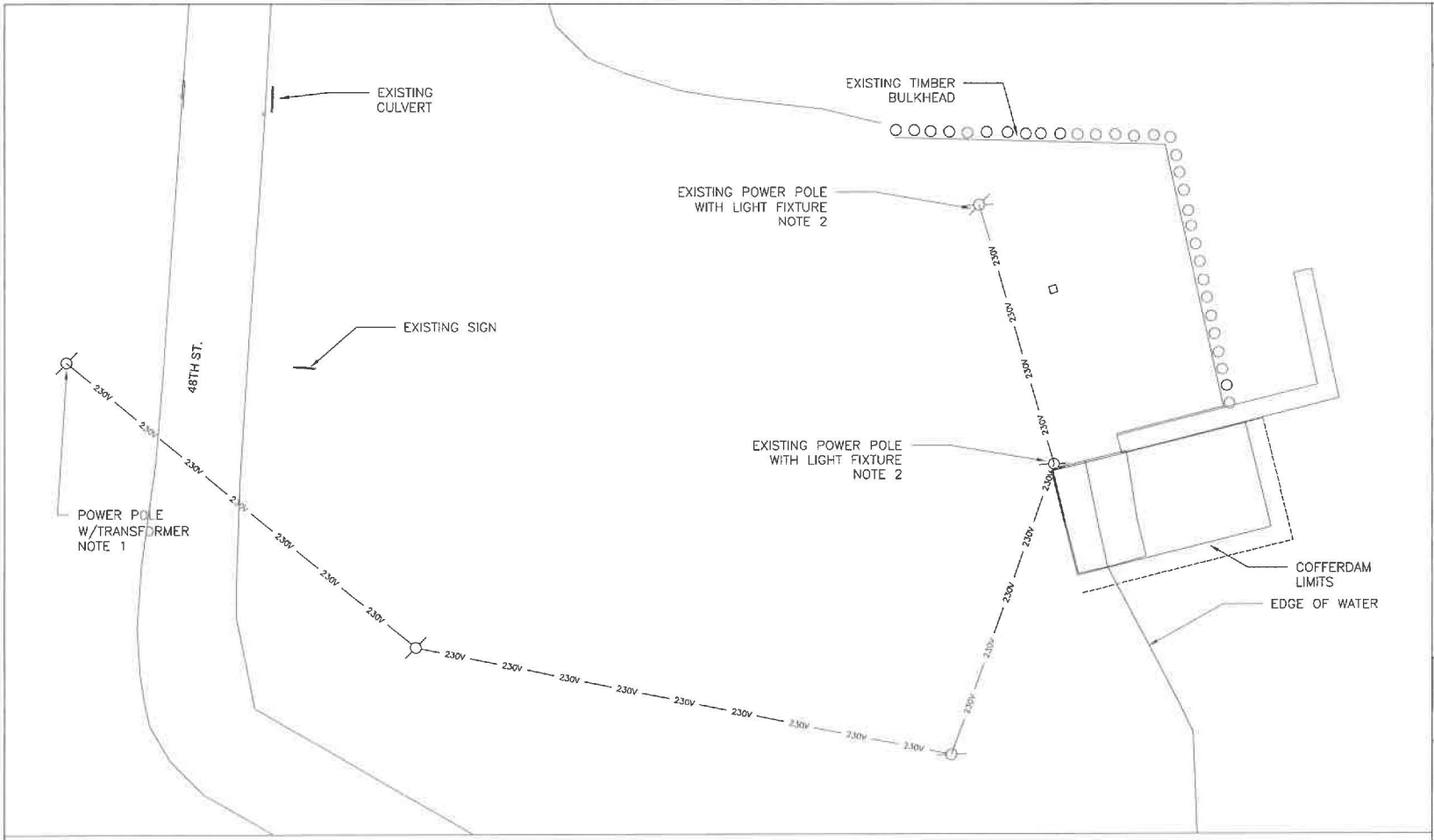
COUNTY OF GALVESTON
GALVESTON, TEXAS

ISSUE	DATE	BY	DESCRIPTION	CHKD	APPD
01	11/30/23	DSD	ISSUED FOR REVIEW		

PROJECT NAME AND LOCATION
HIGHWAY 3 BOAT RAMP RENOVATION
DICKINSON, TEXAS

SHEET NAME
ELECTRICAL SITE PLAN

DRAWN BY	DATE	SCALE	PROJ. NO
	12/14/2023	1" = 30'-0"	B841-1006
DRAWING NO.			ISSUE NO
E01			01



NOTES

1. EXISTING POWER POLE WITH EXISTING TRANSFORMER TO BE REMOVED WITH PRIMARY CONNECTION AND SECONDARY OVERHEAD 230V POWER LINE.
2. EXISTING POLES WITH LIGHT FIXTURE ARE TO BE REMOVED

LEGEND

- 230V — OVERHEAD 230V POWER LINE, SEE NOTE 1
- EXISTING POLE WITH LIGHT FIXTURES, SEE NOTE 2
- EXISTING POWER POLE

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0' 30' 60'

1" = 30'-0"

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COUNTY OF GALVESTON
GALVESTON, TEXAS

ISSUE	DATE	BY	DESCRIPTION	CHKD	APPD
01	11/30/23	DSD	ISSUED FOR REVIEW		

PROJECT NAME AND LOCATION

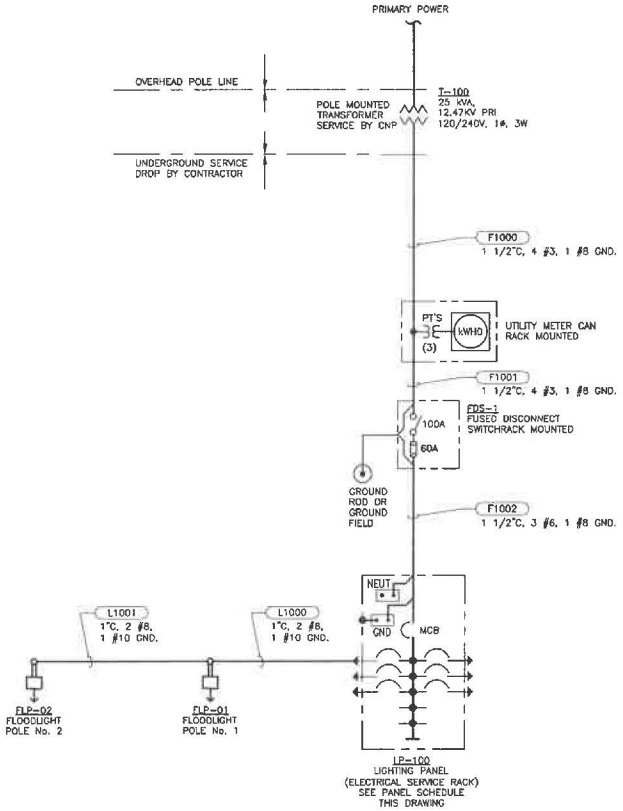
HIGHWAY 3 BOAT RAMP RENOVATION
DICKINSON, TEXAS

SHEET NAME

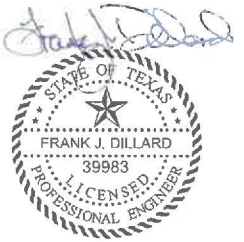
ELECTRICAL DEMOLITION PLAN

DRAWN BY	DATE	SCALE	PROJ NO
	12/14/2023	1" = 30'-0"	B641-1006

DRAWING NO.	ISSUE NO
E02	01



NAME: LP-01 LIGHTING PANEL SCHEDULE			NEMA: 3R SS		LOCATION: SERVICE RACK		
SOURCE: T-100 TRANSFORMER			VOLTS: 120 / 240		WIRE: 3W		
PHASE: 1			MCB: 60A		BUS: 125A		
CKT #	BKR AMP	DESIGNATION	VA	LOAD ϕA VA	LOAD ϕB VA	VA	DESIGNATION	BKR AMP	CKT #
1	20	FLOODLIGHTS POLES	210.00	210.00		0.00	SPARE	20	2
3	20		210.00		210.00	0.00		20	4
5	20	SPARE	0.00	0.00		0.00	SPARE	20	6
7	20		0.00		0.00	0.00		20	8
9	15	SPARE	0.00	0.00		0.00	EXIT LIGHT	20	10
11	20	SPARE	0.00		0.00	0.00	SPARE	20	12
13	20	SPARE	0.00	0.00		0.00	COMM RACK RECEPTACLE	20	14
15	20	SPARE	0.00		0.00	0.00	LIGHTING CONTACTOR FL-1, FL-2	20	16
17	20	SPARE	0.00	0.00		0.00	SPARE	20	18
19	20	SPARE	0.00		0.00	0.00	LIGHTING CONTACTOR - HOA	20	20
21	20	SPARE	0.00	0.00		0.00	SAMPLER ENCLOSURE HEATER ON SKID	20	22
23	20	SPARE	0.00		0.00	0.00	GAS CHROMATOGRAPH ENCLOSURE HEATER	20	24
25	20	SPARE	0.00	0.00		0.00	SPARE	---	26
27	---	SPACE	0.00		0.00	0.00	SPARE	---	28
29	---	SPACE	0.00	0.00		0.00	SPARE	---	30
NOTE: 1.				210.00	210.00	TOTAL KNOWN VA			
				0.21	0.21	TOTAL KNOWN KVA PER PHASE			
				0.42		TOTAL KNOWN KVA ==========> CONNECTED KNOWN AMPS: 1.75			



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COUNTY OF GALVESTON
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ISSUE	DATE	BY	DESCRIPTION	CHK'D	APP'D
01	12/14/23	NAS	ISSUED FOR REVIEW		

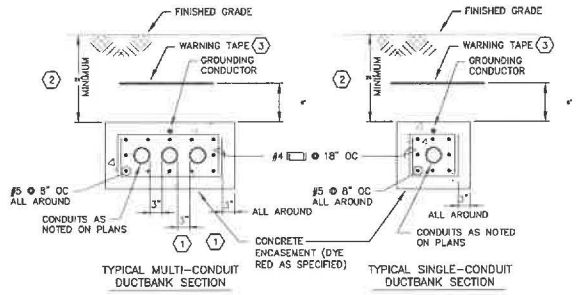
PROJECT NAME AND LOCATION

HIGHWAY 3 BOAT RAMP RENOVATION
DICKINSON, TEXAS

SHEET NAME

ONELINE DIAGRAM

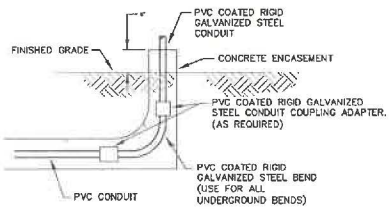
DRAWN BY	DATE	SCALE	PROJ NO
	12/14/2023	NONE	B841-1006
DRAWING NO.			ISSUE NO
E03			01



TYPICAL MULTI-CONDUIT DUCTBANK SECTION

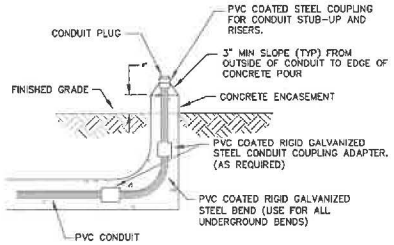
TYPICAL SINGLE-CONDUIT DUCTBANK SECTION

1 -- **DETAIL** NOT TO SCALE



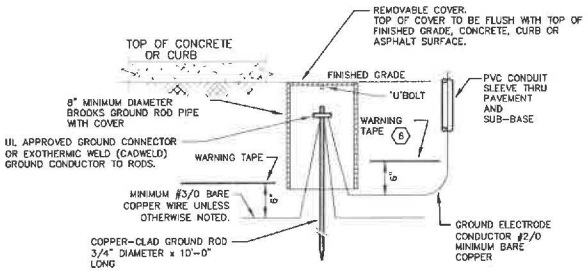
CONDUIT STUB-UP

2 -- **DETAIL** NOT TO SCALE



SPARE CONDUIT STUB-UP

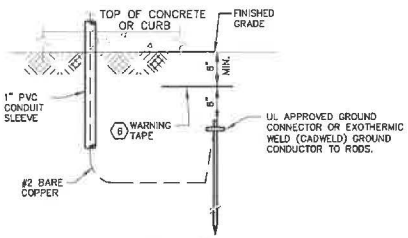
3 -- **DETAIL** NOT TO SCALE



GROUND ROD AND TEST WELL INSTALLATION

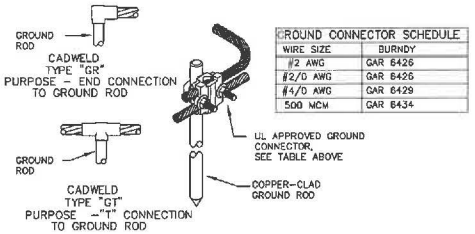
4 -- **DETAIL** NOT TO SCALE

NOTE: ALL EXPOSED THREADS & GALVANIZED VOIDS TO BE COATED WITH ANTI RUST MATERIAL



TYPICAL GROUND ROD INSTALLATION

5 -- **DETAIL** NOT TO SCALE

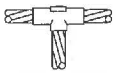


GROUND CONNECTOR SCHEDULE	
WIRE SIZE	BURNDY
#2 AWG	GAR 6426
#2/0 AWG	GAR 6426
#4/0 AWG	GAR 6429
500 MCM	GAR 6434

TYPICAL GROUND CONNECTOR AND CADWELD GROUND CONDUCTOR TO GROUND ROD INSTALLATIONS

6 -- **DETAIL** NOT TO SCALE

GROUND ROD DETAIL



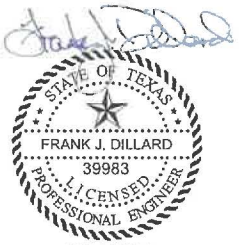
CADWELD TYPE "TA" PURPOSE - "T" CONNECTION

TYPICAL GROUND BUS TO TAP CADWELD CONNECTION

7 -- **DETAIL** NOT TO SCALE

NOTES BY SYMBOL " (XX)

1. CONTRACTOR SHALL MAINTAIN THE MINIMUM SEPARATION BETWEEN THE CONDUITS AS SHOWN ON THE DETAIL AND PER THE NATIONAL ELECTRIC CODE.
2. MAXIMUM DEPTH TO THE TOP OF THE ELECTRICAL DUCT BANKS SHALL BE 24", FOR BURIAL DEPTHS GREATER CABLE AMPACITY DERATING FACTOR MUST BE APPLIED.
3. WARNING TAPE IS REQUIRED IN ALL AREAS EXCEPT BENEATH FOUNDATIONS AND SIDEWALKS. POLYETHYLENE RED MARKER TYPE WITH REPETITIVE MESSAGE "ELECTRICAL LINES".
4. ANY RGS OR METALLIC CONDUIT COMPONENTS THAT CONTACTS EARTH SHALL BE FULLY WRAPPED WITH PIPE TAPE OR BE APPROPRIATELY COATED TO PREVENT EXTERNAL CORROSION.
5. REMOVE COUPLING AND PLUG AND, IF REQUIRED, INSTALL A CONDUIT SEAL FITTING TO CONTINUE ABOVE GRADE PORTION OF CONDUIT RUN.
6. CONDUIT SEAL NOT NEEDED WHEN CONDUIT RUN IS COMPLETELY IN NON-CLASSIFIED AREAS.



03/12/2024

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COUNTY OF GALVESTON
GALVESTON, TEXAS

ISSUE	DATE	BY	DESCRIPTION	CHKD	APP'D
01	12/14/23	NAS	ISSUED FOR REVIEW		

PROJECT NAME AND LOCATION

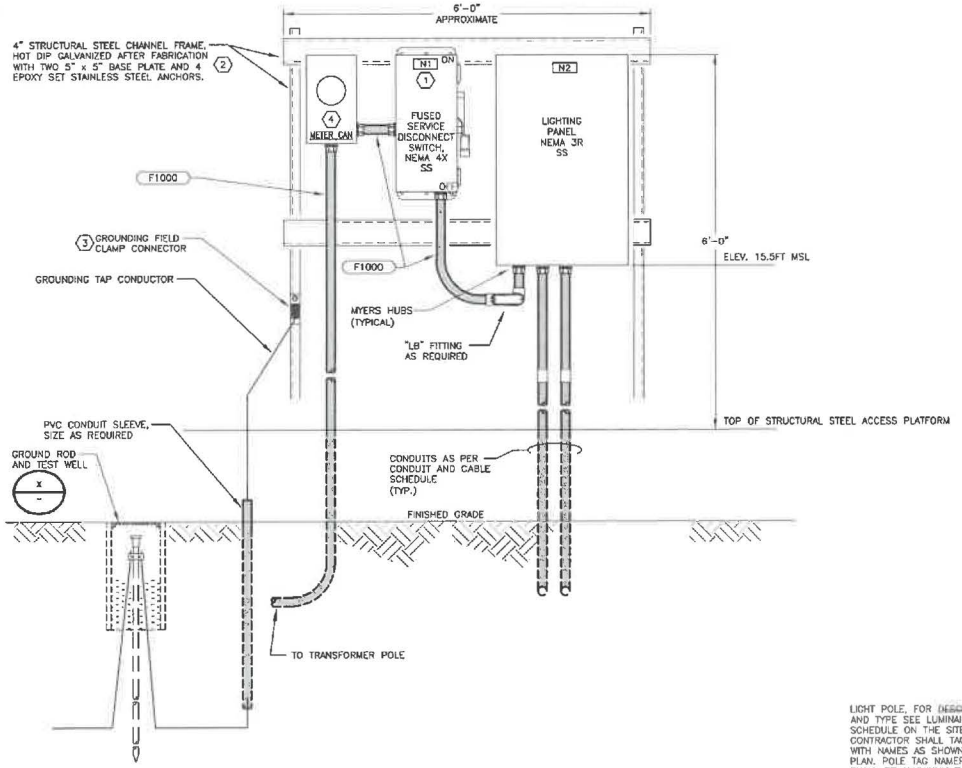
HIGHWAY 3 BOAT RAMP RENOVATION
DICKINSON, TEXAS

SHEET NAME

MISCELLANEOUS DETAILS - SH. 1 OF 2

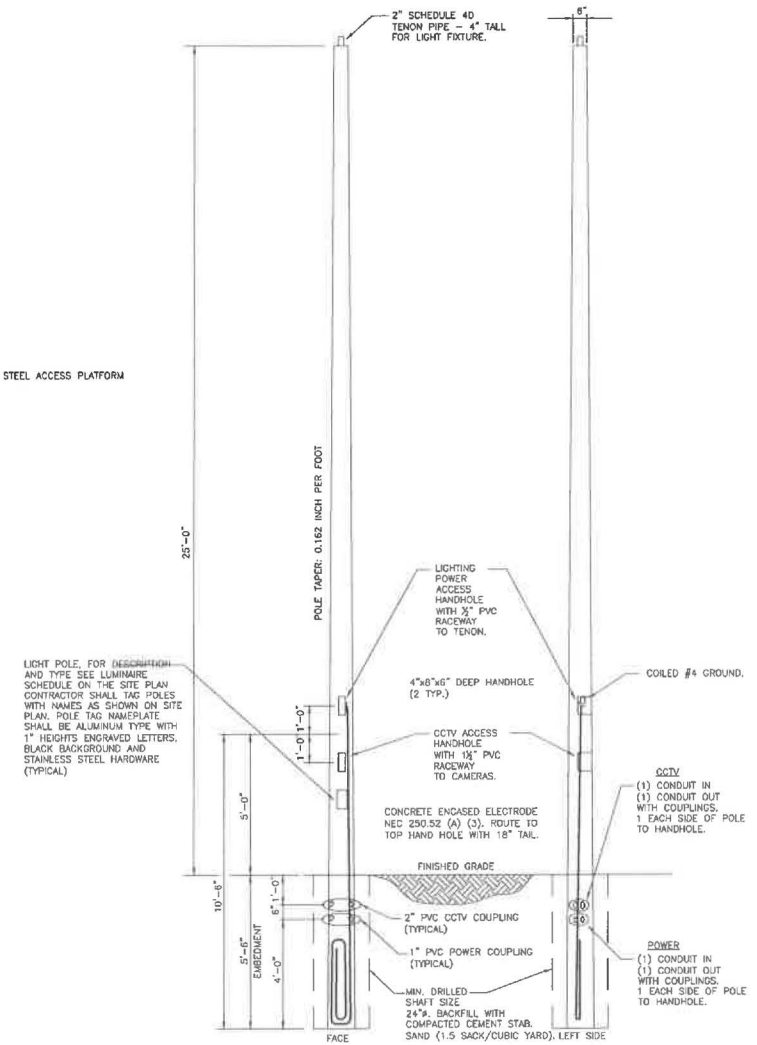
DRAWN BY	DATE	SCALE	PROJ NO
	12/14/2023	NTS	B841-1006

DRAWING NO.	ISSUE NO
E04	01



ELECTRICAL SERVICE RACK ELEVATION FRONT VIEW

1 DETAIL NOT TO SCALE



ELEVATION VIEW

FLOODLIGH POLE BASE

2 DETAIL NOT TO SCALE

NAMEPLATE SCHEDULE

DESIGNATION	ENGRAVED
N1	FDS-1
N2	LP-01

NOTES BY SYMBOL "4"

1. NAMEPLATE, 3/8" HIGH LETTERS IN WHITE ON BLACK BAKELIGHT (SEE NAMEPLATE SCHEDULE). SHALL BE MOUNTED USING 316 STAINLESS STEEL HARDWARE.
2. UNLESS OTHERWISE NOTED, ALL NUTS, BOLTS, SCREWS WASHERS, ETC. SHALL BE TYPE 316 STAINLESS STEEL.
3. PROVIDE ANTI-CORROSIVE SPRAY ON ANY BARE METAL PARTS OR EXPOSED WIRE.
4. PER CITY OF HOUSTON ELECTRICAL CODE SEC. 504.1.1 AVAILABLE FAULT CURRENT LABELING. BY 110.24 A PERMANENTLY AFFIXED LABEL SHALL BE APPLIED WITH THE AVAILABLE FAULT CURRENT. LABEL SHALL BE BLUE LETTERING ON A CONTRASTING BACKGROUND

STATE OF TEXAS
FRANK J. DILLARD
39983
LICENSED
PROFESSIONAL ENGINEER
03/12/2024

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COUNTY OF GALVESTON
GALVESTON, TEXAS

ISSUE	DATE	BY	DESCRIPTION	CHK'D	APP'D
01	12/14/23	MAS	ISSUED FOR REVIEW		

PROJECT (map) AND LOCATION:
HIGHWAY 3 BOAT RAMP RENOVATION
DICKINSON, TEXAS

SHEET TITLE:
MISCELLANEOUS DETAILS - SH. 2 OF 2

DRAWN BY	DATE	SCALE	PROJ. NO.
	12/14/2023	NTS	B641-1006
DRAWING NO.			ISSUE NO.
E05			01

DEPARTMENT OF THE ARMY
U.S. ARMY CORPS OF ENGINEERS, GALVESTON DISTRICT
2000 FORT POINT RD
GALVESTON, TEXAS 77550

November 20, 2024

Evaluation Branch

SUBJECT: Permit No. SWG-2019-00483; Nationwide Permit Verification

Galveston County
Ms. Elizabeth Thomas
722 Moody Avenue
Galveston, Texas 77550

Dear Ms. Thomas:

This is in reference to your request, dated September 17, 2024, submitted on your behalf by LJA Environmental Services, Inc., to discharge approximately 47 cubic yards of concrete into 0.03-acre area of Dickinson Bayou for the purpose of repairing an existing boat ramp. The new boat ramp will be 31 feet by 28 feet and will extend 31 feet into Dickinson Bayou. The project site is located in Dickinson Bayou, at the Dickinson Bayou Boat Ramp, approximately 0.07-mile southwest of the intersection of State Highway 3 and 48th Street, in Dickinson, Galveston County, Texas.

This request is verified by Nationwide Permit (NWP) 36 pursuant to Section 404 of the Clean Water Act and Section 10 of the Rivers and Harbors Act of 1899. This NWP verification is valid provided the activity is compliant with the enclosed plans, in 4 sheets. In addition, the activity must be in compliance with the NWP General/Regional Conditions, Section 401 Water Quality Certification, and the Coastal Management Program, which can be found at: https://www.swg.usace.army.mil/Missions/Regulatory/Permits/Nationwide-General-Permits/, a hard copy can be provided to you upon request.

NWP 36. Boat Ramps: Activities required for the construction of boat ramps.

We have determined the proposed activity would comply with all the terms and conditions of NWP 36 and that the adverse environmental effects of the proposed project would be minimal both individually and cumulatively. Therefore, in this case, we are waiving the 'not to exceed 20 feet in width' criteria and allowing the boat ramp width to be 28 feet.

The NWP verification is valid until the NWP is modified, reissued, or revoked. The subject NWPs authorized in 2021 are scheduled to be modified, reissued, or revoked prior to March 15, 2026. It is incumbent upon you to remain informed of changes to the NWPs. We will issue a public notice when the NWPs are reissued. Furthermore, if you commence or are under contract to commence this activity before the date that the

relevant NWP is modified or revoked, you will have 12 months from the date of the modification or revocation of the NWP to complete the activity under the present terms and conditions of this NWP.

This verification does not address nor include any consideration for geographic jurisdiction on aquatic resources and shall not be interpreted as such. If you have any questions, please contact Shannon Cass by telephone at 409-766-3873 or by electronic mail (email) Shannon.E.Cass@USACE.Army.Mil. Please notify the Chief of the Compliance Branch in the Galveston District Regulatory Division in writing by email at CESWGRegulatoryInbox@USACE.Army.Mil, upon completion of the authorized project.

FOR THE DISTRICT COMMANDER:

K. Marie Taylor
Leader, Central Evaluation Unit

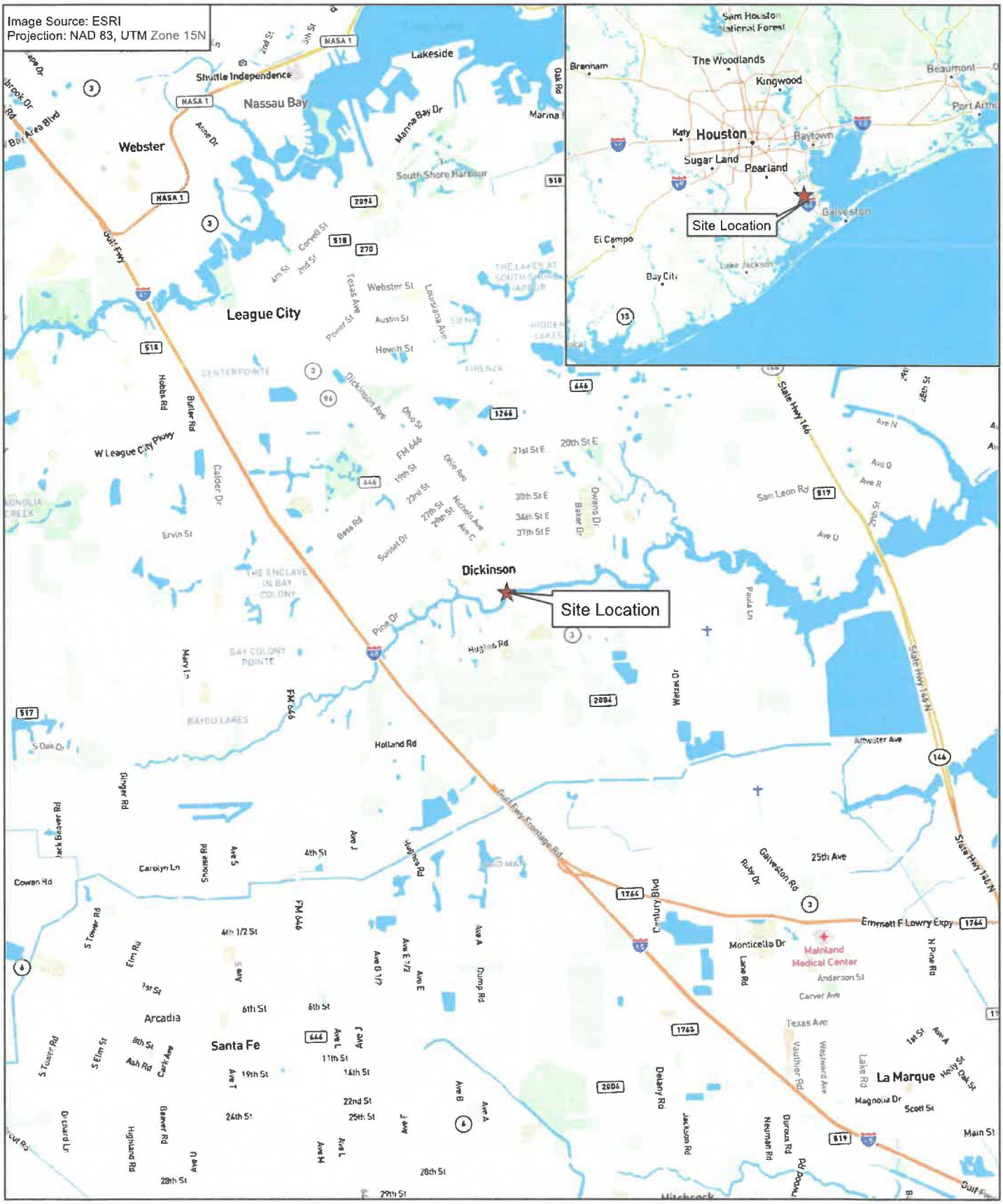
cc w/Encl.
LJA Environmental Services, Inc., Keith Morgan, kmorgan@bergoliver.com

Eighth Coast Guard District, New Orleans, LA

National Oceanic and Atmospheric Administration (NOAA), National Ocean Service (NOS), Coast & Geodetic Survey, Silver Spring, MD

Texas Commission on Environmental Quality

Texas General Land Office



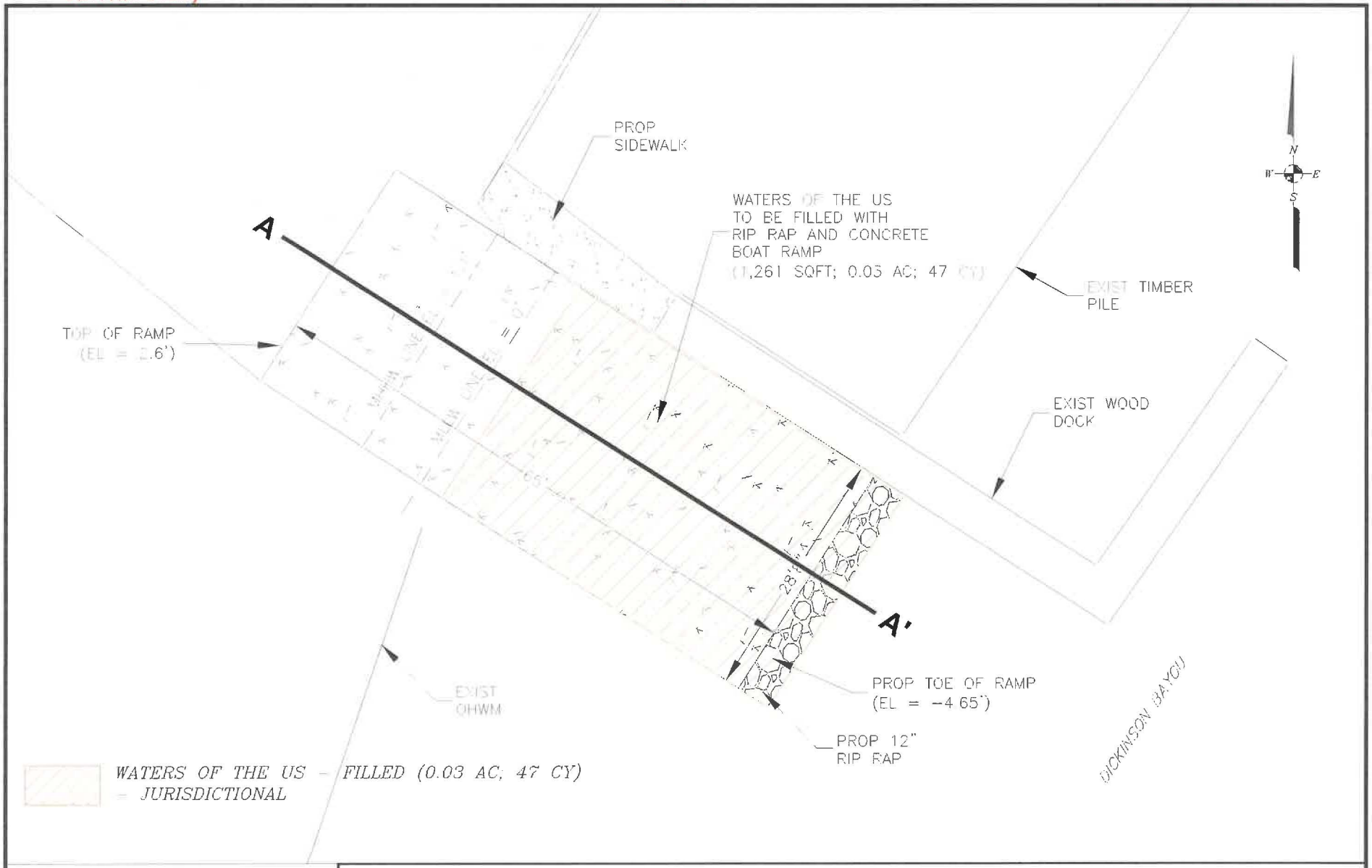
SITE VICINITY MAP

N

Project #: _____
For: Galveston County
Location: Highway 3 & Dickinson Bayou
Galveston County, Texas

0 1.5
Miles

BERG ♦ OLIVER ASSOCIATES
ENVIRONMENTAL SCIENCE & LAND USE CONSULTANTS
14701 ST. MARY'S LANE, SUITE 400 HOUSTON, TEXAS 77079
PHONE (281)589-0898 http://www.bergoliver.com



PROPOSED BOAT RAMP
PLAN VIEW

0 7.5 15 30
SCALE (Feet)

PROJECT #:
FOR: Galveston County
LOCATION: Highway 3 & Dickinson Bayou
Galveston County, Texas

REVISIONS:

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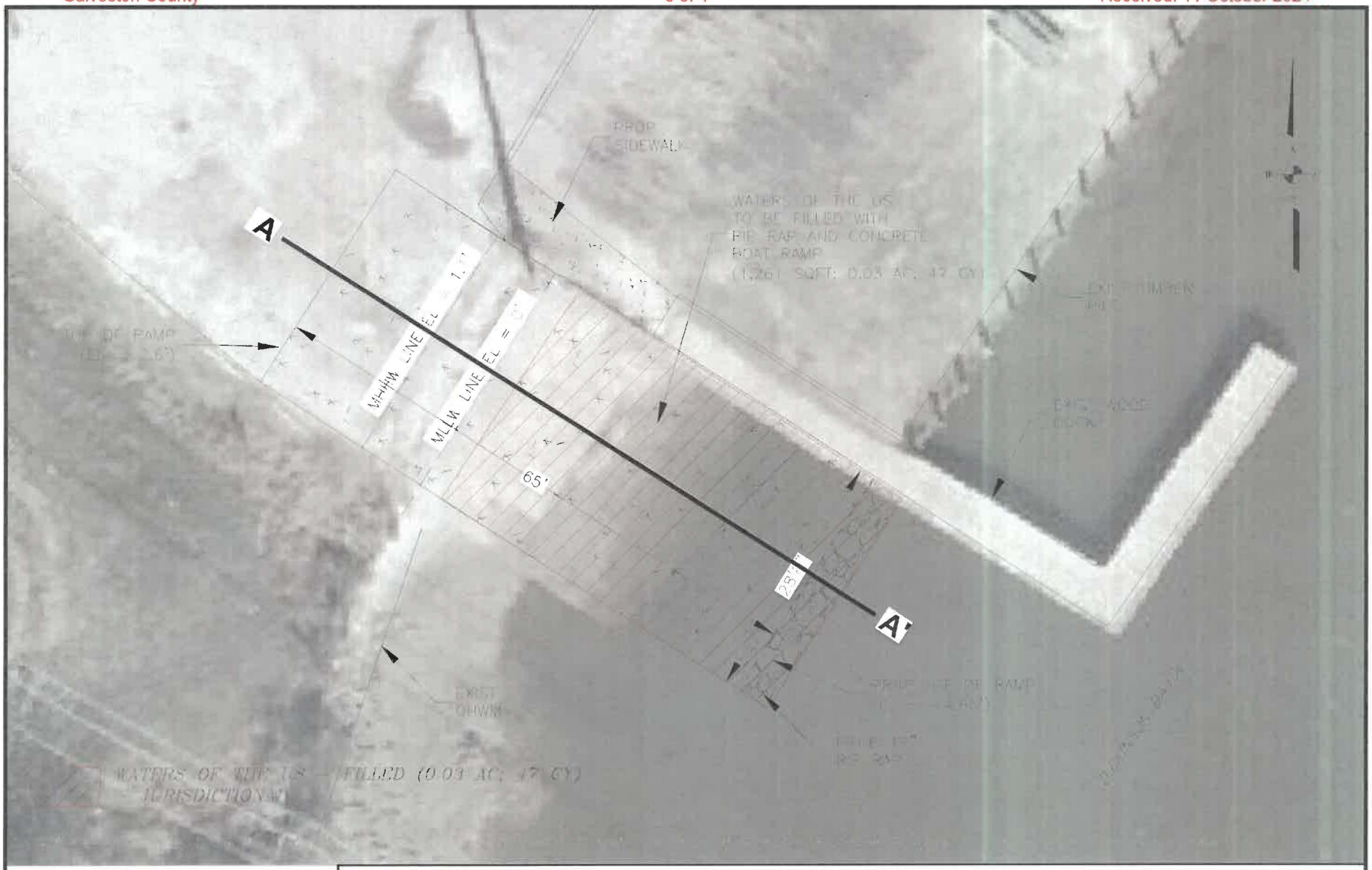

PROPOSED BOAT RAMP
PLAN VIEW

0 7.5 15 30
SCALE (Feet)

PROJECT #:
FOR: Galveston County
LOCATION: Highway 3 & Dickinson Bayou
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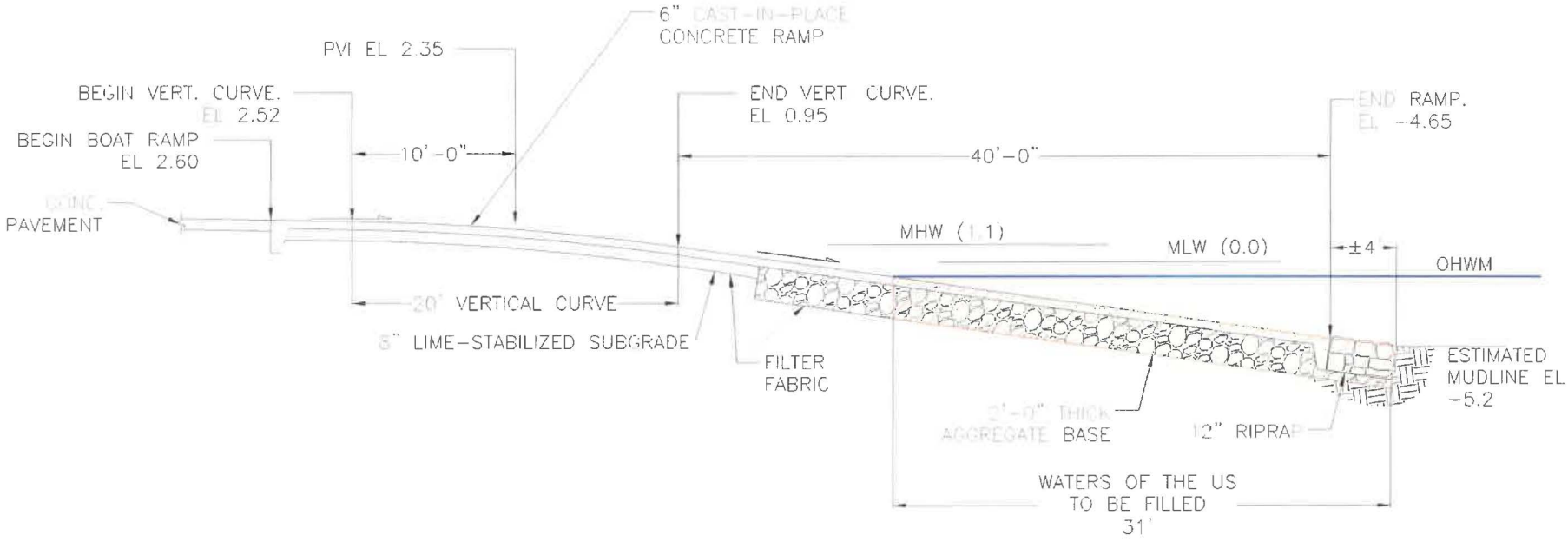
A

A'



PROPOSED BOAT RAMP
CROSS SECTION A-A'

PROJECT #:
FOR: Galveston County
LOCATION: Highway 3 & Dickinson Bayou
Galveston County, Texas

REVISIONS:

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CONTRACT AWARD

CONTRACT FOR: HIGHWAY 3 BOAT RAMP AND PARKING LOT RECONSTRUCTION PROJECT

THIS CONTRACT IS ENTERED INTO BETWEEN GALVESTON COUNTY AND THE CONTRACTOR NAMED BELOW PURSUANT TO SUBCHAPTER B, CHAPTER 271, TEXAS LOCAL GOVERNMENT CODE, AND THE REFERENCED INVITATION TO BID.

Contract No: #206455

Bid No: RFP 25-053

Contractor: Lucas Construction Company, Inc

The Specifications and Drawings are enumerated as follows:

Standard Specifications:

Special Provisions:

Special Items:

DRAWINGS:
ADDENDA:

Contract Award (continued)

Invitation to Bid, General Provisions, Special Provisions, Bid Forms, Non-Collusion Affidavit, Vendor Qualification Packet, Debarment Form, Special Provisions for Construction, Bid Proposal, Affidavit and Surety Forms, Wage Rates, Specifications and Plans attached to this Contract Award are all made a part of this Contract and collectively evidence and constitute the entire contract. Contractor shall furnish all materials, perform all of the work required to be done and do everything else required by these documents.

Time of Completion: The Contractor shall complete the work within 150 Calendar Days of the issuance of the notice to proceed. The time set forth for completion of the work is an essential element of the Contract.

The Contract Sum: The County shall pay the Contractor for performance of the Contract, the sum of FIVE HUNDRED TWENTY-FIVE THOUSAND EIGHTY-TWO Dollars and 00/100 ($525,082.00), payments to be made as described herein.

Performance Bond required: (x) yes ( ) no
Payment Bond required: (x) yes ( ) no

This Contract is issued pursuant to award made by Commissioners' Court on April 28th 2025

EXECUTED this 28th day of April, 2025.

COUNTY OF GALVESTON, TEXAS

BY: _____
MARK HENRY, County Judge

ATTEST:

_____
DWIGHT SULLIVAN, County Clerk

By: Mae Ross Deputy
Mae Ross

CONTRACTOR

BY: _____ Vice President
Signature - Title
Jimmy M. Simms
Printed Name